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Why Colored Grounds Matter: The Evolving Research on Colored Grounds in Dutch Paintings (1580–1720)

Elmer Kolfin

In 1876 the French painter and art critic Eugène Fromentin (1820–1876) wondered how Dutch seventeenth-century painters achieved the remarkable lifelikeness for which they were noted. He suspected it had, in part, something to do with painting on colored grounds. This article argues that recent research into colored grounds in Dutch paintings made between roughly 1580 and 1720 confirms Fromentin's suspicion. Technical studies conducted since about 1990 suggest that painters approached the specific color of the ground with a fair degree of pragmatism and flexibility but also that painting on colored grounds allowed artists to achieve a new level of realism through a more convincing suggestion of the position of objects in space. This recent research helps us to see and understand how colored grounds contribute to one of the most famous characteristics of Dutch art, just as Fromentin suspected.

Introduction: Wondering About Dutch Grounds with Eugène Fromentin

1. To scholars of Dutch art, the French painter Eugène Fromentin (1820–1876) is better known for his book, *Les maîtres d'autrefois* (1876), than for his picturesque North African scenes.[1] In it, he describes painting from Jan and Hubert van Eyck to Rembrandt, with a heavy emphasis on the Dutch seventeenth-century art that he had studied intensely and with a painter's eye in Dutch museums in 1875. As the Dutch art historian Hans van de Waal has argued, Fromentin describes paintings as if they were being made before the reader's eyes.[2] This sets his book apart from those of such contemporaries as Theophile Thoré (1807–1869), Charles Blanc (1813–1882) and Henri Havard (1838–1921), who, like Fromentin, greatly appreciated Dutch painting for what they saw as its veracity.[3] In a chapter on the character of the Dutch school, Fromentin calls Dutch painting "a portrait" and explains: "This word says everything. Dutch painting, as one very soon perceives, was not and could not be anything but the portrait of Holland, its external image, faithful, exact, complete, lifelike, without adornment. The portrait of men and places, of bourgeois customs, of squares, streets, the countryside, of sea and sky—such was bound to be reduced to its primary elements, the program adopted by the Dutch school; and such it was, from its first day until its decline."[4]

2. At the end of the chapter, Fromentin elaborates on the pictorial means Dutch painters employed to achieve this realistic effect. First he mentions the centripetal composition of space, which gives the viewer the idea that he can wander and "live in the picture."[5] Next, he refers to the narrow tonal range ("almost monochromatic") and the clever *clair-obscur* (chiaroscuro) that is always entirely artificial but feels real nonetheless.[6] Finally, he points to painting technique, mentioning the use of the brush, whether painters worked on light or dark grounds, and whether they followed the fifteenth-century method of applying color in the first stage or instead applied color only in the final stages.[7] Then he concludes:

"All these questions, especially the last, have been the subject of much conjecture and have never yet been properly elucidated or settled."[8] In general, he mentions no specific pictures here. However, Jacob van Ruisdael's (1628/1629–1682) *View of Haarlem with Bleaching Grounds* comes to mind (fig. 1). Fromentin greatly admired it and describes it extensively elsewhere in the book.[9]

3. Fromentin wondered how Dutch painters created that remarkable appearance of naturalism. It seems that, as a painter, he intuitively grasped it had something to do with the color of the ground and the paint layers that immediately followed it. The ground is a preparatory layer that serves to regulate the absorption of the paint layers. Through its color, it also influences the overall tonality of the finished painting, as will be explained below. As a nineteenth-century painter, Fromentin most likely worked on the very light grounds that were customary in his time, but he must have realized that Dutch old masters achieved their effects differently.[10]

4. Taking recent literature on colored grounds in Dutch painting as a starting point, the present essay demonstrates why it is important for anyone interested in Dutch art to be aware of the ubiquitous presence of colored grounds, the ways in which painters exploited their optical effects, and their connections to realism as one of the most distinctive aspects of Dutch art.[11] The published literature has advanced our understanding of the use, function, and visual impact of colored grounds in ways that are helpful for art historians and conservators alike, giving us a better understanding of why colored grounds matter.

5. The essay starts with a short introduction to colored grounds and to naturalism in Dutch art. The next two sections explore the implications that emerge from the research on colored grounds that has been published so far. The conclusion circles back to Fromentin and Dutch naturalism and summarizes why colored grounds matter.

What is a Colored Ground, and How Does It Make a Painting Look Real?

6. Despite what captions reading "oil on canvas" or "oil on panel" suggest, Dutch artists, and early modern painters more generally, did not apply paint directly onto a canvas or panel. Between a painting's support and its paint layers there is always a ground.[12] It is a thin layer that covers the entire painted surface. On panels in Northern art since the fifteenth century, it usually consists of chalk and animal glue. For canvas, lead white and/or cheap pigments bound in oil were most commonly used. The number of layers normally varied between one and three. On panels, the ground might be so thin that it only fills the grain, creating a smooth surface on which to paint. In such cases, the slightly moderated color of the panel forms the basic tone on which the artist starts to work. If the chalk-glue layer is thicker, the basic tone is white. On canvas, lead white in oil gives a similarly white surface. In both cases, the addition of pigments to the mixture provides a tone. While white grounds were standard until the late sixteenth century, colored grounds became the norm in the seventeenth century. Gray, beige, brown, and red are the most frequently encountered.[13] They occur in different shades, but the shade is always the same across the entire surface of the support. Applying a quality ground required skill. In the seventeenth century, this task had

developed into a specialist job that could be outsourced—as Moorea Hall-Aquitania addresses in her article for this issue—although some painters also applied the ground themselves or had assistants who did this for them in the studio.[14]

7. The color of the ground affects the tonality of a painting and makes a great difference to its final appearance. Therefore, before putting their brushes to the panel or canvas, artists had already made a number of decisions about the ground, the qualities of the paint, their painting techniques, and the relations between them. Jan van Huysum's (1682–1749) *Still Life with Flowers*, for example, is painted on a white ground. It has a cool tone, largely due to light penetrating the paint layers and reflecting off the white ground (**fig. 2**).[15] In contrast, Balthasar van der Ast's (1593/94–1657) *Still Life with Flowers* is painted on a yellow ocher ground (**fig. 3**).[16] Its tonality is much warmer, because more light is absorbed by the dull-colored ground. Consequently, less light reflects back. This effect works not only when the ground is, to a greater or lesser degree, covered with paint but also, and even more so, when the ground is exposed. Painters usually did not leave large areas exposed; only small, strategically chosen ones. The heart of Van der Ast's white rose, for example, exposes much of the ground (**fig. 4**). The petals on the left are painted with opaque paint that covers the ground completely. The petals on the lower right are painted over the dark green leaves in the background, which gives them a darker appearance. Discoloration of the white has increased this effect, but it would have been there originally as well, in a more subtle way. Our eye interprets the dark side as shadow and the light side as light. In the intermediate part, the exposed ground performs two functions. It provides the basis for the midtone between the light on the left and the shadow on the right, and it suggests the deeper shadow in the heart of the flower, where the dark lines of the underdrawing add extra depth. Comparison with other paintings of white flowers by Van der Ast tell us that, originally, he relied on the interplay of white and gray paint to define the petals and their relation to each other. In those earlier examples he also let the underdrawing and ground shine through, but much more subtly than in *Still Life with Flowers*, that seems to have suffered from some abrasion.[17] Needless to say, it took great sophistication, knowledge, and training to exploit the play between the color of the ground and the paint layers in such a varied and effective way.

8. At first sight, Van Huysum—who was as sophisticated a painter as Van der Ast, if not more so—seems to be using the same technique in the white rose at the center of his flower piece (**fig. 5**). Its heart is beige; the white petals on the left are light; and those on the right are darker. However, there are two important differences between the two. The beige at the center in Van Huysum's rose is not the ground but a very thin reddish-brown underpaint, applied over the white ground. In other words, on a white ground, Van Huysum needed an extra step to create a midtone. This underpainting does not cover the entire surface but provides a first layout of light, dark, and intermediate tones. The second difference is that the contours of the petals in the heart of Van der Ast's flower are soft and blurry, while those of Van Huysum are sharp and crisp. This disconnects them from the background and creates an illusion of depth. This technique makes the appearance of Van Huysum's white rose much more detailed than that of Van der Ast's.

9. Van Huysum's illusion of reality is further enhanced by the slightly textured paint in the petals on the outer left, in the light part of the rose. Here the artist relied on something

called *kenlijkheid*, best translated as perceptibility. It relies on the optical illusion that textured paint seems to advance when used in combination with smooth areas that appear to recede.[18]

10. In broad terms, painters working in a loose technique have more opportunity to exploit the color of the ground as a midtone. Painting on a white ground facilitates a brighter tonality, but it is also a slower process because it demands more work. Toned or colored grounds provide a warmer tonality, are more suitable for suggestion than for precise description, and can be faster because they require less actual painting when they are exploited skillfully. The edges of the tables in the still lifes by Van der Ast and Van Huysum bring out many of these features (**figs. 6 and 7**). In Van der Ast's painting, the exposed ground helps to create a soft contour at the edge that suggests space between the table and the background. The back edge of Van Huysum's tabletop is sharp and does not expose any of the ground. To separate it from the background, Van Huysum lets white ground shine through the green background, but the sharp line creates a much harder effect than in Van der Ast's painting.

11. Both approaches result in a naturalistic appearance, but in totally different ways. Van Huysum's detailed rose can be appreciated from a distance and from close up, but Van der Ast's vaguer flower works best from a little distance. White grounds tend to provide harder and brighter paintings with clearly defined objects, while colored grounds are more suitable for softer and more suggestive effects. Since the mid-nineteenth century, the latter was more appreciated than the former. Jan van Huysum, who was one of the most appreciated flower painters of the eighteenth and early nineteenth centuries across Europe, fell out of favor around 1860.[19] For example, the influential art critic Théophile Thoré, writing under the pseudonym William Bürger, opined that Gabriël Metsu (1629–1667) would have painted better flowers than Van Huysum had he tried.[20] Thoré, who with his publications revived the fame of Frans Hals (1582/1583–1666) and Johannes Vermeer (1632–1675), and who had a decisive impact on the canonization of Dutch art, greatly favored the more painterly and suggestive style over a smooth and meticulous finish.[21] For him, the bright, refined style of Van Huysum resulted in a superficial kind of realism. This view has dominated until the present day.[22]

12. Rembrandt van Rijn's (1606–1669) loose, painterly handling, with its exploitation of exposed ground, was and still is seen as exemplifying the opposite of Van Huysum's approach.[23] As Frances Suzman Jowell puts it, Thoré presented Rembrandt as "the great visionary naturalist," who was able to observe and depict simple nature with deep-felt emotion, charging his paintings (and prints) with universal meaning.[24] The same was said about Van Ruisdael, who was then generally considered second only to Rembrandt, and who, for Fromentin, epitomized Dutch realism: "With tapering lines, a severe palette, in two great expressly physiognomic traits—grey limitless horizons, grey skies, skies which vie with infinity—he must have left us a portrait of Holland; I will not say a familiar one, but an intimate portrait, attractive, admirably faithful and one which does not grow old. By other claims, too, Ruysdael is, I certainly think, the greatest figure of the school after Rembrandt.[25]

13. Fromentin used the word "portrait" to connote the highest degree of realism, as did other nineteenth-century critics such as Thoré, Charles Blanc, and Henry Havard. For them, the naturalism of Dutch art was rooted in closely observed everyday life, depicted with all the

nuances of light, midtone, and shadow that define people, landscapes, and objects in art as in real life.[26] In particular, the suggested presence of objects and bodies in midtones and shadows allows viewers to finish in their minds what they think they see with their eyes. This personalized sense of observation creates a convincing illusion of reality.[27]

14. In art theoretical discussions, the suggestive, painterly approach has traditionally been associated with the primacy of color over line.[28] In that discussion, color is generally connected to observation of nature, realism, and even emotion, while line is associated with imagination, idealized forms, rules, and ratio. In general, Dutch art has been placed on the side of color. When a painter did not conform to that ideal, he was considered atypical or even degenerate. This fate befell late seventeenth- and early eighteenth-century classicizing artists like Gerard de Lairesse (1641–1711) and Jan van Huysum, among others.[29] The so-called *fijnschilders* (fine painters) like Gerrit Dou (1613–1675) and Frans van Mieris (1635–1681) formed a more complicated in-between group. Their work was considered realistic but also overly meticulous, impersonal, and finicky, and therefore less interesting and relevant than that of Rembrandt, Van Ruisdael, Johannes Vermeer or Frans Hals. By the late nineteenth century, their descriptive kind of realism was not particularly appreciated. This notion also shows in Willem Martin's influential handbook *De Hollandse schilderkunst in de zeventiende eeuw* (1935–1936). The reputation of the *fijnschilders* continues to suffer by comparison to the more suggestive realism of the better known Dutch masters.[30]

15. In pictorial terms, the kind of realism that Thoré, Fromentin, and their peers appreciated demanded paintings with a wide range of midtones, and this is where colored grounds come in. Fromentin believed that Van Ruisdael painted on a brown ground: "In short, his color is monotonous, strong, harmonious and not very rich. It varies from green to brown; a bituminous ground constitutes its basis."[31] Bitumen, which yields a fairly dark or reddish brown color, was not used in seventeenth-century grounds, but otherwise Fromentin's description is well observed. Although not much is known about the grounds in Van Ruisdael's work, the *View of Haarlem* that Fromentin had carefully studied and that he presents as one of the Dutch artist's masterpieces indeed has a reddish-brown double ground (**see fig. 1**).[32] Fromentin's suspicion that Dutch artists relied on colored grounds for many of the effects that make paintings look convincing has been confirmed amply in the art historical and technical literature on colored grounds and their use since the early 1990s.

Flexibility and Pragmatism: The Function of Colored Grounds and Trends in the Technical Literature

16. Over the past three decades, enough research has been published to present some preliminary ideas about the main trends in the use of colored grounds. It has become clear that colored grounds spread rapidly across the Netherlands and became ubiquitous in the first decades of the seventeenth century, that artists approached the precise color of the grounds with a degree of flexibility and pragmatism, and that colored grounds were used as an efficient means to achieve a convincing representation of space, which greatly contributed to effects of realism.

17. However, we should not forget that the data and findings presented in the literature can be quite dissimilar, that research on Rembrandt and Vermeer towers over everything else, and that the terminology is not always consistent.[33] It is also important to realize that some of the recent and current research conclusions referred to in the present paper will be revised or refined in the future due to evolving examination techniques, just as past results have been modified by later insights. Nevertheless, the bigger picture, as articulated here, will likely remain valid in the near future.

18. Most of the publications on colored grounds rely on the research of a limited group of Dutch, American, British, and some German conservators, and of art historians with technical training. Recent research is deeply informed by enhanced optical and technical examination in conservation departments.[34] Often the focus is on one artist, although some studies analyze trends in a specific genre, location, or group of artists. Some discuss one or two paintings, while others are based on a sizable sample of an artist's or a group of artists' work.[35] Few of these studies focus specifically on grounds; most discuss them in the context of the materials and techniques of an entire painting.[36] The most recent study of colored grounds is Moorea Hall-Aquitania's admirable dissertation "Common Grounds: The Development, Spread, and Popularity of Colored Grounds in the Netherlands 1500–1650." While the present article—which relies heavily on published literature on colored grounds—focuses on aspects of realism, specifically in the next paragraph, Hall-Aquitania's research has a much wider scope and is rooted in a database of colored grounds in Dutch art that is part of the *Down to the Ground* project. This database contains both published and original source material, which has been very creatively and usefully combined with methods from conventional, technical, and digital art history.[37]

19. Many authors simply aim to describe the materials and techniques as precisely as possible. They present a lot of technical data and often zoom in on the ways in which artists achieved certain characteristic effects. Others examine whether stylistic developments of individual artists are reflected in materials and techniques, or whether stylistic and technical changes are connected to local traditions and art markets.[38]

20. In a much-quoted article published in 1979, the art historians Hessel Miedema and Bert Meijer posited the hypothesis that the technique of working on a colored ground may have traveled from Venice to the North. At the time, they could only rely on a limited amount of technical data, and they largely followed Karel van Mander's (1548–1606) ideas about the relationship between Dutch and Italian art, which were valid primarily for history painting.[39] Intermittently, they refer to local traditions of painting on a tinted imprimatura for panel painting, but they also suggest close investigation of painting techniques in Fontainebleau, Vienna, and Prague that may have inspired Dutch artists to work on colored grounds.[40] Not until recently have any of these suggestions been taken up in the literature. Instead, Miedema and Meijer's main hypothesis of the Italian origin of colored grounds was simplified and gradually turned into perceived fact.[41]

21. Knowledge transfer from master to pupil, or within a studio, is a topic that remains largely unaddressed for ground layers. The relationship between colored grounds and condition is another field that is virtually unexplored, but this probably reflects the fact that the majority of art historical and art technical texts on colored grounds have appeared in exhibition

catalogues, written for a general audience, or in collection catalogues, journal articles, and edited volumes for an art historical audience, rather than in publications for conservators.[42] The overview of scholarship that follows largely excludes short technical catalogue notes that merely describe materials and techniques without any further context, as such texts do not aim to offer an interpretation of the data they present.

22. From the literature, three main themes emerge: first, the composition, application, and general function of grounds; second, the artistic effects that could be achieved with their use; and third, the relationship between the ground and the support, the geographical place of origin of a painting, the period in which a painting was made, and/or the subject or genre of a painting. While the literature suggests that artists were pragmatic and flexible about the color of the ground they painted on, this does not mean that colored grounds did not matter to them. On the contrary, painters understood that colored grounds were instrumental to creating the look of the real that was so new and exciting in their time. The literature helps us to understand how these painters so efficiently and convincingly achieved the illusionistic effect that became fundamental for Dutch art of the seventeenth century.

23. In this period, the general function of the ground did not change from that in earlier painting practice. It served to level the unevenness of the support, to prevent the binding medium of the paint from sinking into the support, and to provide a basic tone for the paint layers. The widespread historical references to recipes testify to a general awareness among artists of the compositions of grounds and ways to apply them.[43] Although it is not entirely out of the question that some artists applied their own grounds in the studio, most authors agree that many painters worked on grounds that were applied by professional primers who operated locally. The main arguments for this are references in the archives of priming as a specialized craft, a certain degree of consistency in the grounds used by individual artists working in one place, and some variation of grounds when artists worked interlocally.[44] It is also suggested that painters may have adapted the final color of the ground to their requirements by adding an additional ground layer themselves.[45] This additional layer could consist of palette scrapings; Maartje Stols-Witlox has found a small number of authors who discussed this practice.[46]

24. The tremendous success of the colored ground was new in the seventeenth-century Netherlands, after at least two centuries of dominance by white grounds. This did not mean that very light and white grounds disappeared, but technical research has established that colored grounds were used more frequently.[47] Most grounds on seventeenth-century panels consist of a chalk-glue layer, usually with a pigmented oil-based layer on top that provided a warm tone, ranging from light beige to light brown. Some painters, like Esaias van de Velde (1587–1630), Jan van Goyen (1596–1656), and Pieter Saenredam (1597–1665), regularly or incidentally exploited the color and the grain of the wood, which suggests that their grounds were very thin or semitranslucent.[48] Grounds on canvas are more varied, as published cases demonstrate, but are predominantly double grounds bound in oil. The first layer appears to act as a filler and is composed of cheaper pigments. Often a second layer was applied, typically based on lead white and tinted with various combinations of pigments (often earth pigments and/or a black). Occasionally there is a third layer. A very common double ground is gray-over-red, which provides an overall tone that ranges from gray to beige-brown depending on the pigmentation of the top layer.[49] The quartz-clay ground

seems to be an idiosyncrasy, as it has so far been found only in paintings by Rembrandt and Samuel van Hoogstraten (1627–1678).[50] Mainly consisting of quartz-rich potter's clay, it was gray-brown in color, as Petria Noble explains in her essay "The Role of the Colored Ground in Rembrandt's Painting Practice."

25. One of the functions of grounds on canvas is to even the support, and it has been remarked that the surfaces of Dutch paintings tend to be smoother than those of sixteenth-century Italian paintings.[51] The kind of rough brushwork that merely scrapes the knots of the weave when the ground is less smooth, and which seems to have been one particular effect in sixteenth-century Italy, is less evident in Dutch art. In easel paintings, such effects remain more or less limited to Rembrandt and his followers. Most likely the relative rarity of this technique is related to the generally smaller size and shorter viewing distance of Dutch paintings.[52]

26. So far, no clear relationship between the color of the ground and the subject matter or genre of a painting has emerged, despite the advice that grounds be adapted to subject in historical art writing.[53] Insufficient data exists to solidly refute or confirm the assumption that, with the rise of bright, classicist painting styles, grounds became lighter in the last quarter of the seventeenth century. What has been published seems to argue against it.[54] It should also be kept in mind that classicist styles had already emerged by midcentury, with, as a highpoint, the paintings for the Oranjezaal in Huis ten Bosch in The Hague, which were done on a light beige ground (**fig. 8**). Although the literature shows no clear development in the color of grounds over the course of the century, individual tendencies have been described. Rembrandt's grounds became darker as his career progressed, as did those of Pieter de Hooch (1629–1679) when he moved from Delft to Amsterdam around 1660.[55] Carel Fabritius (1622–1654) went in the opposite direction in 1650, when he started to paint on lighter grounds.[56]

27. At the moment, the literature describes only broad trends in the use of grounds.[57] Current research suggests that colored grounds in general came into use in the Dutch Republic between about 1590 and 1625. Little is known about local variations between cities. Before 1650, light peachy beige colored grounds are often found in Haarlem, while artists in Delft tended to paint on single, warm cream-colored layers.[58] In Amsterdam, different variations of the gray-over-red ground on canvas are frequently observed.[59] These types seem to be dominant in, but not exclusive to, these urban centers. There is no clear information on Utrecht, Leiden, The Hague, or Dordrecht, cities that lack deeply researched artists like Frans Hals, Vermeer, or Rembrandt and their circles.[60] The streaky grayish layer often referred to as *imprimatura* in literature on Rubens and other Antwerp painters remains almost completely limited to Antwerp.[61]

28. Contrary to what one might expect, it is not self-evident that artists working abroad painted on completely different grounds. Willem van Aelst (1627–1683) and Michael Sweerts (1618–1664) did while working in Florence and Rome, but Cornelis Norbertus Gijsbrechts (1625–1675), working in Copenhagen, and Sir Peter Lely (1618–1680), in London, apparently did not.[62] Possibly, grounds available in England and Denmark were similar, or at least comparable to, those in the Netherlands. The less likely alternative is that the artists imported pre-primed canvas from the Netherlands.

29. The role of primers and art dealers in the spread of colored grounds has remained elusive and is discussed in detail in Hall-Aquitania's contribution to the present volume.[63] Technical data points to local traditions, but the scarce information in the literature also suggests interlocal trade in artist's materials. For example, in the 1650s the Rotterdam dealer in painting supplies Leendert Hendricks Volmarijn (1611/12–1657) also operated in Delft and Haarlem. In the early 1670s, Abraham Lamberts van Bubbeson (dates unknown), also from Rotterdam, traded in imported primed canvases from Antwerp. In 1676, painters in Leiden complained that, following the death of a local frame maker who also supplied prepared supports, they were obliged to obtain their primed panels and canvases out of town.[64] These cases suggest that interlocal art dealers operated alongside local primers. However, their activities have not been confirmed by technical data, so their impact may have been small.

Dead Color, Working Up, and Retouching: The Layers of Seventeenth-Century Paintings

30. A good example of the interlocal spread of colored grounds is the aforementioned Oranjezaal. For this project, painters working in The Hague, Haarlem, Alkmaar, Amsterdam, and Amersfoort all worked on canvases that were prepared with a similar light beige ground. These were commissioned by Jacob van Campen (1596–1657), who was from Amersfoort, from François Oliviers (1617–1690), a primer working in Haarlem. While efficiency and costs were no doubt relevant, the main reason for this complicated distribution was to guarantee the tonal unity of the paintings. This was important because they were intended to contribute to the overall illusionistic effect of the room, meant to suggest a space of triumphal arches (**see fig. 8**).[65] Like the situation with dealers trading beyond city borders, the case of the Oranjezaal suggests that a clear view of the use and spread of local grounds requires a combination of technical analysis with specific archival data on networks of dealers, primers and of patronage, along with knowledge of the destinations and functions of paintings.

31. At present, the data in the literature is still too fragmentary and incomplete to allow for a clear assessment of how colored grounds spread across art centers. Nor has it been possible to identify who the main agents were and how they operated: painters, primers, dealers in artists' materials, or even patrons, even if they were less likely to influence the choice of grounds on a large scale. However, the database compiled by Moorea Hall-Aquitania, with the aid of Paul J. C. van Laar, in the *Down to the Ground* project is a promising start for discovering such trends.[66]

32. It is well known that painters were trained to work in the styles and techniques of their masters. Aert de Gelder (1645–1727), for example, applied Rembrandt's lessons the best way he could, including the visible exploitation of the ground in his paint layers.[67] But published cases demonstrate that artists could also be flexible and pragmatic. Ferdinand Bol (1616–1680) and Govert Flinck (1615–1660) deviated from Rembrandt's style and technique once they left his studio, even as they continued to paint on colored grounds, often Rembrandt's preferred gray-over-red.[68]

33. An interesting case is Godfried Schalcken (1643–1706), who had two masters (**fig. 9**). He was trained in the studio of Van Hoogstraten between 1658 and 1660 before he went to Gerrit Dou by 1662/1663.[69] Schalcken emulated Dou's refined style of painting, resulting in smooth surfaces that he managed to combine with soft contours he seems to have learned from Van Hoogstraten. Van Hoogstraten painted his *Salmacis and Hermaphroditus* (**fig. 10**) on a light-colored first ground covered by a second brown one, which allowed him to to give his contours a sense of depth by leaving the ground partially exposed in those areas.[70] Dou, on the other hand, exclusively painted on panel, generally covered with thin, light grounds.[71] His *Old Woman at a Window with a Candle* was painted on a thin, light-colored ground that does not mask the grain of the wood (**fig. 11**).[72] Optical investigation of the painting indicates that Dou did not employ the light color of the ground in this night scene.

34. The different approaches of these two masters prompts the question of how Schalcken decided to use ground. Ann Massing and Karin Groen, as well as Caroline von Saint George, have shown that Schalcken worked on colored grounds on different supports: panel, copper, and canvas.[73] In his *Lovers (The Prodigal Son)* (**see fig. 9**), a night scene like Dou's, Schalken used a light-colored ground and, rather than choosing a standard canvas like van Hoogstraten's, used a fine canvas that resulted in a smooth surface. Even though he would have learned from Van Hoogstraten how to exploit the color of a relatively dark ground, in this painting at least he preferred to stay closer to Dou's technique and took it for granted that he had to paint in the soft contours atop the ground. The conclusion we can take from this is that painters' training evidently prepared them for great technical flexibility. This equipped them to find their own way, which was very important in the competitive market for paintings.[74]

35. A certain degree of flexibility and pragmatism is also suggested by the literature that describes the materials and techniques of traveling artists who adapted to locally available grounds, a fact that confirms the use of local primers who provided prepared supports.[75] One of the most vexing questions, however, is whether artists adapted their grounds for reasons of local availability or for artistic reasons connected to the aesthetic appeal or marketing of their art. Melanie Gifford has convincingly argued that Van Aelst and Metsu changed their styles to adapt to new markets.[76]

36. Things are more ambivalent with Fabritius and De Hooch.[77] As we saw, both adapted the choice of the ground to local availability. However, at the end of his career De Hooch clearly relied on dark grounds for efficiency, developing a much looser handling. Fabritius, after his move to Delft, turned to exploring space and light in perspective pieces; working on lighter grounds may have had an aesthetic motivation that was perhaps prompted by the locally available grounds in combination with the general interest in architectural painting in Delft. The question of which came first, the ground or the artistic impulse, cannot be answered.

37. It is also important to note that De Hooch's move and subsequent choice of ground does not seem to have affected the way he employed the ground optically; he kept using it to define shadowed areas in details and for the overall tone of the entire painting. For example, Anna Krekeler has demonstrated how De Hooch left the gray ground exposed to define the shadows in the faces of the sitters in *Portrait of a Family from Delft*, painted in Delft 1657 (**figs. 12 and 13**). In *Man Handing a Letter to a Woman* (1670), painted in Amsterdam on a

darker, orange-brown ground, the same technique results in a different effect (**figs. 14 and 15**). The distinct appearance follows from changes in the color and the size of the areas of the exposed ground: gray, light, and small in the painting from 1657; brownish, dark and larger in the work from 1670.[78] The result is that the tonality in the former is much lighter than in the latter. This is more fitting for a scene in full, open light than for the shaded street, but it also reflects local preferences; figure paintings for the Amsterdam market in general seem darker than those in Delft.

38. Another interesting case is Aelbert Cuyp (1620–1691), who changed his style in the late 1640s from cabinet-size tonal landscapes toward scenes bathed in Italianate light, often quite large. Available data shows that beige grounds dominated until the early 1650s, both in smaller panel paintings and larger ones on canvas. In the large paintings from the late 1650s, Cuyp seems to have switched to the gray-over-red grounds that had become widespread throughout Holland.[79] Since Cuyp remained in Dordrecht all his life, the switch may reflect a change in local supply, but it was also apparently a response to the changing, local market. Unlike Cuyp, Jan Lievens (1607–1674) traveled extensively. Melanie Gifford has demonstrated that he took a most liberal attitude to the grounds of his paintings, either exploiting their tones to create a sense of depth or suppressing their possible effects almost completely with his paint layers, just as he required.[80]

39. Although individual painters may have had certain preferences, by and large their training equipped them to work on any type of colored ground. This made them both flexible and pragmatic. As I will argue below, it seems as if the most crucial decision was the choice between a very light ground a darker one. The precise color seems to have been of secondary importance. Painters were aware that specific techniques could produce totally different styles on comparable grounds. So far, the data suggest that a colored ground had more importance for artists working with a loose handling of paint than for those whose tight paint handling left no gaps between brushstrokes. For instance, the brushwork of Frans Hals and Cornelis Verspronck (1600–1603) could not be more different, yet their grounds are comparable.[81]

40. The practice of Ferdinand Bol is particularly revealing of this pragmatic approach to the precise color of grounds. Margriet van Eikema Hommes shows that, in large-scale wall decorations, Bol worked on canvases of two or even three differently colored strips of canvas.[82] It seems that he simply exploited the differences in ground where he could throughout the overall composition. In *Aeneas Receiving a New Set of Armor from Venus*, the ground on the two central pieces is gray (**figs. 16 and 17**). The first addition, at the top, is yellow and was used for the light of the sun; adding the dark clouds to this relatively light ground would have been easy. The second addition is the strip on the left, which was red and darker than the others. Bol used this part for some of the darkest shadows in the background of the composition. This pushes the figure in the back to the front of the middle ground, while his diagonal position takes the eye to the back again (**fig. 18**). In this way, Bol combined two well-known strategies for creating the illusion of space: one coloristic and the other linear.

41. The current state of research does not allow for unequivocal explanations for changing ground colors in time, place, or even artists' careers. Choices for grounds emerged from a complicated mix of local or temporal availability, preferred style and technique, and changes in aesthetic preferences in the art market. But it is also evident that artists who exploited the color of the ground in their final compositions were highly skilled at this, which indicates a high degree of consciousness about the technique and the visual effects that it could help to achieve. Virtually all texts on the materials and techniques of Dutch painters studied for this paper have sections that describe the optical effects of the ground. Despite the different painters, genres, time periods, and the precise ground colors they discuss, the authors are remarkably consistent in their description of the ways artists exploited colored grounds in the final image. The ground provides the general tone of the image; it is used to define the position of objects in space; and it allows painters to work efficiently.

42. Colored grounds became ubiquitous in seventeenth-century Netherlandish art for reasons that are explored in the essays in this issue. However, in the Low Countries they have a story that goes back to the first decades of the sixteenth century. That story is interesting and important in its own right, but it also contextualizes the developments in the seventeenth century—the focus of the present issue. Very little has been written on colored grounds in sixteenth-century Netherlandish art. For lack of data and detailed study, just how and when colored grounds reached the Netherlands is still not entirely clear. We now understand the journey to be more complex and circuitous than was initially thought.

43. With regard to the general tone of paintings, Ashok Roy, for example, remarks that the Utrecht Caravaggisti made "important use of the color of the canvas priming [the ground] to influence the overall tone of the picture and its lighting effect."[82] The example he gives is Gerard van Honthorst's (1592–1656) *Christ Before the High Priest*, painted in Rome (**fig. 19**). Roy explains that the red-brown color of the ground, modified by thin layers of semitranslucent paint, adds depth and warmth to the entire composition, providing a base tone and unifying the composition. Discussing the work of Rembrandt, Ernst van de Wetering calls this "the tonal cohesion." He explains that the ground functions as "a safety net" for tonal balance.[84]

44. Van de Wetering offers as an example Rembrandt's oil sketch *The Concord of State* (**fig. 20**), which is painted on panel atop a double ground with a brownish top layer.[85] The brown ground is visible everywhere: in the foreground, middle distance, background, and sky (**figs. 21, 22, 23 and 24**). The *Concord of State* is an oil sketch, but the principle also works in fully worked up paintings, by Rembrandt and others. The colored ground facilitates the organization of light and shadow precisely because it provides the midtone from which the painter could build up lighter or darker sections and accurately define the positions of figures and objects in space. For Honthorst and Rembrandt, the ground did precisely what Fromentin thought the imagined bituminous ground in Van Ruisdael's landscapes did; it provided and served as the touchstone for "the monotonous, strong, and not very rich color harmony," to repeat the Frenchman's words.[86]

45. That Rembrant shared this technique with his pupils is evident in the paintings of Aert de Gelder, for whom—according to Van de Wetering—"the colored ground functions as a kind of basso continuo that does not only integrate the image as a whole, but that also plays a unifying role in the interplay of tone and color."[87] The example Van de Wetering gives is De Gelder's *Esther, Ahasuerus and Hamman (or Mordechai)*, in which the gray ground is left uncovered in many places, especially Esther's dress, and optically shifts from cool gray to warm olive depending on the adjacent colors (**figs. 25 and 26**).[88] The same effect has been described in more general terms by Stols-Witlox: "The more strongly colored grayish, drab brownish grounds were used to enhance the unity and harmony of a painting, often acting as a middle tone between the shadows and the highlights."[89]

46. Providing a tonal balance worked on a more detailed level as well. In those cases, the colored ground became a useful tool to define the precise position of objects in space, for which the art theoretical term *houding* was used (described in more detail below). For this, artists often left the ground exposed to function as the contour of an object or figure. Arie Wallert has pointed out that flower painter Jan Davidsz de Heem (1606–1684) actually advised painters to "leave the ground a little to be seen between light and shadow."[90] Acting as a midtone, a small area of uncovered ground detaches the object or figure from the background and simultaneously provides a smooth and natural looking transition between shadow and highlight that suggests the object's three-dimensionality.

47. A detail in Willem van Aelst's Still Life with Flowers on a Marble Ledge (**figs. 27 and 28**) exemplifies this.[91] The brownish gray line between the right edge of the hyacinth's blue petal and the dark background, just above the center of the composition, is the exposed ground. When seen from a normal viewing distance and not close up, as here, the eye interprets this line as the edge of the petal that recedes into the shadowed space of the background. In doing so, the line helps to define the petal's, and therefore the flower's, spatial position with great precision—or, perhaps more accurately, with "suggested" precision, because it all takes place in the brain, which is being manipulated by a highly skilled artist.

48. Artists also used the ground as a midtone to define the exact positions of objects, such as folds in cloth or the socket of an eye. For example, Karin Groen and Ella Hendriks have described how Frans Hals, in *Young Man Holding a Skull*, used the reddish tint of the ground as a light midtone in the folds of the sitter's cloak in the lower left foreground, subtly varying the final tone with thinner or thicker paint applied with more open or more dense brushwork (**fig. 29**).[92] The skillfully painted dark shadow of the fold in the foreground turns the adjacent uncovered reddish-brown ground into a light midtone (**fig. 30**). When surrounded by more muted colors, the ground also takes on a muted appearance, as can be seen in the folds along the left edge (**fig. 31**). Combined, these strategies create a striking diagonal of light from the lower right to the upper left and imitate the way we see depth (**fig. 32**). The folds in the foreground appear sharp, while those in the background are slightly blurred, with the foreshortened Caravaggesque hand pushing all of this back to the middle distance.[93] In other words, Hals relies on the ground as a base to define the folds and to express very precisely how the cloak itself recedes into the background, giving shape to the young man's body and anchoring him clearly and solidly in space. The painting is also a fine example of the way portrait painters, especially, tended to leave the ground exposed, or

shining through: to provide some light in the background, "to warm up the general tone," and to provide "tonal cohesion," as Roy put it in discussing the Utrecht Caravaggisti.[94]

49. In their description of the painting, Groen and Hendriks point to Hals's technically simple but virtuoso execution. This connects to the third point that is often made in the literature about colored grounds, and that logically follows from the first and second one: colored grounds allow for great efficiency in the painting process.[95] Efficiency has an artistic as well as economic side. Most authors concerned with describing the materials and techniques of painters acknowledge but usually do not elaborate on the economic advantages of painting efficiently and quickly. Melanie Gifford is an exception. She connects changes in the techniques of Van Aelst and Metsu to their engagement with local markets, and she considers the swift techniques of Van de Velde and Van Goyen in relation to the market for landscape painting.[96]

50. Gifford shows that Van Goyen's *Cottage on a Heath*, which is typical of the artist's work of that time, was painted in only two stages (**fig. 33**).[97] After a rudimentary underdrawing, he added a monochrome sketch in brown pigment. On top of and in combination with the warm beige ground, this created the first division of light and dark. In the final painting, the sketch remains uncovered to form the darkest parts in the shaded bank of the pond, for example, and in the shadowed parts of the dunes on the right (**fig. 34**). Together, the blotchy paint and the lively lines of the underdrawing efficiently suggest the bare shrubs that often cover the sides of low dunes. When the sketch had dried, Van Goyen added the final paint layer, starting with the sky and working gradually from the horizon in the background to the water and the road in the foreground. He applied his paint layer very lightly to ensure that the warm tint of the ground played a unifying role in the entire composition. The warm ground can clearly be seen under the blue-gray brushstrokes of the sky (**fig. 35**) and under the olive-green paint of the roof and walls of the cottage (**fig. 36**). In the sandy dune in the foreground, it acts as a midtone to form a smooth transition from the shaded to the lit parts (**fig. 37**). Finally, Gifford argues that Van Goyen's technique followed not only from an economic necessity to paint quickly in a competitive art market but was also motivated by the ambition to achieve a "very lifelike effect" and "a convincing depiction of Dutch landscape."[98] We saw Fromentin make a similar observation about Van Ruisdael.

51. The examples given above unequivocally demonstrate how important the colored ground had become for the effects that many Dutch painters wanted to achieve. This is confirmed by painters who, for undocumented reasons, did use a light ground but covered it in certain areas to create a toned base. When the Dutch-trained, England-based portrait painter Sir Peter Lely, who expressed his dislike for light grounds in a letter, nevertheless used them for unknown reasons, he first locally glazed the area of the face with cologne-hued earth and bone black.[99] In other words, he locally repaired the tone of the light ground with an extra layer of a darker color, which functioned as a midtone for a specific section of the painting.[100]

52. Balthasar van der Ast had another way to add local tone to a light ground. We have already seen how Van der Ast used a colored ground for tonal cohesion and for the efficient suggestion of depth in a flower in a painted still life (**see fig. 3**). Arie Wallert described a case in which Van der Ast worked on a white ground, for reasons that are not clear (**fig. 38**).

Van der Ast first applied the background in dark paint and reserved space for the future objects.[101] Next, he brushed the still-wet paint slightly and lightly over the edges of the reserves to prepare the smooth transition between object and background. This layer shows up in the infrared reflectography as a fuzzy gray area in the left side of the reserve for the leaf.[102] This step would have been unnecessary on a tinted ground like the one in the example from Van Aelst (**see figs. 27 and 28**).

53. Ulrike Villwock has found that in his *Visit to a Mother and Child*, Cornelis Bega (1631–1664) toned down the brightness of a very light ground with a darker layer that was applied almost, but not quite, everywhere (**fig. 39**).[103] This act in itself, and the inexpert and uneven application of this layer, suggests it happened in the painter's studio rather than at a professional primer's studio. Demonstrating that not all solutions were equally successful, Villwock argues that the light ground shining through the paint layers in places, such as the lower right foreground, falsely gives the impression of overcleaning.[104]

54. Vermeer was more subtle. His grounds vary greatly, and among them are a number of white ones. In these instances, Gifford and her coauthors explain that, in an early stage, the artist "used his painted sketch to define and emphasize the play of light," brushing broad zones of shadow and leaving "the light-colored ground exposed to serve as highlights."[105] These zones functioned as reminders for himself and were later almost entirely covered by paint. Unfortunately, they give no examples where this can be seen. In 1998, Nicola Costaras labeled the ground in *Girl Reading a Letter by the Window* as white, which has recently been confirmed by Christoph Schölzel (**fig. 40**).[106] A detail of the girl's forehead shows how Vermeer created the soft half-tones necessary for the sfumato-like transitions that subtly distinguish and position different parts in space relative to each other (**fig. 41**). The contour is formed by the light brown underpainting left exposed between the flesh tones and the background. This is a technique that Vermeer also employed with great subtlety in paintings with colored grounds, such as *Lady Writing* (**fig. 42**). Gifford shows that Vermeer left a tiny gap in the chin, where the textured underpaint becomes visible, to define the spatial relationship between the chin and the fur collar (**fig. 43**).[107] Clearly, artists who worked at the highest level of the art market, who aspired to great sophistication and who possessed the necessary skills, could afford not to have a routine but to vary their technique according to different circumstances and different effects that they wanted to convey.

55. Although a very light ground may have its advantages in terms of luminosity and clarity, it also demands more work to suggest space. Conversely, on a colored ground, painters who work with loose handling have less work to do. This is one of the reasons that colored grounds became so attractive for many Dutch painters, even for architectural painters like De Hooch and Emanuel de Witte (1617–1692), who relied as much on color as on linear perspective.[105] Simply put—and from a painter's perspective—on a colored ground, less is more, while on white ground, less is actually less.

56. The literature that describes how colored grounds contribute to the optical effects in paintings shows that the painters discussed used these grounds as a fundamental tool to create pictorial harmony and to convincingly render objects in space. These two concepts were so important in Dutch art that artists and patrons developed specific words for them: *welstand* and *houding*.[109] *Welstand* describes the tonal harmony that paintings were

expected to display and is often translated as "optimal quality," "harmony," "consonance," or "good appearance."[110] From Karel van Mander in 1604 to Gerard de Lairesse in 1707, art theorists connected this rather vague term to coherence as a requisite of beauty. According to these authors, *welstand* occurs when things in a work of art are connected, or held together, in a beautiful or pleasing way.[111] The examples above show how much artists relied on colored grounds to create the tonal cohesion that contributed to a painting's *welstand*. We have already seen that, without specifically using the term *welstand*, Van de Wetering described the function of the ground as "a safety net." Roy and Gifford explained how the ground created *welstand*, also without naming it, in paintings by Honthorst and Van Goyen. Even Fromentin referred to it when he described the colored ground in Van Ruisdael's *View of Haarlem* as responsible for the painting's color harmony. Although he was most likely unfamiliar with the term, this art-critic-cum-painter clearly recognized the concept when he saw it.

57. Closely connected to *welstand* was the concept of *houding*, an untranslatable term ("position" approaches aspects of it) that was used to describe the suggestion of the placement of objects in space.[112] It allowed viewers to navigate the space in their minds. Paul Taylor, who has written a foundational article on the term, explains that in seventeenth-century art theory *houding* combined two concepts: illusion and harmony.[113] The seventeenth-century author Willem Goeree (1635–1711) foregrounded the aspect of illusion: *houding* "gives the same sensation to the eye, that we enjoy in the contemplation of natural objects. For whenever *Houding* is not found in representational images, such Drawings and Paintings are senseless, and more than half dead."[114] Painter and art theorist Samuel van Hoogstraten characterized *houding* as a way to suggest spatial harmony. As Taylor put it: "A plausible illusion of spatial relationships is to be thought of as harmonious, giving a pleasure analogous to that of music."[115]

58. Seventeenth-century viewers and painters used *welstand* to describe the pleasant harmony that follows from a consistent and convincing suggestion of space (*houding*). Taylor observes how artists achieved *houding*, and thus *welstand*, by manipulating the color, light, and shadow of objects by varying the hue, saturation, and tone within a painting and by making use of the effects that colors and tones have on adjacent colors and tones—just as we saw in the example of the cloak in Frans Hals's *Young Man Holding a Skull*.[116] Taylor does not mention colored grounds, but the technical literature reviewed above shows that they were essential in facilitating an efficient creation of *houding* and *welstand*. Conversely, most authors of the technical literature tend not to connect the phenomena they describe so articulately to these art theoretical concepts.[117]

Conclusion: Grounds, Space and the Dutchness of Dutch Art

59. Eugène Fromentin and other authors of the second half of the nineteenth century considered unparalleled naturalism to be the distinctive feature of the art of the seventeenth-century Northern Netherlands. For them, it was what made Dutch art so Dutch. The sources of this naturalism lay in an iconography that favored the local over the imaginative, especially when combined with a technical virtuosity that was able to conjure

up an entire world so convincingly that the paintings were likened to "a sort of photography."[118]

60. In line with a tradition that dated back to the late seventeenth and early eighteenth centuries, Fromentin and his peers suggested that this unique Dutch realism spontaneously followed from the Dutch national character, geography, and history.[119] Modern art historians have challenged this view.[120] In the 1990s, Lawrence Goedde convincingly argued that, in Dutch landscape painting, the rise of naturalism was the result of conscious artistic choices of style and iconography.[121] Shortly after, Eric Jan Sluijter explained these choices as the painters' responses to the developing art market, while Thijs Weststeijn, among others, demonstrated how deeply embedded this notion of naturalism was in the art theory of the time.[122] Broadly speaking, the ideas of Goedde, Sluijter, and Weststeijn apply to all categories of painting that became popular in the first decades of the seventeenth century, notably genre and still life. They can also be recognized in history painting and portraiture.

61. Over the past forty years or so, technical analysis of paintings has uncovered the workshop practices behind naturalism as a conscious style. Notably, Ernst van de Wetering has extensively argued that a convincing spatial illusion was key in the creation of an illustionistic effect.[123] But it was Melanie Gifford who first described the important role of the ground in the naturalistic expression of space and spatial unity in early seventeenth-century Dutch landscape painting, in her article on Jan van Goyen referenced above. She showed how, between 1625 and 1633, Van Goyen's practice developed from a conservative mannerist technique that relied on zones of underpainting—brown for the earth in the foreground, green for the landscape in the middle distance, and blue for the background and sky—to a more tonal approach that used the visibility of the ground in the final paint layers throughout the composition. Arguing that these were deliberate technical choices made to achieve a new level of suggested naturalism, she aptly titled her essay "Jan van Goyen and the Practice of the Naturalistic Landscape."[124]

62. The naturalism that Van de Wetering, Gifford, and others describe with so much enthusiasm and admiration relied more on techniques of suggestion than of description. That these authors all begin by describing the colored ground is not a coincidence but a pattern. Following the convention of analyzing paintings from the bottom up, it also demonstrates that, literally and figuratively, the colored ground is the basis of a convincing suggestion. Although not the only instrument used in the Dutch quest for illusionism, it became a dominant one. This makes an understanding of colored grounds important to anyone interested in Dutch art of the seventeenth century.

63. In 1876, Eugène Fromentin suspected that the new Dutch naturalism went hand in hand with changes in painting techniques. He noticed the tonal harmony of Dutch paintings and was curious about the color of the grounds. The study of colored grounds in Dutch paintings, as laid down in the technical literature of the past forty years or so, has confirmed the intuition of this nineteenth-century painter, who had nothing but his eyes and painter's experience to rely on. The rise of the colored ground was fundamental to the development of the unprecedented naturalism that Fromentin, and so many others after him, found so exciting about Dutch art.

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Biography

Elmer Kolfin teaches art history at the University of Amsterdam. He has published widely on seventeenth-century Dutch paintings and prints. His most recent book examines the role of patrons in the creation of the paintings for the Batavian cycle in Amsterdam's town hall (*De Kunst van de Macht*: *Jordaens, Lievens en Rembrandt in het Paleis op de Dam*, Waanders 2023). He is editor-in-chief of *Oud Holland: Journal for Art of the Low Countries.*

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Illustrations

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Fig. 38 Balthasar van der Ast, *Fruits in Porcelain Bowl*, 1623, oil on panel, 23.6 x 32.4 cm, Centraal Museum, Utrecht, inv. no. 5096a (artwork in the public domain)

Fig. 39 Cornelis Bega, *Visit to a Mother and Child*, 1663, oil on panel, 40.6 x 34.2 cm, Suermondt-Ludwig Museum, Aachen, inv. no. GK 1613

Fig. 40 Johannes Vermeer, *Girl Reading a Letter by the Window*, ca. 1657, oil on canvas, 83 × 64.5 cm, Gemäldegalerie, Dresden, inv. no. 1336 (artwork in the public domain)

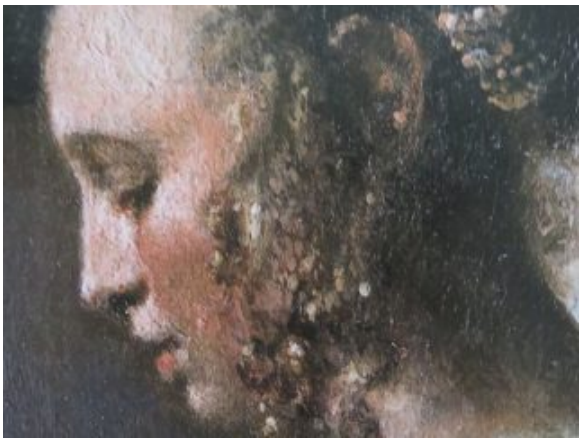

Fig. 41 Vermeer, *Girl Reading a Letter* (fig. 40), detail showing the light brown underpainting that is left exposed between the flesh tones and the background to form the soft contour of the girl's head

Fig. 42 Johannes Vermeer, *A Lady Writing*, ca. 1665, oil on canvas, 45 x 39.9 cm, National Gallery of Art, Washington, inv. no. 1962.10.1 (artwork in the public domain)

Fig. 43 Vermeer, *A Lady Writing* (fig. 43), detail of the chin with a gap in the final paint showing a diagonal stroke of brushmarked underpaint. Image from Gifford et al., "First Steps in Vermeer's Creative Process: New Findings from the National Gallery of Art," fig. 30

Endnotes

1. Eugène Fromentin, *Les maîtres d'autrefois: Belgique–Hollande* (Paris: Plon-Nourrit, 1876).
2. Eugène Fromentin, *De meesters van weleer*, trans. and ed. Henri van de Waal (1951; repr. Rotterdam: Donker 1976), xxv–xxviii.
3. William Bürger (Théophile Thoré), *Musées de la Hollande I: Amsterdam et La Haye; Études sur l'ecole Hollandaise* (Paris: Jules Renouard, 1858); William Bürger [Théophile Thoré, Musées de la Hollande II: Musée van der Hoop, à Amsterdam, et Musée de Rotterdam (Paris: Jules Renouard, 1860); Charles Blanc, *Histoire des peintres de toutes écoles: École hollandaise*, 2 vols. (Paris: Jules Renouard, 1861); Henry Havard, *Histoire de la peinture Hollandaise* (Paris: A. Quantin, 1882).
4. Eugène Fromentin, *The Masters of Past Time: Dutch and Flemish Painting from Van Eyck to Rembrandt*, trans. Andrew Boyle, ed. Horst Gerson (London: Phaidon, 1981), 97. Fromentin, *Maîtres d'autrefois*, 162: "Le mot dit tout. La peinture hollandaise, on s'en aperçut bien vite, ne fut et ne pouvait être que le portrait de la Hollande, son image extérieure, fidèle, exacte, complète, ressemblante, sans nul embellissement. Le portrait des hommes et des lieux, des mœurs bourgeoises, des places, des rues, des campagnes, de la mer et du ciel, tel devait être, réduit à ses éléments primitifs, le programme suivi par l'école hollandaise, et tel il fut depuis le premier jour jusqu'à son déclin."
5. Fromentin, *Masters of Past Time*, 103; Fromentin, *Maîtres d'autrefois*, 172: "On l'habite, on y circule . . ."
6. Fromentin, *Les maîtres d'autrefois*, 184: "presque monochrome." Fromentin uses the term *clair-obscur* throughout his original text, translated as "chiaroscuro" in the English edition of 1981.
7. Fromentin, *Masters of Past Time,* 104.
8. Fromentin, *Masters of Past Time*, 104; Fromentin, *Maîtres d'autrefois*, 173: "Toutes ces questions, la dernière surtout, ont été l'objet de beaucoup de conjectures, et n'ont jamais été ni bien élucidées ni résolues."
9. Fromentin, *Masters of Past Time*, 142–143.

10. He was the only one. According to his pupil Louis Letronne, the Barbizon landscape painter Theodore Rousseau (1812–1867) said to him about Jan van Goyen (1596–1656): "Celui-ci . . . n'a pas besoin de beaucoup de couleur pour donner l'idée de l'espace. A la rigueur vous pouvez vous passer de couleur, mais vous ne pouvez rien faire sans harmonie" (He did not need much color to give an idea of space. You can literally do without color, but you can never do without harmony). The author of this anecdote, the art critic and writer Philipe Burty, next continues to describe how Rousseau created tonal harmony on a small panel with a ground of "terre de momie" or mummy brown, the bituminous brown-red ground that Fromentin believed was under Ruisdael's paintings. See Phillipe Burty, *Maîtres et petit maîtres* (Paris: Charpentier 1877), 144–145. Despite the help of Stéphanie Deprouw-Augustin, Pascale Gillet, Véronique Reuter, and Marika Spring, whom I thank very much, I have not found any technical documentation on Eugène Fromentin's paintings in the literature.
11. Although this article focuses on colored grounds, occasionally I have also included literature that discusses white or very light grounds for a comparative perspective.
12. Philip Hendy and A. S. Lucas, "The Ground in Pictures," *Museum* 21, no. 4 (1968), 266–267; Hermann Kuhn et al, *Farbmittel, Buchmalerei*, *Tafel- und Bildmalerei* (Stuttgart: Philipp Reclam, 1997), 1:301–307, 345–354; Maartje Stols-Witlox et al, "Grounds 1400–1900, Including Twentieth-Century Grounds," in *The Conservation of Easel Paintings*, ed. Joyce Hill Stoner and Rebecca Rushfield (London: Routledge, 2012), 161–188; Maartje Stols-Witlox, *A Perfect Ground: Preparatory Layers for Oil Paintings* (London: Archetype, 2017), xi–xvi.
13. For the exceptional black ground, see Marya Albrecht and Sabrina Meloni, "Laying the Ground in Still Lifes: Efficient Practices, Visual Effects, and Local Preferences Found in the Collection of the Mauritshuis" (DOI: https://doi.org/10.5092/jhna.2025.17.2.6), and Maartje Stols-Witlox and Lieve d'Hont, "Remaking Colored Grounds: The Use of Reconstructions for Art Technical and Art Historical Research" (DOI: https://doi.org/10.5092/JHNA.2025.17.2.9), both in this issue.
14. On professional primers in the seventeenth century, see Moorea Hall-Aquitania, "Prepared and Proffered: The Role of Professional Primers in the Spread of Colored Grounds," *Journal of Historians of Netherlandish Art* 17, no. 2 (2025). DOI: https://doi.org/10.5092/jhna.2025.17.2.9.
15. On this painting, see Arie Wallert, *Still Lifes: Techniques and Styles; The Examination of Paintings from the Rijksmuseum* (Zwolle: Waanders, 1999), 107–111. More generally on Van Huysum's technique, see Elmer Kolfin, *Voor koningen en prinsen: De stillevens van Jan van Huysum (1682–1749)* (Delft: Museum Het Prinsenhof, 2006), 71–77. Joris Dik, "De schildertechniek van Jan van Huysum," in *De verleiding van Flora: Jan van Huysum 1682–1749*, ed. Sam Segal et al. (Zwolle: Waanders, 2006), 69–75, focuses on Van Huysum's pigments.

16. On this painting, see Wallert, *Still Lifes*, 56–59. More generally on the painting technique of Van der Ast, see Arie Wallert, "Balthasar van der Ast: Materialien und Techniken," in *Die stilleben des Balthasar van der Ast, 1593/94–1657*, ed. Sarvenaz Ayooghi et al. (Petersberg: Michael Imhof, 2016), 81–92.
17. For example, Balthasar van der Ast, *Flowers in a Wan-Li Vase*, ca. 1640–1650, oil on panel, 53 x 43, Mauritshuis, The Hague, https://www.mauritshuis.nl/en/our-collection/artworks/1108-flowers-in-a-wan-li-vase-with-shells; and Balthasar van der Ast, *Still Life with Fruits and Flowers*, 1620–1621, oil on panel 40 x 70, Rijksmuseum, Amsterdam, https://id.rijksmuseum.nl/200108147.
18. Ernst van de Wetering, *Rembrandt: The Painter at Work* (Amsterdam: Amsterdam University Press, 2009, 182–184.
19. Mariël Ellens, "De wisselende waardering voor het werk van Jan van Huysum," in Segal et al., *Verleiding van Flora*, 75–84.
20. Bürger (Thoré), *Musées de la Hollande I*, 165–166.
21. Surprisingly, Thoré perceives Vermeer as artist who applied his paint thickly. For example, he says that in the *View of Delft* Vermeer almost tried to recreate the town with a trowel, adds "trop est trop" (too much is too much), and claims that not even Rembrandt fell to such excess; Bürger (Thoré), *Musées de la Hollande I*, 272–273. On Thoré and Dutch art, see Elinoor Bergvelt, *Pantheon der Gouden Eeuw: Van Nationale Konst-Gallerij tot Rijksmuseum van Schilderijen (1798–1896)* (Zwolle: Waanders, 1998), 184–191; Peter Hecht, "Rembrandt and Raphael Back to Back: The Contribution of Thoré," *Simiolus* 26, no. 3 (1998): 162–178; Frances Suzman Jowell, "From Thoré to Bürger: The Image of Dutch Art Before and After the Musées de la Hollande," *Bulletin van het Rijksmuseum* 49, no. 1 (2001): 45–60; and Elinoor Bergvelt, "De canon van de Gouden Eeuw: De collectie Van der Hoop en de opvattingen van Thoré-Bürger," in *De Hollandse Meesters van een Amsterdamse bankier: De verzameling van Adriaan van der Hoop (1778–1854)*, ed. Elinoor Bergvelt (Zwolle: Waanders, 2004), 24–49.
22. Ellens, "Wisselende waardering," 80–82. See also Fred Meijer, review of *Jan van Huysum*, Museum Het Prinsenhof, Delft, *The Burlington Magazine* 149, no. 1247 (February 2007): 134–135: "Notwithstanding his stunning accuracy in rendering detail, Jan van Huysum is not the most thrilling of artists"; "In his later still lifes Van Huysum impresses with his attention to detail but fails to touch the viewer emotionally."
23. Thoré does not mention Balthasar van der Ast, as he only describes painters whose work he encountered in the Dutch public collections that he visited in the 1850s. For the reception of Rembrandt, see Jeroen Boomgaard and Rob Scheller, "In Delicate Balance: A Brief Survey of Rembrandt Criticism," in *Rembrandt: The Master and His Workshop*, ed. Christopher Brown, Jan Kelch, and Pieter van Thiel (New Haven: Yale University Press, 1992), 106–125. Examples of Rembrandt's approach can be found in the essay by Petria Noble in this issue. Petria Noble, "The Role of the Colored Ground in Rembrandt's

Painting Practice," *Journal of Historians of Netherlandish Art* 17, no. 2 (2025), DOI: https://doi.org/10.5092/jhna.2025.17.2.5.

24. Frances Suzman Jowell, "Thoré-Bürger: Rembrandt to the Rescue; Side by Side with Raphael," in *Gij zult niet feestbundelen: 34 Bijdragen voor Peter Hecht*, ed. Everhart Korthals Altes et al. (Zwolle: Wafanders, 2016), 97.

25. Fromentin, *Masters of Past Time*, 136; Fromentin, *Les maîtres d'autrefois*, 227: "Avec des lignes fuyantes, une palette sévère, en deux grands traits expressément physionomiques, — des horizons gris qui n'ont pas de limites, des ciels gris dont l'infini se mesure, — il nous aura laissé de la Hollande un portrait, je ne dirai pas familier, mais intime, attachant, admirablement fidèle et qui ne vieillit pas. A d'autres titres encore, Ruysdael est, je crois bien, la plus haute figure de l'école après Rembrandt." For Ruisdael and Rembrandt, see Dedalo Carasso, "A New Image: German and French Thought on Dutch Art," in *The Golden Age of Dutch Painting in Historical Perspective*, ed. Frans Grijzenhout and Henk van Veen (Cambridge: Cambridge University Press, 1999), 110–117.

26. For this meaning of the word "portrait," see Fromentin, *Masters of Past Time*, 97.

27. Ernst Gombrich, *Art and Illusion: A Study in the Psychology of Pictorial Representation* (Princeton: Princeton University Press, 1972), 182, called this "the beholder's share." In this part of the book, Gombrich explains at length the dichotomy between a rough and finished style; demonstrates the traditions in which these styles were associated with sketchiness, the suggestive, boldness, and manipulation of chance versus finish, descriptiveness, certainty and rules; and argues that from antiquity to Impressionism connoisseurs tended to appreciate the former as a higher form of image making than the latter (181–202). He also stresses the relevance of relying on and manipulating the empty (unpainted) space as a pictorial tool to activate the beholder's share (209–210). Although he does not mention it, it will become clear that the colored ground plays an important role here.

28. Moshe Barasch, *Theories of Art*, vol. 1, *From Plato to Winckelmann* (New York: Routledge, 1998), 203–262, 365–379; Maurice Poirier, "The Disegno-Colore Controversy Reconsidered," *Explorations in Renaissance Culture* 13, no. 1 (1987): 52–86. Poirier argues that the "totality of effect, more than either *disegno* or *invenzione*, ultimately determined the artist's approach to colore" (80). That colored ground greatly helped artists to achieve this "totality of effect" remains unnoted in this article but will be argued below.

29. For Gerard de Lairesse, see Jasper Hillegers, "De konstbloem, het grootste genie ooit en de nijdassige Waal: De waarderingsgeschiedenis van Gerard de Lairesse in vogelvlucht," in *Eindelijk! De Lairesse: Klassieke schoonheid in de Gouden Eeuw*, ed. Josien Beltman, Paul Knolle, and Quirine van der Meer Mohr (Zwolle: Waanders, 2016), 118–128.

30. See Wilhelm Martin, *De Hollandse schilderkunst in de zeventiende eeuw*, vol. 1, *Frans Hals en zijn tijd* (Amsterdam: Meulenhoff, 1935), 85–87, who takes Fromentin as the starting point for his own elaboration on style and technique. Interestingly, Martin appears unaware of the ubiquitousness of colored grounds when he explains that grounds are

white or light gray (88). In a footnote he adds that red clay grounds occur only in the eighteenth century (436n166).

31. "Enfin, sa couleur est monotone, forte, harmonieuse et peu riche. Elle ne varie que du vert au brun ; un fond de bitume en fait la base" (Fromentin, *Maîtres d'Autrefois*, 230). The 1981 English edition translates "fond" with "background," which makes no sense; Fromentin, *Masters of Past Time*, 138. The Dutch edition of 1951 translates it more correctly to "ondergrond," or ground; Fromentin, *Meesters van weleer*, 148.

32. Many thanks to Sabrina Meloni, conservator at the Mauritshuis, for the information on the ground in *View of Haarlem*, based on a sample taken by Abbie Vandivere, also a conservator at the Mauritshuis. The first layer is brown and probably consists of earth pigments, lead white, and black. The top layer is reddish brown and appears to contain the same ingredients in a different mixture. The sample was not chemically analyzed. For Ruisdael's technique, see Paula DeCristofaro and James Swope, "A Technical Analysis of the Materials and Methods of Jacob van Ruisdael," in *Student Papers Presented at the Third Annual Art Conservation Training Programmes Conference* (Kingston, Ontario: Art Conservation Training Programs Conference, Queen's University, 1977), 70–90.

33. See Moorea Hall-Aquitania and Lieve d'Hont, "Troubleshooting Coloured Grounds: Developing a Methodology for Studying Netherlandish Ground Colours," in *Ground Layers in European Painting 1550–1750*, ed. Anne Haack Christensen, Angela Jager, and Joyce H. Townsend, proceedings from "Mobility Creates Masters: Discovering Artists' Grounds 1550–1700," international conference of the Centre for Art Technical Studies and Conservation, June 2019 (London: Archetype, 2020), 1–9. On issues of terminology, see Nico Van Hout, "Meaning and Development of the Ground Layer in Seventeenth-Century Painting," in "Looking Through Paintings: The Study of Painting Techniques and Materials in Support of Art Historical Research," ed. Erma Hermens, *Leids Kunsthistorisch Jaarboek* 11 (1988): 199–217; Stols-Witlox, *Perfect Ground*, xi–xvi; and Elmer Kolfin and Maarje Stols-Witlox, "The Hidden Revolution of Colored Grounds: An Introduction," in this issue of *Journal of Historians of Netherlandish Art* 17, no. 2 (2025), DOI: https://doi.org/10.5092/jhna.2025.17.2.1.

34. Changes that resulted from aging, such as abrasion, flattening, or unintentional translucence of paint layers, are not consistently addressed.

35. There is more research on individual paintings by or attributed to Rembrandt than I was able to process for this article, so I relied largely on these synthesizing studies: Karin Groen, "Grounds in Rembrandt's Workshop and in Paintings by His Contemporaries," in *A Corpus of Rembrandt Paintings*, vol. 4, *The Self-Portraits*, ed. Ernst van de Wetering (Dordrecht: Springer, 2005), 318–334, 660–677; Ashok Roy, "Rembrandt's Materials and Painting Technique: The Ground Layer; Function and Type," in *Art in the Making: Rembrandt*, ed. David Bomford et al. (London: National Gallery, 2006), 27–29; and Wetering, *Rembrandt: The Painter at Work*.

36. Recent examples of texts that focus on grounds include Maartje Stols-Witlox, "'By no means a trivial matter': The Influence of the Color of Ground Layers on Artists' Working Methods and on the Appearance of Oil Paintings, According to Historical Recipes from North West Europe, ca. 1550–1900," *Oud Holland* 128, no. 4 (2015): 171–186; Stols-Witlox, *Perfect Ground*; Lidwien Speleers et al., "The Effect of Ground Colour on the Appearance of Two Paintings by Thomas Willeboirts Bosschaert in the Oranjezaal, Huis ten Bosch," in Christensen, Jager, and Townsend, *Ground Layers in European Painting*, 93–106; and Erma Hermens and Moorea Hall-Aquitania, "Een technische kunsthistoricus *avant la lettre*," in *Samuel van Hoogstraten: De illusionist*, ed. Nathalie Maciesza and Epco Runia (Zwolle: Wbooks, 2025), 90–103.
37. Moorea Hall-Aquitania, "Common Grounds: The Introduction, Spread and Popularity of Coloured Grounds in the Netherlands 1500–1650" (PhD diss., University of Amsterdam, 2025). For the database, see "Down to the Ground," *RKD Studies*, accessed November 11, 2025, https://downtotheground.rkdstudies.nl.
38. For example, E. Melanie Gifford et al., "The Making of a Luxury Image: Van Aelst's Painting Materials and Artistic Techniques," in Tanya Paul et al., *Elegance and Refinement: The Still Lifes of Willem van Aelst* (New York: Skira Rizzoli, 2012), 67–90; E. Melanie Gifford, "Fine Painting and Eloquent Imprecision: Gabriël Metsu's Painting Technique," in *Gabriël Metsu*, ed. Adriaan Waiboer (New Haven: Yale University Press, 2011), 155–181; Jørgen Wadum, "Are the Changed Appearances of Carel Fabritius's Paintings a Consequence of his Mobility?" in Christensen, Jager, and Townsend, *Ground Layers in European Painting*, 107–118; Marya Albrecht et al., "Jan Steen's Ground Layers Analysed with Principal Component Analysis," *Heritage Science* 7, no. 53 (2019), https://doi.org/10.1186/s40494-019-0295-5; Marya Albrecht et al., "Discovering Trends in Jan Steen's Grounds Using Principal Component Analysis," in Christensen, Jager, and Townsend, *Ground Layers in European Painting*, 118–132.
39. Hessel Miedema and Bert Meijer, "The Introduction of Coloured Ground in Painting and Its Influence on Stylistic Development, with Particular Respect to Sixteenth-Century Netherlandish Art," *Storia dell'Arte* 35 (1979): 95–96.
40. Miedema and Meijer, "Introduction of Coloured Ground," 95.
41. Hall-Aquitania was the first to explore the plausibility of this hypothesis and cast doubt on it; Hall-Aquitania, "Common Grounds."
42. Examples are Mette Bjarnhof and Lone Bøgh, "Restoration History and Study of Painting Technique," in *Illusions: Gijsbrechts Royal Master of Deception*, ed. Olaf Koester (Copenhagen: Statens Museum for Kunst, 1999), 288–305; Annelies van Loon et al., "The Relationship Between Preservation and Technique in Paintings in the Oranjezaal," supplement, *Studies in Conservation* 51, no. S2 (2006): 217–223; Stols-Witlox, "By no means a trivial matter," 177–179.
43. The content and spread of recipes are studied in Stols-Witlox, *Perfect Ground*.

44. From archival sources, three names of primers are known. Dirck de Lorme and Leendert van Nes worked in Leiden in the 1670s; see Dominique Surh, Ilona van Tuinen, John Twilley, "Insights from Technical Analysis on a Group of Paintings by Gerrit Dou in the Leiden Collection," *Journal of Historians of Netherlandish Art* 6, no. 1 (2014), DOI: https://doi.org/10.5092/jhna.2014.6.1.3. François Oliviers worked in Haarlem in the 1640s; see Lidwien Speleers, "Three Documents Concerning the Oranjezaal, Huis ten Bosch (1648–1652): A New Find and Two More Precise Datings," *Oud Holland* 136, no. 4 (2023); 195–210; and Jørgen Wadum, "Many Amersfoort Hands: Revisiting the Making of Albert Eckhout's Brazilian Paintings (1641–1643)," *Oud Holland* 135, no. 4 (2022): 191–192. See also Hall-Aquitania, "Prepared and Proffered."

45. Wetering, *Rembrandt: The Painter at Work*, 22: Wallert, *Still Lifes*, 12. Groen, "Grounds in Rembrandt's Workshop," 323, argues that before 1640 Rembrandt worked mainly on pre-primed canvases. She finds studio grounds with unique mixtures after 1640.

46. Stols-Witlox, "By no means a trivial matter," 180–181. Wetering, *Rembrandt: The Painter at Work*, 24, suggests that Rembrandt used palette scrapings not for the ground but for monochrome underpainting.

47. Painters who are known to have worked frequently on white or very light grounds are, for example, Balthasar van der Ast, Adriaen van de Venne (1590–1662), Johannes Vermeer, and Jan van Huysum; see Wallert, "Balthasar van der Ast," 81–92; Edwin Buijsen, *Ick soeck en vind: De schilderijen van Adriaen van de Venne (1590–1662)* (Zwolle: Waanders, 2023), 205–233; Nicola Costaras, "A Study of the Materials and Techniques of Johannes Vermeer," in *Vermeer Studies*, ed. Ivan Gaskell and Michiel Jonker, proceedings of the symposia "New Vermeer Studies," Washington, DC, December 1, 1995, and The Hague, May 30–31, 1996 (New Haven: Yale University Press, 1998), 151–152, 165–166; and Joris Dik and Arie Wallert, 'Two Still-Life Paintings by Jan van Huysum: An Examination of Painting Technique in Relation to Documentary and Technical Evidence," in Hermens, "Looking Through Paintings," 395–398.

48. E. Melanie Gifford, "Jan van Goyen en de techniek van het naturalistische landschap," in *Jan van Goyen*, ed. Christiaan Vogelaar (Zwolle: Waanders, 1996), 70–79; E. Melanie Gifford, "Esaias van de Velde's Technical Innovations: Translating a Graphic Tradition into Paint," in *Painting Techniques: History, Materials and Studio Practice; Contributions to the Dublin Congress 7–11 September 1998*, ed. Ashok Roy and Perry Smith (London: International Institute for Conservation of Historic and Artistic Work, 1998), 145–149; Geraldine van Heemstra, "Space, Light and Stillness: A Description of Saenredam's Painting Technique," in *Pieter Saenredam: The Utrecht Work; Paintings and Drawings by the 17th-Century Master of Perspective*, ed. Liesbeth Helmus (Los Angeles: J. Paul Getty Museum, 2002), 73–90. However, the ground may have also become more translucent due to a process called saponification; see Petria Noble, Annelies van Loon, and Jaap Boon, "Chemical Changes in Old Master Paintings II: Darkening Due to Increased Transparency as a Result of Metal Soap Formation," preprints for the 14th triennial meeting of the

ICOM Committee for Conservation, The Hague, September 12–16, 2005, ed. Isabelle Sourbès-Verger (London: James and James), 496–503.

49. See Stols-Witlox and d'Hont, "Remaking Colored Grounds."

50. Groen, "Grounds in Rembrandt's Workshop," 332; Hermens and Hall-Aquitania, "Een technische kunsthistoricus," 96, 98, 101.

51. Ella Hendriks, Anne van Grevenstein, and Karin Groen, "The Painting Technique of Four Paintings by Hendrick Goltzius and the Introduction of the Coloured Ground," in Hermens, "Looking Through Paintings," 483.

52. Samuel van Hoogstraten, in *Introduction to the Academy of Painting; or, The Visible World*, trans. Jaap Jacobs, ed. Celeste Brusati (Los Angeles: Getty Research Institute, 2021), 268, calls Jacques Jordaens and Titian "masters of the loose brush," a technique that gives great force to the brushstrokes when seen from a distance. Gerard de Lairesse, in *Groot schilderboek, waar in de schilderkonst in al haar deelen grondig werd onderweezen* (Amsterdam: Hendrick Desbordes, 1712), 11, also advises loose, rough brushwork for paintings seen from a distance. Rembrandt's remark that his paintings should be viewed from a distance also comes to mind: "My lord, hang this piece in a strong light and so that one can stand at a distance from it, then it will show best"; Rembrandt to Constantijn Huygens, January 27, 1639, in Horst Gerson, *Seven Letters by Rembrandt*, trans. Yda D. Ovink (The Hague: Boucher, 1961), 54. See also Margriet van Eikema Hommes and Lidwien Speleers, "Een vergelijkende analyse van de werkwijzen van de twaalf schilders in de Oranjezaal," in Lidwien Speleers, "De schildersmaterialen en schildertechnieken van de twaalf schilders in de Oranjezaal (1648–1652), Paleis Huis ten Bosch" (PhD diss., University of Amsterdam, 2021), 48.

53. Abbie Vandivere et al., "Beneath the Surface: Distinguishing Materials and Techniques in Genre Paintings," in *Genre Paintings in the Mauritshuis*, ed. Arianne van Suchtelen and Quentin Buvelot (Zwolle: Waanders, 2016), 37–38. For the advice in historical sources to adapt the ground to the topic, see Stols-Witlox, "By no means a trivial matter," 175–176, and Vera Blok, "Pen and Paint: The Painting Technique in Gerard de Lairesse's *Bacchus and Ariadne* Compared to the Principles Expounded in his *Groot Schilderboek*," *Journal of Historians of Netherlandish Art* 12, no. 1 (2020), par. 22, DOI: https://doi.org/10.5092/JHNA.2020.12.1.7.

54. Petria Noble, in "Technical Examinations in Perspective," in *Portraits in the Mauritshuis*, ed. Ben Broos and Ariane van Suchtelen (The Hague: Mauritshuis, 2004), 331, states that between 1650 and 1750 grounds for portraits became darker and that a light tone set in only after 1750. Based on the study of recipe books, this is confirmed for European art by Stols-Witlox, "By no means a trivial matter," 174–175; and Stols-Witlox, *Perfect Ground*, 137–138. Wallert, *Still Lifes*, 109, argues the same for flower painting but dates the transition slightly earlier, around 1715, based on the work of Jan van Huysum. Two paintings with candlelight scenes by Gotfried Schalcken were painted on dark grounds; see Caroline von Saint George, "Godefridus Schalckens *Junge Dame vor dem Spiegel*:

Maltechnik und Restaurierung," *Wallraf-Richartz -Jahrbuch: Jahbuch für Kunstgeschichte* 77 (2016): 145–158; and Ann Massing and Karin Groen, "A Self-Portrait by Gotfried Schalcken," *Hamilton Kerr Institute Bulletin* 1 (1988): 105–108. Lairesse's ceiling painting for Andries de Graeff from 1672 (The Hague, Peace Palace) was painted on a gray-brown ground; see Margriet van Eikema Hommes, *De hemel van Lairesse: Een plafondschildering uit het rampjaar 1672* (Amsterdam: Amsterdam University Press, 2024), 227. His *Bacchus and Ariadne* (1676–1678, Amsterdam, Rijksmuseum) was painted on a brown ground; see Blok, "PEN AND PAINT," 20–24. She also shows that Lairesse advocated toned grounds. Vermeer, on the other hand, is known to have frequently painted on white or very light grounds; see Costaras, "Study of the Materials," 151–152, 165–166.

55. For Rembrandt, see Groen, "Grounds in Rembrandt's Workshop," 325; for De Hooch, see Anna Krekeler, "Een studie naar de schildertechniek van Pieter de Hooch," in *Pieter de Hooch in Delft: Out of Vermeer's Shadow*, ed. Anita Jansen (Zwolle: WBooks, 2019), 62.

56. Wadum, "Are the Changed Appearances . . . ?"

57. Moorea Hall-Aquitania's dissertation, "Common Grounds," is the first to provide more detail.

58. For Haarlem, see Karin Groen and Ella Hendriks, "Frans Hals: Technical Research," in *Frans Hals*, ed. Seymour Slive (London: Royal Academy of Arts, 1989), 109–127; Ella Hendriks and Karin Groen, "Judith Leyster: Een technisch onderzoek," in *Judith Leyster, schilderes in een mannenwereld*, ed. James Welu and Pieter Biesboer (Zwolle: Waanders, 1993), 93–115; Hendriks, Grevenstein, and Groen, "Painting Technique of Four Paintings"; Ella Hendriks, "Johannes Cornelisz Verspronck: The Techniques of a Seventeenth-Century Portrait Painter," in Hermens, "Looking Through Paintings," 227–267; Ella Hendriks, "Haarlem Studio Practice," in *Painting in Haarlem 1500–1850: The Collection of the Frans Hals Museum*, ed. Neeltje Köhler (Ghent: Ludion, 2006), 65–96. For Delft, see Krekeler, "Studie naar de schildertechniek van Pieter de Hooch"; Costaras, "Study of the Materials"; Wadum, "Are the Changed Appearances . . . ?"; Johanneke Verhave, "Het productieproces in het aterlier van Michiel van Mierevelt," in *De portretfabriek van Michiel van Mierevelt*, ed. Anita Jansen (Zwolle: WBooks, 2011), 85–109.

59. For Amsterdam, see Groen, "Grounds in Rembrandt's Workshop"; Ruth Bubb, "Technical Examinations of Govert Flinck's *Portrait of a Boy* (1640)," in *Ferdinand Bol and Govert Flinck: New Research*, ed. Stephanie Dickey (Zwolle: WBooks, 2017), 140–153; Ilona Schwägerl, "Technical Examination of Govert Flinck's *Double Portrait of a Married Couple* (1646)," in Dickey, *Ferdinand Bol and Govert Flinck*, 154–159; Margriet van Eikema Hommes, *Art and Allegiance in the Dutch Golden Age: The Ambitions of a Wealthy Widow in a Painted Room by Ferdinand Bol* (Amsterdam: Amsterdam University Press, 2011), 191–193; Marika Spring et al., "*An Astronomer* by Ferdinand Bol: Materials, Colour Change and Conservation," *National Gallery Technical Bulletin* 38 (2017): 76–96; Flaminia

Rukavina et al., "Technical Analysis and Conservation of Ferdinand Bol's *An Astronomer* (1652) in London," in Dickey, *Ferdinand Bol and Govert Flinck*, 160–167; Ellen Kneppens and Jill Kneppens, "Ferdinand Bol's Painting Technique in *Portrait of Jan van der Voort and His Sister Catharina with a Servant*, 1661," in Dickey, *Ferdinand Bol and Govert Flinck*, 168–179.

60. For painters in Utrecht, see Roy, "The Utrecht Painters: Caravaggism, Technique and Expression," in *Utrecht, Caravaggio and Europe*, ed. Liesbeth M. Helmus and Bernd Ebers (Munich: Hirmer, 2018), 191–203; Bradford Epley, "Jan Both's Italian Landscape," *Hamilton Kerr Institute Bulletin* 3 (2000): 127–134; and Hall-Aquitania, "Common Grounds." For painters in The Hague, see Noble, "Technical Examinations in Perspective"; Ige Verslype, "A Preliminary Study on Paulus Potter's Painting Technique," *Art Matters* 3 (2005), 97–10; and Buijsen, *Ick soeck en vind*. For Gerrit Dou in Leiden, see Christoph Schölzel, "De schildertechniek van de Leidse Fijnschilders," in *De Leidse Fijnschilders uit Dresden*, ed. Annegret Laabs (Zwolle: Waanders, 2001), 16–24; and Surh et al., "Insights from Technical Analysis." On Cuyp in Dordrecht, see Marika Spring, "Pigments and Colour Change in the Paintings of Aelbert Cuyp," in *Aelbert Cuyp*, ed. Arthur K. Wheelock (London: Thames and Hudson, 2001), 64–74.

61. Hout, "Meaning and Development," 205–210.

62. On Van Aelst, see Gifford et al., "Making of a Luxury Image"; on Sweerts, see Arie Wallert and Willem de Ridder, "The Materials and Methods of Sweert's Paintings," in *Michael Sweerts (1681–16640)*, ed. Guido Jansen and Peter Sutton (Amsterdam: Rijksmuseum, 2002), 37–48; and Kirsten Derks et al., "The Dark Halo Technique in the Oeuvre of Michael Sweerts and Other Flemish and Dutch Baroque Painters: A 17th c. Empirical Solution to Mitigate the Optical 'Simultaneous Contrast' Effect?," *Heritage Science* 10, no. 5 (2022), https://doi.org/10.1186/s40494-021-00634-w; on Peter Lely, see Ella Hendriks and Karin Groen, "Lely's Studio Practice," *Hamilton Kerr Institute Bulletin* 2 (1994): 21–35; on Gijsbrechts, see Bjarnhof and Bøgh, "Restoration History and Study of Painting Technique," and the essay by Anne Haack Christensen in the present issue: Anne Haack Christensen, "Representation Versus Reality: Cornelis Norbertus Gijsbrechts's Depiction and Use of Colored Grounds," *Journal of Historians of Netherlandish Art* 17, no. 2 (Fall 2025), DOI: https://doi.org/10.5092/jhna.2025.17.2.7**.** Evolving research may eventually nuance the similarity, based on close examination of pigments. See also Hermens and Hall-Aquitania, "Technische kunsthistoricus," 95–101, for Samuel van Hoogstraten, who traveled extensively. In most cases, not enough reference material exists to connect his grounds firmly to local traditions, although it seems likely.

63. Hall-Aquitania, "Prepared and Proffered."

64. All three cases are mentioned in Koos Levy-Van Halm, "Where Did Vermeer Buy His Painting Materials? Theory and Practice," in Gaskell and Jonker, *Vermeer Studies*, 138–139.

65. Margriet van Eikema Hommes and Elmer Kolfin, *De Oranjezaal in Huis ten Bosch: Een zaal uit loutere liefde* (Zwolle: Waanders, 2013), 48. For research on the ground of the paintings in the Oranjezaal, see Speleers, "Three Documents Concerning the Oranjezaal"; Speleers, "The Effect of Ground Colour"; Margriet van Eikema Hommes and Lidwien Speleers, "Pieter de Grebber and the Oranjezaal in Huis Ten Bosch, Part 2: Variations in Painting Technique," *Art Matters* 3 (2005): 37–46, and Hall-Aquitania, "Prepared and Proffered."
66. See Moorea Hall-Aquitania and Paul J. C. van Laar's essay in this issue: "Under the Microscope and Into the Database: Designing Data Frameworks for Technical Art Historical Research," *Journal of Historians of Netherlandish Art* 17, no. 2 (2025), DOI: https://doi.org/10.5092/jhna.2025.17.2.8.
67. Ernst van de Wetering, "Opmerkingen over de relatie tussen techniek, stijl en toeval bij Arent de Gelder: Een vergelijking met Rembrandt," in *Arent de Gelder (1645–1722): Rembrandts laatste leerling*, ed. Dirk Bijker et al. (Dordrecht: Dordrechts Museum, 1999), 19–37.
68. Currently, this has been better documented for Bol than for Flinck; see Schwagerl, "Technical Examination of Govert Flinck's Double Portrait," 156–157; Spring, "*Astronomer* by Ferdinand Bol," 78; Eikema Hommes, *Art and Allegiance*, 191–193; Rukavina, "Technical Analysis and Conservation of Ferdinand Bol's *An Astronomer*," 163; Kneppens and Kneppens, "Ferdinand Bol's Painting Technique," 171; Margriet van Eikema Hommes, "Cornelis Tromp's Trophies: The Origins of a Late Portrait (1675–1676) by Ferdinand Bol," *Oud Holland* 136, no. 1 (2023): 22–23.
69. Guido Jansen, "Ein Künstlerleben und seine Zeit," in *Schalcken, Gemalte Verfuhrung*, ed. Anka Sevcik (Cologne: Wallraf-Richartz Museum, 2015), 16.
70. Ilona van Tuinen, "Salmacis and Hermaphroditus," 2017, in *The Leiden Collection Catalogue*, 4th ed., ed. Arthur K. Wheelock Jr., Elizabeth Nogrady, and Caroline Van Cauwenberge, accessed July 13, 2024, https://theleidencollection.com/artwork/salmacis-and-hermaphroditus.
71. Surh et al., "Insights from Technical Analysis," 17–19, and Schölzel, "Schildertechniek van de Leidse fijnschilders," 17.
72. Dominique Surh, "Old Woman at a Window with a Candle," 2017, *The Leiden Collection Catalogue*, 4th ed., ed. Arthur K. Wheelock Jr., Elizabeth Nogrady, and Caroline Van Cauwenberge, accessed July 13, 2024, https://theleidencollection.com/artwork/an-old-woman-at-a-niche-by-candlight.
73. Massing and Groen, "Self-Portrait by Gotfried Schalcken," 105; and Saint George, "Godefridus Schalckens *Junge Dame vor dem Spiegel*," 149.
74. On the market for paintings, see Eric Jan Sluijter, Verwondering over de schilderijenproductie in de Gouden Eeuw (Amsterdam: Amsterdam University Press, 2003); and Claartje Rasterhoff, Painting and Publishing as Cultural Industries: The Fabric

of Creativity in the Dutch Republic, 1580–1800 (Amsterdam: Amsterdam University Press, 2016).

75. Gifford et al., "Making of a Luxury Image"; Gwen Tauber, "A Note on Technical Peculiarities in a Portrait by Carel Fabritius," *Art Matters* 3 (2005), 103–108; Wadum, "Are the Changed Appearances . . . ?"; Verslype, "A Preliminary Study," Albrecht, "Discovering Trends."
76. Gifford et al., "Making of a Luxury Image"; Gifford, "Fine Painting and Eloquent Imprecision."
77. Wadum, "Are the Changed Appearances . . . ?"; Krekeler, "Studie naar de schildertechniek van Pieter de Hooch." I would like to thank Melanie Gifford for discussing this with me.
78. Krekeler, "Studie naar de schildertechniek van Pieter de Hooch." The exposed ground in the boy's cap may be the result of overcleaning in the past; the brown speckles in the black rim of the cap are certainly due to paint loss.
79. Spring, "Pigments and Colour Change."
80. Gifford, "Lievens' Technique: 'Wonders in smeared paint, varnishes, and oils,'" in *Jan Lievens: A Dutch Master Rediscovered*, ed. Arthur K. Wheelock (Washington, DC: National Gallery of Art, 2008), 40–54, esp. 42.
81. Hendriks and Groen, "Frans Hals: Technical Research," 115, explain that Hals's grounds usually are "broken white, varying from light pink to ochrish." Verspronck's grounds are "light in colour, ranging from whitish to pinkish to ochrish white"; Hendriks, "Johannes Cornelisz Verspronck," 240.
82. Eikema Hommes, *Art and Allegiance*, 49–73.
83. Roy, "Utrecht Painters," 89.
84. Wetering, Rembrandt: The Painter at Work, 22–23.
85. Groen, "Grounds in Rembrandt's Workshop," 660–661.
86. Fromentin, *Masters of Past Time*, 138; Fromentin, *Maîtres d'autrefois*, 230.
87. Wetering, "Opmerkingen over de relatie," 25; see also 28.
88. Wetering, "Opmerkingen over de relatie," 19–25. How the adjacent color influences the optical perception of another color was described and explained only much later, in the color theories of Eugène Chevreuil, *De la loi du contraste simultané des couleurs* (Paris: Imprimerie Nationale, 1839).
89. Stols-Witlox, "By no means a trivial matter," 173.
90. Wallert, *Still Lifes*, 62. The advice made its way to Daniel King's manuscript recipe book, *Secrets in the Noble Arts of Miniatura or Limning*, from the 1650s; see Jolanda de Bruijn, Erma Hermens, Margriet van Eikema Hommes, and Arie Wallert, "Still Life Sources," in Wallert, *Still Lifes*, 28–29.
91. Gifford et al., "Making of a Luxury Image," 72–73, further elaborate on how the petal itself was actually painted with opaque strokes of white, followed with streaks of violet, and blended wet-in-wet. The bent shape was suggested with subtle color differences that, from left to right, move from light to midtone to dark, just as painters were advised in order to

suggest the roundness of a pillar. Van Aelst used an elaborate technique in which he first applied white paint, scraped some of it away, and added some blue paint. Visible too, is how he employed a delicate brushstroke to give some texture and vibrance that from a distance may seem entirely smooth. This sort of subtle brushwork, also encountered in the paintings of Gerrit Dou, makes the difference between a lively surface and a lifeless one.

92. Groen and Hendriks, "Frans Hals: Technical Research," 120.

93. Caravaggio often employed the foreshortened arm and hand to define space; see, for example, *Supper at Emmaus* (1601; National Gallery, London). Possibly Hals knew the print by Pierre Fatoure that is dated between 1609 and 1629, or he may have learned about this trick from Dutch Caravaggisti painters.

94. Roy, "Utrecht Painters," 93; Wetering, *Rembrandt: The Painter at Work*, 22.

95. Gifford et al., "Making of a Luxury Image"; Gifford, "Fine Painting and Eloquent Imprecision"; E. Melanie Gifford, "Esaias van de Velde's Technical Innovations: Translating a Graphic Tradition into Paint," in Roy and Smith, *Painting Techniques*, 145–149; E. Melanie Gifford, "Jan van Goyen en de techniek van het naturalistische landschap," in *Jan van Goyen*, ed. Christiaan Vogelaar (Zwolle: Waanders, 1996), 70–79.

96. For Van Goyen, see also Eric Jan Sluijter, "Jan van Goyen: Virtuoso, Innovator, and Market Leader," trans. Nicolette Sluijter-Seijffert, *Journal of Historians of Netherlandish Art* 13, no. 2 (Summer 2021), DOI: https://doi.org/10.5092/jhna.13.2.4.

97. Gifford, "Jan van Goyen," 76. On its website, the National Gallery labels the painting as "Probably by Jan van Goyen," but explains that a conservation treatment in 1958 resulted in the removal of figures and other details by another hand and has uncovered a monogram. See "A Cottage on a Heath, probably by Jan van Goyen," *National Gallery of Art*, accessed October 28, 2025, https://www.nationalgallery.org.uk/paintings/probably-by-jan-van-goyen-a-cottage-on-a-heath.

98. Gifford, "Jan van Goyen," 78. For the importance of economic motivations for the development of painting on colored ground, see Moorea Hall-Aquitantia, "Common Grounds."

99. Hendriks and Groen, "Lely's Studio Practice," 31.

100. Unlike Lely, the Delft portrait painter Michiel van Mierevelt (1566–1641) is reported to have adapted the warm tone of the ground, which he employed in the background and dress, with a local underpaint of a cooler but still-tinted tone that was more suited for the face, ruffs and cuffs; Verhave, "Productieproces in het atelier," 95.

101. Wallert, "Balthasar van der Ast," 85.

102. Illustrated in Wallert, "Balthasar van der Ast," 84, fig. 5.

103. Ulrike Villwock, "Anmerkungen zur Maltechnik dreier Werke von Cornelis Bega," in *Eleganz und raue Sitten: Cornelis Bega*, ed. Peter van den Brink et al. (Stuttgart: Belser, 2012), 77–78.

104. Villwock, "Anmerkungen," 78.

105. E. Melanie Gifford et al., "First Steps in Vermeer's Creative Process: New Findings from the National Gallery of Art," *Journal of Historians of Netherlandish Art* 14, no. 2 (Summer 2022), DOI: https://doi.org/10.5092/jhna.2022.14.2.1.

106. Costaras, "Study of the Materials"; Christoph Schölzel, "On the Restoration and Painterly Techniques of *Girl at an Open Window* by Johannes Vermeer," in *Johannes Vermeer: On Reflection*, ed. Stephan Koja et al. (Dresden: Sandstein 2021), 195–222.

107. Gifford et al., "First Steps in Vermeer's Creative Process."

108. Krekeler, "Studie naar de schildertechniek," discusses both color and perspective in De Hooch. Arie Wallert and Ilse Steeman, in "Licht, contrast en 'bevriende kleuren,'" in *Emanuel de Witte 1616/1617–1691/1692: Meester van het licht*, ed. Gerdien Wuestman (Zwolle, Waanders, 2018), state that, in De Witte's work, color was more relevant for the suggestion of space than the often sloppy use of perspective (129) and specify that De Witte's canvases tend to have colored grounds (135). Pieter Saenredam's paintings are often more linear and descriptive compared to those of Emmanuel de Witte. Heemstra, in "Space, Light and Stillness," 77–78, observes that Saenredam mostly painted on panels covered with a white ground. She also documents paintings with a thin white ground that allows the color of the panel to shine through, and two with a darker, brownish ground, explaining that this created a warmer effect than the white ground. As we saw, Vermeer was another painter who preferred light grounds. For color and perspective in the work of Vermeer, see E. Melanie Gifford, "Painting Light: Recent Observations on Vermeer's Technique," in Gaskell and Jonker, *Vermeer Studies*, 185–199; Jørgen Wadum, "Contours of Vermeer," in Gaskell and Jonker, *Vermeer Studies*, 201–223; and Jørgen Wadum, "Vermeer in Perspective," in *Johannes Vermeer*, ed. Arthur K. Wheelock Jr. (Zwolle: Waanders, 1995), 67–78.

109. Combining a meticulous analysis of colored grounds in Dutch art theory with an analysis of optical effects in paintings, Hall-Aquitania, in "Common Grounds," demonstrates that colored grounds helped artists to achieve *houding* and *welstand*.

110. "Optimal quality" is the preferred translation in Lyckle de Vries, "Gerard de Lairesse: The Critical Vocabulary of an Art Theorist," *Oud Holland* 117, nos. 1/2 (2004): 81–82; and Lyckle de Vries, *How to Create Beauty: De Lairesse on the Theory and Practice of Making Art* (Amsterdam: Amsterdam University Press, 2011), 216. Walter Melion prefers "harmony" and "consonance"; see Walter Melion, *Karel van Mander and His "Foundation of the Noble, Free Art of Painting"* (Leiden: Brill, 2023), 63. "Good appearance" is from Paul Taylor, "The Concept of *Houding* in Dutch Art Theory," *Journal of the Warburg and Courtauld Institutes* 55, no. 1 (1992): 219. He also gives "appearance of solidity," or "appearance of plausible three-dimensional construction"; Taylor, "Concept of *Houding*," 222. See also Taylor's review of *Karel van Mander and His "Foundation of the Noble, Free Art of Painting,"* by Walter S. Melion, *Oud Holland Reviews*, https://oudholland.rkd.nl/index.php/reviews/128-review-of-karel-van-mander-2023-2024.html.

111. De Vries, in "How to Create Beauty," 81–82, and Melion, in *Karel van Mander*, 61–65, agree that *welstand* applied to matters of iconography as well as composition. In relation to grounds, composition is the most relevant aspect.
112. Paul Taylor, "Concept of *Houding*," 226; Wetering, *Rembrandt: The Painter at Work*, 150; Eikema Hommes, *Hemel van Lairesse*, 220.
113. Taylor, "Concept of *Houding*," 214.
114. Cited in Taylor, "Concept of *Houding*," 211.
115. Taylor, "Concept of *Houding*," 214.
116. Taylor, "Concept of *Houding*," 217, 227–231.
117. Wallert and Steeman, "Licht, contrast"; Wetering, "Opmerkingen over de relatie"; Wetering, *Rembrandt: The Painter at Work*; and Hall-Aquitania, "Common Grounds.
118. Bürger (Thoré), *Musees de la Hollande I*, 323: "Véritable histoire, eu effet, que la peinture hollandaise, et dans laquelle les artistes indigènes ont fixé, en images lumineuses et justes, une sorte de photographie de leur grand xvue siècle, hommes et choses, sentiments et habitudes, —les faits et gestes de toute une nation" (True history, indeed, of Dutch painting, in which native artists have captured, in luminous and accurate images, a sort of photograph of their great seventeenth century, men and things, feelings and habits, —the deeds and gestures of an entire nation.).
119. This tradition manifested itself in full glory in Jean-Bapiste du Bos's *Réflexions critiques sur la poésie et sur la peinture* (1719), but had its roots in the writings of Sir William Temple on the Dutch Republic (*Observations Upon the United Provinces of the Netherlands*, 1672), combined with André Félibien's and Roger du Piles's texts on Dutch art and artists (respectively, *Entretiens sur les vies et sur les opuvrages des plus excellents peintres anciens et moderne*, 1684; and *Abrégé de la vie des peintres, avec des réflexion sur leurs ouvrages*, 1699); see Dedalo Carasso, *In de ban van het beeld: Opstellen over geschiedenis en kunst* (Hilversum: Verloren 1998), 89–90; and Frans Grijzenhout, "Between Reason and Sensitivity: Foreign Views of Dutch Painting, 1600–1800," in Grijzenhout and Van Veen, *Golden Age*, 15–16.
120. The relationship between locality and art remains a challenging topic, recently explored by Elisabeth de Bièvre in her book *Dutch Art and Urban Cultures 1200–1700* (New Haven: Yale University Press, 2015). Although she does not go back to nineteenth-century concepts, her synthetic study fails to convince due to vagueness of concept and selectivity of argumentation, as has been argued by Claartje Rasterhof, review of *Dutch Art and Urban Cultures, 1200–1700*, by Elisabeth de Bièvre, *BMGN–Low Countries Historical Review*,133 (2018), https://doi.org/10.18352/bmgn-lchr.10568. Perry Chapman has argued seriously for the connection between a new, locally oriented iconography and the political history of the Netherlands in the time of the truce (1609–1621); see H. Perry Chapman, "Propagandist Prints, Reaffirming Paintings: Art and Community During the Twelve Years Truce," in *The Public and Private in Dutch Culture of the Golden Age*, ed. Arthur K. Wheelock Jr. (Newark, DE: University of Delaware Press, 2000), 43–63.

121. Lawrence Goedde, "Naturalism as Convention: Subject, Style, and Artistic Self-Consciousness in Dutch Landscape," in *Looking at Dutch Seventeenth-Century Art: Realism Reconsidered*, ed. Wayne Franits (Cambridge: Cambridge University Press, 1997), 129–144.

122. Originally published in Dutch in 2000 and now in an updated English-language version: Eric Jan Sluijter, "On Brabant Rubbish, Economic Competition, Artistic Rivalry, and the Growth of the Market for Paintings in the First Decades of the Seventeenth Century," *Journal of Historians of Netherlandish Art* 1, no. 2 (2009), DOI: https://doi.org/10.5092/jhna.2009.1.2.4. See also Thijs Weststeijn, *The Visible World: Samuel van Hoogstraten's Art Theory and the Legitimation of Painting in the Dutch Golden Age* (Amsterdam: Amsterdam University Press, 2008).

123. Wetering, *Rembrandt: The Painter Thinking*, 83–84, 212–221, with specific reference to *houding* on 216.

124. Gifford, "Jan van Goyen." For the appreciation of this technique by contemporaneous art lovers, see also E. Melanie Gifford, "Pieter Bruegel's Afterlife: A Visual Metaphor in Seventeenth-Century Landscape," in "Connoisseurship and the Knowledge of Art = Kennerschap en kunst," ed. H. Perry Chapman, Thijs Weststeijn, and Dulcia Meijers, *Netherlands Yearbook for History of Art / Nederlands Kunsthistorisch Jaarboek* 69 (2019): 42–73.

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