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Historical recipes for preparatory layers for oil paintings in manuals, manuscripts and handbooks in North West Europe, 1550-1900: analysis and reconstructions

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Chapter 8 The colour of preparatory layers

A ground colour cannot take away nor give talent: this is not the issue; it is knowing whether this or that ground colour is harmful or favourable for the artist and the lifetime of the painting.

Bouvier 1827¹

This chapter investigates the ground colours advised in the recipes, draws a comparison between colours described for panel and canvas, and relates ground colour to the motives of the author or artists' techniques. Attention is given to the question whether historical sources provide evidence if ground colour is related to the subject of a painting, and the influence of commercial manufacture on ground colour is discussed. While the present chapter focuses on the artists' intent and on the colour of the fresh painting, the consequences of ground pigmentation and colour on changes in the visual appearance of aged paintings will be discussed in Paragraphs 10.3 and 10.4 of Chapter 10, which focuses on the subject of the ageing of preparatory layers.

The fact that ground colour is considered important by many authors is evident from the attention given to this subject throughout the period under consideration. As French academist Oudry states in 1752: 'it is by no means a trivial matter which tone should be given to this ground'.²

8.1 General trends in ground colour, 1550-1900

Appendix 13 provides an overview of pigmentation of final ground layers in the recipes studied for this dissertation. The last column describes ground colour. If only pigmentation of the final layer is provided by a recipe, without a description of the resulting colour, an estimated colour is entered between square brackets. Appendix 13 is the basis for Figures 8.2, 8.3 and 8.4, which give overviews of colour indications in North West European recipes for canvas and panel grounds and of the much lower number of contemporary South European recipes collected.

¹ Bouvier 1827: 571-2

² Oudry 1752: 108.



Figure 8.1 Rubens executed this sketch of his daughter Clara on a middle grey ground. The ground plays an important role in the composition, showing through not only in the background, but also acting as a middle tone in the collar and dress of the girl. It shines through in areas in the face, where it helps the artist create a convincing transition between lighter and darker areas.

*P.P. Rubens. Portrait of Clara Serena Rubens. c. 1616.
oil on canvas, mounted on panel. 37 x 27 cm (h x w)*

Photograph © Liechtenstein. The Princely Collections, Vaduz–Vienna.

Although a translation of ground pigmentation into coloured bars in a bar graph provides only an approximation of the actual ground colour, the precise ratio of white to coloured pigments and the exact colour tone of the pigment not being known, the bar graphs do give a general impression of the types of ground colours advised by historical authors. The bar graphs include a group of recipes that has been labelled 'unspecified but coloured' in the legend. This category represents those recipes that do not contain precise colour descriptions but do instruct to apply a coloured layer, for instance advising 'colour',³ 'light colour',⁴ a 'coloured ground'⁵ or 'colouring matter'.⁶

A comparison between the figures for panel and canvas grounds seems to indicate that ground colours advised for canvas preparation are, in general, of a slightly darker tone than contemporary panel grounds. During the seventeenth century, whitish grounds on average represent circa 20% of canvas ground recipes, while almost 40% of panel grounds have a whitish tone. During the second half of the eighteenth century and during the nineteenth century, the percentage of panel ground recipes with a whitish tone is also slightly higher in comparison to the percentage of light coloured canvas grounds. Reddish or reddish brown grounds are mainly advised for canvas preparation. They are more frequent in South European recipes (See Appendix 13).

The recipes provide no indication of the reason for the difference between canvas and panel ground colour, this subject is simply not discussed. Van de Wetering (1997) offers a plausible hypothesis, suggesting that the difference may result from the different origins of both supports, panel painting being influenced by local Northern European tradition, whereas techniques for painting on canvas have been imported and modified from Italian examples.⁷ Chapter 4 discussed the general understanding that canvas painting is introduced first in Italy and reaches Northern Europe later. The fact that reddish or red-brown grounds, which all seem related to South European recipes, mainly occur in recipes for canvas preparation, strengthens Van de Wetering's hypothesis.

As a general point, it does not seem in any way far-fetched to link the treatment of supports to their origin. In fact, ground colour may not be the only difference between panel and canvas grounds that can be linked to the origin of both supports. In Paragraph 5.3 the fact was discussed that starch or flour paste size layers and ground layers occur almost exclusively in recipes for canvas paintings. In Paragraph 6.1 the hypothesis was put forward that this may be the result of the traditional link between starch and textiles (starching collars, napkins or other items of clothing).

Descriptions of the effect of ground pigmentation on the visual characteristics of a painting are already evident in the late sixteenth century text of Armenini (1587). This Italian author devotes much attention to the choice in ground colour. First he describes two mixtures that he considers applicable: a mixture of lead white, massicot and an earth pigment ('terra di campana'), or of verdigris, white lead and umber. However, Armenini

³ Barrow 1735, vol 2: no page numbers, entry 'painting on wood'; Dossie 1758: 204-5; Cawse 1840: 20-1, 26.

⁴ Simis 1801: 158.

⁵ Fielding 1839: 79-80.

⁶ Francis 1854: 70.

⁷ Van de Wetering discusses ground colour in the context of Rembrandt van Rijn. Van de Wetering 1997: 129.

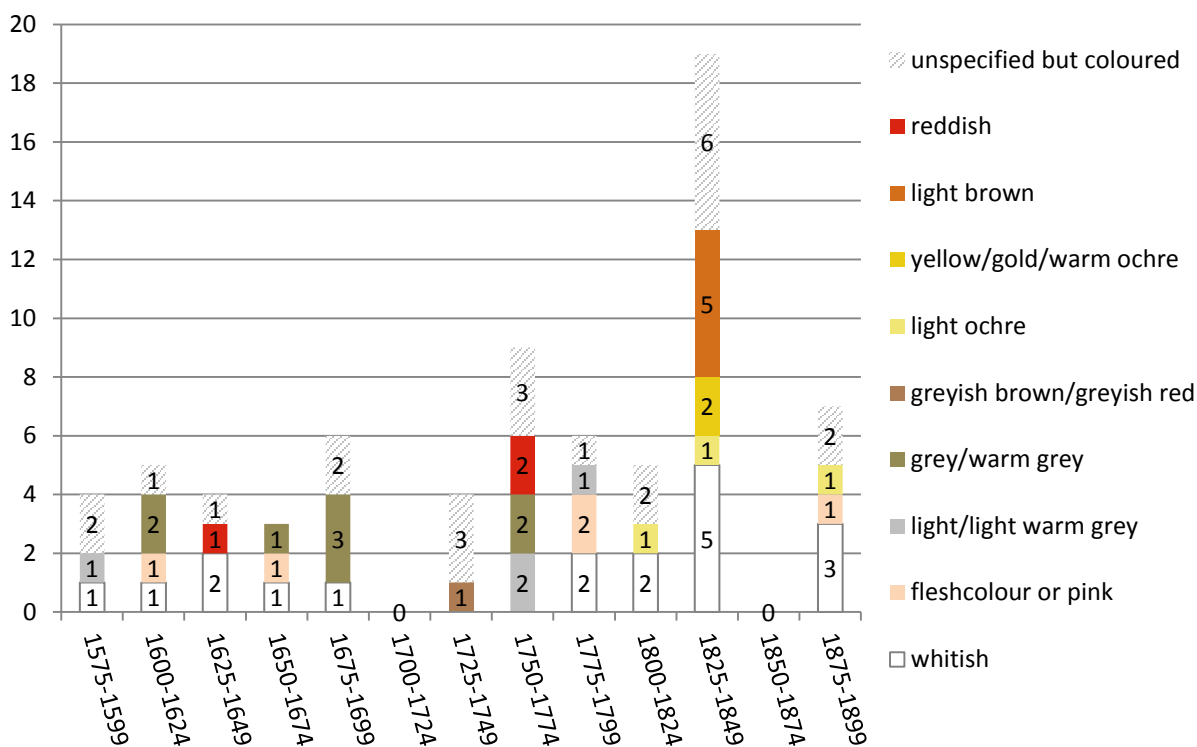


Figure 8.2 Ground colours for panel preparation 1575-1900 according to North West European recipes

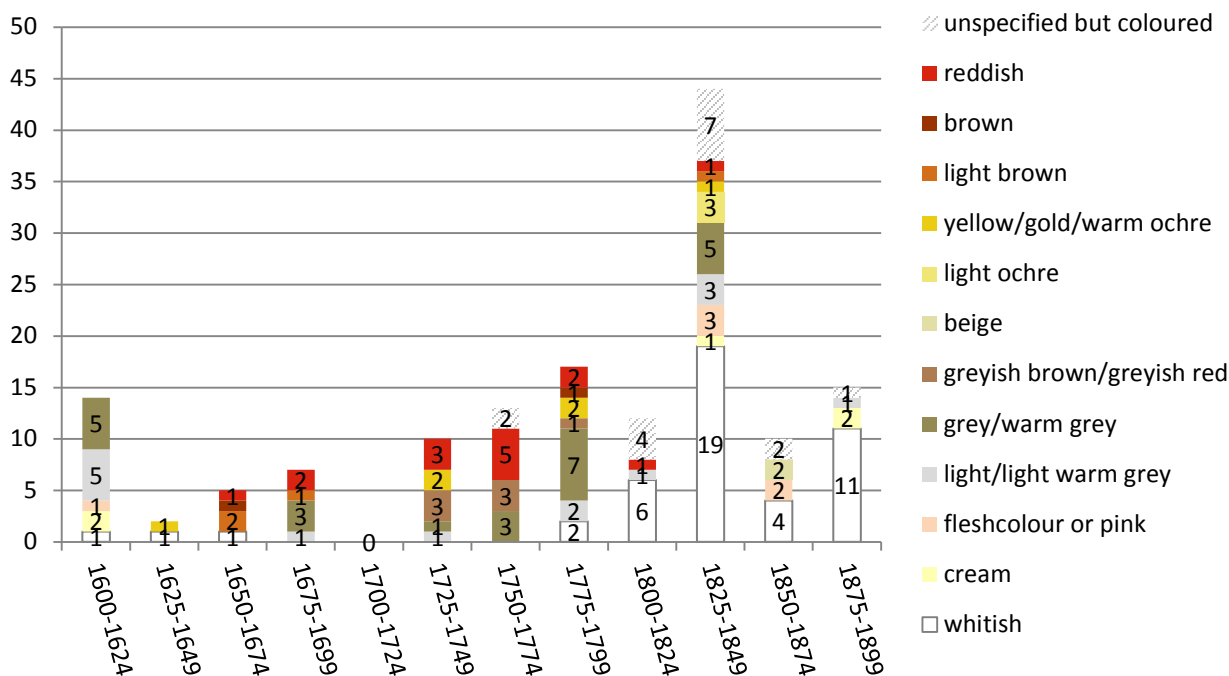


Figure 8.3 Ground colours for canvas preparation 1600-1900 according to North West European recipes

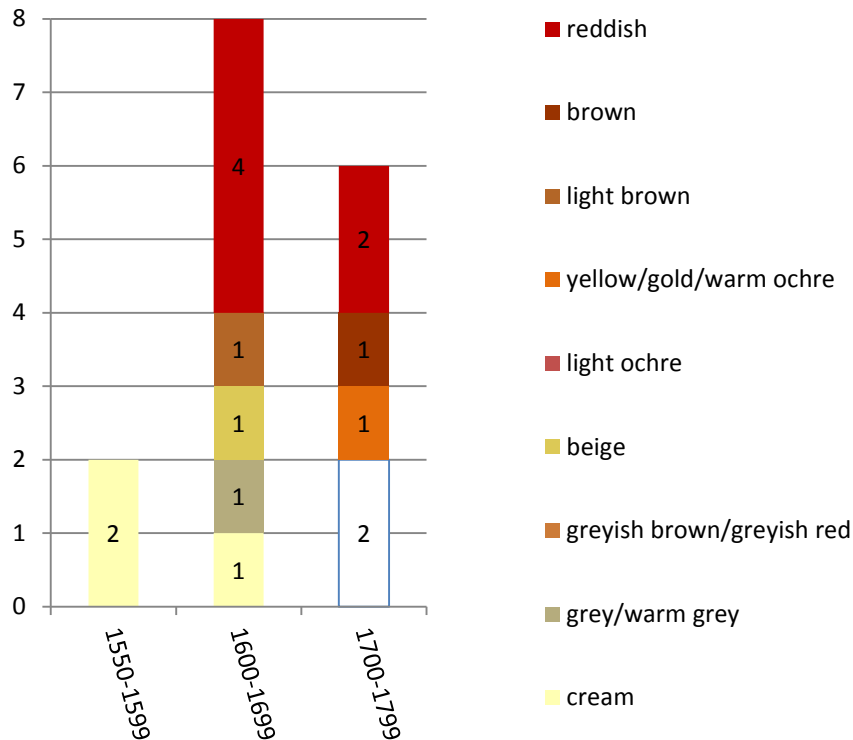


Figure 8.4 Canvas ground colours according to South European recipes

himself prefers a different mixture: a flesh-coloured ground consisting of lead white and a little red, ground in ‘common varnish’ (‘vernice commune’). Armenini explains the role of the varnish, ‘vernice commune’ in this mixture, saying that he prefers an imprimatura with a large proportion of varnish compared to oil because it has a ‘certain brilliant quality due colours placed upon it, especially the blues and reds, stand out well and do not change’.⁸

Most seventeenth century canvas preparation recipes advise greyish ground colours, next to white and ochre, flesh coloured, orange or even brown and reddish grounds (see Figs. 8.2 and 8.3). Contemporary paintings show how especially the more strongly coloured greyish, drab or brownish colours are sometimes not completely covered by subsequent paint layers and thus enhance the unity and harmony of the painting, or demonstrate how they are allowed to play a role in the final painting as a middle tone (Fig. 8.1). Some painters employ darker preparatory layers. Through the application of cool tones as a scumble over such darker, warmly coloured layers, optical blues and greys can be achieved. Covered with a warm glaze, deep and intense dark colours are easily created.⁹

The figures demonstrate that from the late eighteenth century onwards a transition to lighter ground colours is evident in North West European recipes. Whether a similar trend is present in South Europe is difficult to establish on the basis of so few recipes available.

⁸ Armenini 1587(translation E. Olszewski 1977: 192): 124-5. Miedema and Meijer demonstrate that by the beginning of the seventeenth century coloured preparatory layers are in regular use in both the Southern and Northern Netherlands, next to (nearly) white, lead white containing oil-bound preparations. Miedema and Meijer 1979.

⁹ Miedema and Meijer 1979; Koller 1984: 303; Hendy 1968: 267-8; De Behault 2010.

A transition to lighter ground colours in nineteenth century British manuals for oil painting was reported earlier by Carlyle (1991, 2001). The present dissertation shows that this transition to lighter ground colours also takes place in other North West European countries. In Chapter 10, the transition to lighter ground colours will be discussed in relation to comments on the effect ground colour in aged paintings.

No recipes for white or whitish grounds are found that date from the first half of the eighteenth century. This makes the first half of the eighteenth century the only period when not a single recipe advised white as a base colour for painting. The significance of this observation should however be balanced against the fact that relatively few recipes appear to either have been written during this period or to have survived, while the number of recipes for the preceding and following periods is much larger.¹⁰

Until the second half of the eighteenth century, brown or reddish ground colours are mentioned mainly by Italian, Spanish and French authors. This seems to point towards a geographical difference between 'the North' and 'the South'. Northern European recipes tend to mention yellowish, orange or greyish grounds for canvas.¹¹ Warmly coloured grounds appear more frequently in French, Italian and Spanish treatises, like the Volpato manuscript of c. 1670, which advises potters' earth, red earth and a little umber in linseed oil.¹² However during the second half of the eighteenth century, some Northern European sources adopt the reddish or brownish grounds. Such colours all but disappear from the stage in the nineteenth century.

Notwithstanding the importance attached to ground colour by a significant number of sources, it should be noted that some recipes do not discuss ground colour at all. This is the case both in seventeenth, eighteenth and nineteenth century recipes. For instance in a recipe for a panel ground, De Mayerne (1620-44) just uses the term 'oil priming': 'according to my opinion it would be better after the wood has been glued lightly to apply with a knife or horn [spatula] a good and strong oil priming to fill the pores of the wood',¹³ Chomel (1767) advises unspecified 'oil priming'.¹⁴

8.2 Paint deposits in ground pigmentation

As noted in Chapter 6, several recipes ranging from the sixteenth to the early eighteenth century, mention how painters make use of the deposits found at the bottom of their brush rinsing jars for priming.¹⁵ Also the use of ashes previously employed to clean the

¹⁰ 17 recipes from the period 1650-1699 and 42 for the period 1750-1799 against 7 recipes for the years 1700-1749.

¹¹ Although reddish layers are described as first ground layers, to be covered with lead white based second ground layers.

¹² Volpato manuscript c. 1670 (In Merrifield 1849 (1999): 731).

¹³ De Mayerne 1620-44: 99.

¹⁴ Chomel 1767: 869. The Dutch 1743 edition and translation of Chomel advises a different layer build-up: chalk and glue followed by an oil-based ground layer. Although the order of the sentences and the length of both editions is similar, the wording is not an exact copy in other respects as well. Chomel 1743: 948.

¹⁵ Through instrumental analysis of Tintoretto's painting *Origin of the Milky Way* (c. 1575-80) a ground was found containing brown earth with particles of red lake, vermilion, smalt, azurite, malachite and ultramarine. Based on the complicated mixture, the researchers suggest the use of palette scrapings or pigments settled at the bottom of the brush rinsing jar. Dunkerton et al. 1999: 271. Martin 2008: 4 suggests the use of pigments

grinding stone would lead to the inclusion of pigment deposits picked up from this stone.¹⁶

Bate (1633) describes the rinsing glass for brushes as a glass half filled with oil in which the brush is shaken until all pigment fall to the bottom. He writes: 'you may use these settled colours for to prime your cloth and boards'.¹⁷

Stalker and Parker (1688) provide detailed instructions for separating old paints from the skins and dirt they usually contain so that they can be used in a primer:

[this colour] is made of the scrapings of their pots, the oldest skinny colours, and the cleansing or filth of their pencils. All these being mixed grind very well, put them into a canvas-bag that will hold a pint, sowed very strongly for this purpose. If the colour be too dark, it may be alter'd by adding a little white-lead. Being securely inclosed and tied up, press it between a pair of screws, such as apothecaries employ, now and then turning the bag, until all the fine primer be squeezed out, which should be received into a gallipot, the skins and filth that remain are useless, and may therefore be thrown away.¹⁸

The use of paint leftovers is apparently not without danger. Already the anonymous French manuscript BnF Ms. Fr 640, dated c. 1580-1600, warns against the use of oil from the rinsing jar for brushes, because it will make the colours sink in on account of the presence of 'corrosive' pigments such as verdigris in the mixture.¹⁹ Eikelenberg (c. 1679-1704) also warns not to add too much pigment from the pencil tray or rinsing jar to a ground layer (in his case containing umber, brown red, white), since it will make the colours sink in.²⁰ Spanish Palomino (1724) only advises an addition of old paint from brush rinsing jars or palette scrapings for grounds that contain otherwise slow drying earth pigments.²¹

The use of palette scrapings or deposits from the rinsing jar is not mentioned by any authors more recent than those described above. A somewhat related practice is however apparent in the Winsor & Newton manuscripts, whose recipes describe the use of 'varnish bottoms', the deposit found at the bottom of varnish boiling vats, as ingredients in preparatory layers.²²

from the rinsing jar as well for De la Tour (1593-1652)'s *La rixe des musiciens* from the collection of the Getty.

¹⁶ BnF Ms. Fr 640 c. 1580-1600: 57 verso 115

¹⁷ Bate 1633: 175. Noble et al. 2011 found complicated pigment mixtures in the ground of a Rembrandt painting in the collection of the Mauritshuis. Similar mixtures were encountered in other Rembrandt pictures painted in the 1660s. (Noble et al. 2011).

¹⁸ Stalker and Parker 1688: 54.

¹⁹ BnF Ms. Fr 640 c. 1580-1600: perso 8.

²⁰ Eikelenberg 1679-1704: 385. British nineteenth century manuals discuss the influence of the state of polymerisation of the oil on the sinking in of colours. Carlyle 1991, vol. 1: 297-8; Carlyle 2001: 217-8.

²¹ Palomino 1715, 1724, vol. 2 1724: 32-3.

²² For instance in W&N manuscript 'Varnish book No. 2' 1850-63: V2P376L01.

8.3 Ground colour and subject

The influence of ground colour on the tonality of a painting and on the techniques employed in subsequent layers is evident. However, whether artists made such deliberate use of ground colour that they adjusted it to the subject they intended to represent, is less certain. Whether there is a correlation between ground colour and subject is an important question. Indeed, a number of authors indicate that ground colour can be related to the subject of a painting.

According to De Mayerne's notes, Abraham Latombé (1620-44), says that for landscape painting the ground should have a brighter tone than for other subjects: 'Pour faire paisages que vostre imprimeure soit de couleur fort claire'.²³ In another recipe, De Mayerne notes that a ground consisting of lead white, a little umber and some smalt is very beautiful for landscapes.²⁴ 'Let your primer be made lighter or darker according to the picture you will paint', is the advice issued in the 'Art of painting in oyle' (1664).²⁵ And indeed, in a 1677 notebook Charles Beale, husband of the British painter Mary Beale, notes how a certain batch of priming that turned out too reddish and dark would be suitable most for 'mens pictures that are of pretty swarthy dark complexion'.²⁶

The description of the creative process by which he arrives at this colour sheds an interesting light on Beale's studio practice:

There was some mistake in the color of this primer, for after I had mixt it, I found it to cast so very much to a redish yellow that I thought fit to temper into it by guess neare half an ounce of ordinary blew-black, & a little cullens earth. So that these 14 three-quarter clothes are of a darker and more redish color then the other 16 that were primed.²⁷

This quote is of particular importance, since it shows clearly how differences in ground colour may not always be the result of a conscious choice, but can simply be the result of a 'mistake'. It is not unlikely that also in some other cases, differences in ground colour, for instance between pendant paintings, may be attributed to similar 'difficulties'.

An interesting connection between Beale's account and actual painting practice may be found in the fact that the analysis of the preparatory layers of two series of pendant portraits, one series by Caspar Netscher and the other by George van der Mijn, has shown that in both cases the artist used a lighter ground colour for the female than for the male portrait.²⁸ There is no reason to assume that Netscher and Van der Mijn made mistakes. Both Beale's account and these paintings demonstrate that depending on the complexion of the sitter, the artist may employ a different ground colour.

²³ De Mayerne 1620-44: 11.

²⁴ De Mayerne 1620-44: 96.

²⁵ 'Art of painting in oyle by the life' 1664: 94-6.

²⁶ Beale 1677: f 56 v (transcribed in Talley 1981: 287).

²⁷ Beale 1677: f 56 v (transcribed in Talley 1981: 287).

²⁸ Noble 2004: 331.

It should be said, that preparing the same colour with different batches of pigment is very difficult. Even when the same pigments are available, finding exactly the same mixture when mixing by volume or by handfulls, is challenging. This is evident from reconstructions for the HART Project.²⁹ Notwithstanding this fact, there are other historical quotes that demonstrate that a conscious choice cannot be ruled out:

Wilhelmus Beurs (1692) advises a cooler tinted ground, pigmented with lead white and black, for landscapes, whereas for other subjects a slightly warmer colour should be used, a mixture of lead white and raw umber.³⁰ The Wiltschut manuscript (c. 1701) also advises against grounds of a brownish hue for landscape painting. The author explains that although brown grounds may be suited to the more warmly coloured foregrounds, they mismatch the lighter tonality of receding areas in a landscape. The Wiltschut manuscript therefore advises a lighter base tone underneath the receding landscape. This, the author says, will make the landscape 'soft and sweet'. How such a ground is executed precisely, whether it is not so much a ground as a first lay-in of the main forms and areas in the landscape, is not entirely clear from the description.³¹

In the description of flower still lives, the Wiltschut manuscript discusses how the ground colour influences later stages in the painting process. First the author provides some general directions:

The best priming is [made] with lead white, blue black, and brown ochre; and must not be too brown, a light pinkish colour that has been mixed ['gepromuert'] long, or with blue black, chalk, white and a little brown red and ochre, depending on the subjects you wish to paint, the latter is good for painting flowers, if a little ultramarine or black is added.³²

Then the manuscript proceeds to flower painting: in order to paint flowers, sometimes a local underpaint is required, which the author calls a 'plack' ('slice'). Application of a 'plack' can be necessary in particular for flowers executed with less opaque pigments such as red lake or smalt. Whether or not such local underpaints are to be applied depends on the ground colour: a brownish priming will remain visible through smalt-containing passages and therefore requires blocking out with a white 'plack'. If, however, the ground has a light tone, just the smalt will suffice to paint the flower and no local underpaint will be needed.³³

De Lairese (1707) discusses ground colour at length and relates ground colour to the scale and style of a painting. In his *Schilderboek*, he draws a lengthy comparison between the style of painters specialized in large and boldly executed paintings, and painters of smaller subjects with a 'weak' style. According to De Lairese, the painters with the 'bold' style only know how to paint in strong and glowing colours, also in the details, while the painters with the 'weak' style in contrast do not adapt their style to a more bold manner when painting larger subjects. De Lairese advises painters from both groups to learn to

²⁹ Personal communication Carlyle. January 2013.

³⁰ Beurs 1692: 19-20.

³¹ Wiltschut manuscript c.1701: 32.

³² Wiltschut manuscript 1701: 27-8.

³³ Wiltschut manuscript 1701: 27-8.

employ the other's manner, as they will produce more natural looking paintings with convincing perspective when they master both techniques.

De Lairese offers interesting advice to both groups of painters, which involves ground colour: the painter that needs to practice painting smaller and 'weaker', should try painting on a light grey ground. The painter having to practice a bold manner must paint on a dark and 'glowing' ground. De Lairese believes that on a warmly coloured, dark ground, the painter will have no other choice but to use glowing and stronger colours in order to overcome the ground colour.³⁴

De Lairese includes an anecdote that illustrates the importance of ground colour. It concerns an assignment for four ceiling paintings, for which he received three canvases prepared with a pearl coloured ground and one with 'only a priming', not with the lighter ground. After having completed the 'deadcolouring' stage, he noticed a difference between the shadows, which were darker and more glowing in the painting without the light ground. As a consequence, he had great trouble matching all paintings in the retouching phase. De Lairese concludes that 'this taught me that the priming of a panel or canvas can be deceptive and bring us in a position where we do not want to be, either too far away or too close'.³⁵

De Lairese continues by explaining that for 'clear' landscapes, a pearl toned priming should be used, and for rooms and other interiors, a priming with umber. For candlelight, night scenes and spectres a ground of Cologne earth, umber and black is best suited. Depending on the exact circumstances to be painted, each of these three colours can be slightly modified, a little more blue for a larger sky, the ground more bright and glowing depending on whether the artist wishes to depict sunlight or not, the colour of night scenes dependent on the amount of light and darker if the painting has a larger size.³⁶

No other eighteenth or nineteenth century authors give such specific advice about ground colours for different subjects. Instead, they discuss the relation between subject and ground colour in more general terms, only indicating the fact that a colour can be chosen to suit a topic.

De Montabert (1829) writes that although one tone may suit a particular subject, it might be a mismatch for another topic, but refrains from giving examples.³⁷ Field writes in his 1835 treatise: 'as the best [ground colour] must depend upon varying circumstances, there can be no tint suited to every case'. Field advises painters to match the ground colour to the highlights and the middle tone they intend to use in their paintings and to choose a ground colour that is suitable to those tones. This is an important comment, as it results in the artist deciding on the ground colour, not the professional manufacturer. However from this it does not follow that artists prepare their own supports, since they can order canvas of a particular tone, choose between colours commercially available or can modify existing grounds by applying an additional layer.³⁸ Besides, the advice does not

³⁴ De Lairese 1707 (edition 1712): 329.

³⁵ De Lairese 1707, translated by De Vries 2011: page 330 on the CD.

³⁶ De Lairese 1707 (edition 1712): 330. De Lairese continues with a discussion on local underpainting in different tones, depending on the area of the painting, and advises similar colours for those local underpaints. De Lairese 1707 (edition 1712): 331.

³⁷ De Montabert 1829, vol. 9: 179-80.

³⁸ See Chapter 10.

always result in a markedly coloured ground. In general, Field considers white a very good ground colour. He recommends white on the basis that ‘nature generally colours upon a white ground, and works entirely with transparent colours, hence the purity and splendour of her colouring’.³⁹

In historical recipes for preparatory layers, no evidence is found for the selection of colours that would form a deliberate contrast with the colour to be applied in subsequent layers. Although contrasting colours are seen in the underlayers of for instance seventeenth century flower paintings⁴⁰ and although nineteenth century British manuals for oil painting discuss local underpaintings in contrasting colours,⁴¹ this practice does not seem to extend itself to preparatory layers that are applied over the whole surface of the support. This is not surprising, since the tones employed during the painting stage are different in every location of the painting, therefore a single contrasting underlayer would be impossible to choose.

8.4 The transition to lighter ground colours in the late eighteenth century

As stated earlier, lighter ground colours gain importance in late eighteenth century and nineteenth century recipes. The overviews of ground colours in Figures 8.1 and 8.2 show a slow transition to paler ground colours in recipes that date from the late eighteenth century onwards. Although recipes for greyish or brownish ground layers continue to appear every now and then until quite late in the nineteenth century, their frequency diminishes in favour of recipes that advised light hues such as light yellow, light pink or light grey.⁴²

From the seventeenth century onwards, authors link ground colour to the long-term stability of the colours employed in oil painting. The fact that pronounced ground colours and discolouration of aged paintings are linked in the sources, suggests that this notion plays a role in the transition to light ground colours. Chapter 10, focusing on the influence of preparatory layers on the long-term stability of ageing paintings, devotes a section to this phenomenon and looks in detail at the theories developed by authors that describe the influence of ground colour on long-term stability.

While a number of late eighteenth century authors describe light ground colours (Figs. 8.2 and 8.3), some sources continue to prescribe stronger colours. The *Practical treatise* (1795) provides somewhat contradictory colour advice. The anonymous author advises a greyish colour made from peach-stone black and white, advice the author says to have taken from the late Mr. George Robertson, a landscape painter. On such a ground ‘the picture will be fresh and without change to the last’.⁴³ Earlier in his treatise, the author

³⁹ Field 1835: 385-6.

⁴⁰ See for instance Wallert et al. 1999.

⁴¹ Carlyle 1991, vol. 1: 275, Carlyle 2001: 200-201.

⁴² Interestingly, a comparison with contemporary grounds for house painting shows that simultaneously with the transition to lighter grounds in easel painting, also in house painting darker grounds (tinted with earth pigments) are abandoned for lighter, lead white based grounds. Bristow 1996: 98-101.

⁴³ This comment is repeated by the anonymous *Compendium* of 1808: 218. *Practical Treatise* 1795: 207-8. Carlyle 1991: 247-8 links the information on the permanence of this ground with a later comment in Field, which reads that ‘all carbonaceous blacks’ have ‘a preserving influence on the colour’ for two reasons, ‘the

includes a recipes from Bardwell (1756), on which the *Practical Treatise* is based, that states that landscapes should be painted on a tanned-leather colour, made from brown ochre, white and light-red. Such a colour, he writes, will provide 'a warmth to the shadow colours, and is very agreeable and proper for glazing'.⁴⁴ Hodson and Dougall (1805) copy this advice, although earlier in their treatise they state that it 'is not of any great consequence what particular tint it [the ground] is formed of, provided it is rather light than dark'.⁴⁵

8.5 Ground colours in nineteenth century recipe books

While approximately half of the nineteenth century recipes for ground preparation advise whitish grounds, (light) yellowish or ochre toned grounds, as well as flesh colour are also mentioned. Two canvas preparation recipes from the first half of the century advise reddish grounds and light brown appears in five recipes for panel preparation and a single recipe for canvas preparation.

Craig (1821) prefers light ground colours. His comparison of paintings executed on white grounds with paintings on darker, warmly coloured oil grounds, makes him conclude that only white or almost white grounds should be used. He writes: 'a white ground is of great importance in painting'. 'Your works in oil-colours should be always executed on a white ground, and the more thinly you paint them, the longer they will continue nearly of the colour they appear when first painted'.⁴⁶

Carlyle's (1991, 2001) comparison of two editions of Pinnock's *Catachism* provides further support for the theory that lighter colours gain popularity. In the 1820 edition, Pinnock repeats Bardwell's advice to use a 'tanned leather-colour', whereas the 1840 edition of his book advises to use a 'cream coloured cloth', made with white and yellow ochre.⁴⁷

Although Chapter 10 demonstrates that many authors consider white or whitish grounds a wise choice because of the ageing characteristics, the fact may be that in practice these colours do not suit the techniques of some artists or do not match the aesthetical values the artists aim for. Coloured grounds are still described by nineteenth century authors, although dark brown or reddish ground colours all but disappear from the recipes. Bouvier (1827) writes that his preferred ground colour is a light, golden orange tone. This colour he describes as 'full of light, not obtrusive neither cold'. Everything painted on such a ground will be 'harmonious and warm'. White and grey grounds Bouvier considers too cold. He says that everything painted on top is as cold as watercolour painting, 'but

bleaching power of carbon' and 'the neutralizing and contrasting power of black and white'. Field 1835: 180 in Carlyle 1991, vol. 1: 248; Carlyle 2001: 177.

⁴⁴ This line is also repeated by Clarke and Dougall 1817: 380. *Practical Treatise* 1795: 158. The contradictory advice is explained by the fact that the *Practical Treatise* is partially based on Bardwell (1756). Bardwell's publication contains the advice for a tanned-leather ground. Bardwell 1756: 36. The passage on peach-stone black however, is not copied from Bardwell. As stated in the treatise, it is taken from a Mr. Roberson.

⁴⁵ Hodson and Dougall 1805: 168, 244.

⁴⁶ Craig 1821: 116-20, 426.

⁴⁷ Carlyle 1991, vol. 1: 248; Carlyle 2001: 177. Carlyle compares the 1825 edition, p. 45, with the 1840 edition. The present research consults the 1820 edition of Pinnock, which also contains the advice to paint on a tanned-leather ground. Pinnock 1820: 41.

without the same quality'.⁴⁸ Several other sources express a preference for warm, rich ground colours instead of white or greyish colours, for instance Fielding (1839). Fielding is not against the use of white grounds, but feels that 'if any other than white should be thought necessary that ground should be of a warm and light colour, like cream, light red, yellow, pale orange or tan'. He particularly dislikes 'lead' [grey] or green grounds, which in his view will prevent the painter from painting 'any thing of life or warmth'.⁴⁹

Edwards (1856) is in favour of white grounds, but does acknowledge the cool overall effect such a ground can create. He recognises this problem but writes that he does not consider this worrying, since every white becomes yellowish with ageing when mixed with oil. This would warm the cool tone and thus take care of the problem.⁵⁰

It is interesting to note that, like De Piles (1684),⁵¹ Edwards makes a distinction between the ground colour best used by beginner artists and by more advanced painters. Although he generally prefers white or pale, cream coloured grounds because of their beneficial effect on the long term stability of a painting, he feels that painting on a white ground might be difficult for beginners, resulting in 'coldness and poverty of expression'. Therefore he advises 'the usual light stone drab that is given to canvas, for it furnishes him [=the novice painter] with a middle tint or tone to start from, which, when visible in shadows and middle tints, has not the raw chalkiness shewn under similar circumstances on an unskilfully or imperfectly covered white ground'.⁵²

Ellis (1883) provides a practical argument against the use of very white grounds for outdoor painting. He explains that 'the glare of the white canvas out of doors is very disturbing to the eye'. To sketch from nature, Ellis advises a single, pale grey single primed canvas.⁵³

Artist Mangold in the 1895 *Technische Mitteilungen* advises to use a warm, light tone, because 'later on this is beneficial both to the colours and for the conservation of the painting'.⁵⁴ While reddish grounds are no longer advised in the late nineteenth century, the *Technische Mitteilungen* contain a sequence of articles that present different viewpoints about the effect of reddish grounds in aged paintings, which some authors feel is exaggerated.⁵⁵

Carlyle (1991, 2001) discussed advice in British nineteenth century recipe books to apply a 'toning underlayer' or 'wash' over the ground, in some cases on top of the underdrawing or sketch. Both watercolour and oil are advised as binding media for such toning layers.⁵⁶

⁴⁸ Bouvier 1827: 571-2.

⁴⁹ Fielding 1839: 26.

⁵⁰ Edwards 1856: 17-8.

⁵¹ De Piles 1684: 62-3.

⁵² Edwards 1856: 17-18.

⁵³ Ellis 1883: 42. As an appendix to his book, Ellis includes recipes taken from the book of Blockx (1881). One of these recipes explains that a canvas or a panel should be prepared with a white ground made from white lead mixed with linseed oil or poppy oil. (Ellis 1883: 146) Ellis does not comment on these recipes and it is not clear why he includes information contradicting his own advice.

⁵⁴ *Technische Mitteilungen*, nr. 20 (1895): 1-2.

⁵⁵ See Paragraph 10.3

⁵⁶ Carlyle 1991, vol. 1: 285-6; Carlyle 2001: 209-10.

Haaf's archival research on preprimed canvas (1987) shows that preprimed canvases with tinted grounds are available at least until the last quarter of the nineteenth century;⁵⁷ also Carlyle (1991, 2001)⁵⁸ describes the availability of coloured grounds until late in the nineteenth century and Callen (2000) discusses the availability of yellow and grey grounds in late nineteenth century Paris.⁵⁹

An 1897 Winsor & Newton catalogue mentions 'Winton shaded art panels' in 'green, rose, azure, brown and grey', next to white millboards. No indication for the colour of prepared canvas is provided in the catalogue.⁶⁰ The majority of recipes from the Winsor & Newton manuscripts mention no pigment additions,⁶¹ however an 1843 recipe for an 'oil panel colour' describes the use of 'Yello', and 'as much as may be required' of Venetian red and burnt umber.⁶² An 1847 recipe for an absorbent canvas ground includes umber with lead white and fillers in the list of ingredients.⁶³

Reconstructions by Carlyle et al. (2008a) of grounds used by Vincent Van Gogh demonstrate that the use of unprocessed chalk in grounds with an oil binder may result in a beige tone, and even animal glue bound chalk-based grounds made with unprocessed chalk from a French mine have a beige tone, different from the bright white chalk and glue layers created with modern painting materials.⁶⁴ A reconstruction of an 1871 Winsor & Newton recipe for canvas preparation that contains oil paint with varnish and siccatives, does not result in a stark white ground either, on account of these somewhat coloured ingredients.⁶⁵

8.6 Concluding remarks

The colour of the final layer of the preparatory system, which is often a ground layer, is a topic of discussion throughout the period under investigation. The present chapter demonstrated that historical authors approach this topic from different angles: in relation to the painting techniques employed in subsequent layers but also linked to the stability of paintings upon ageing, while some authors discuss colour from a historical perspective.

Artists and theorists seem to have held clear views on the ideal colour and place colour in theoretical frameworks. However, other descriptions in recipe books show a more practically oriented side of colour: the use of pigment deposits to tone (and dry) painting grounds, the manner in which artists like Beale find use for accidentally incorrectly coloured grounds, and the description of procedures at the Winsor & Newton factory.

⁵⁷ Haaf 1987: 53.

⁵⁸ Carlyle 1991, vol. 1: 256; Carlyle 2001: 177-9.

⁵⁹ Callen 2001: 66-7.

⁶⁰ *Wholesale Catalogue*, London: Winsor & Newton limited, n.d. [1897]: 98-105.

<http://www.winsornewton.com/resource-centre/historic-catalogues>. Accessed 13-9-2013.

⁶¹ See Appendix 16.

⁶² W&N manuscript Om Gath No 01, 1838-44: 01P018L01.

⁶³ W&N manuscript 'P.09' 1844-93: 9PP117L06.

⁶⁴ Carlyle et al. 2008a: 114.

⁶⁵ W&N manuscript 'P8', 1840-1878, recipe date 1871: P8P018AL01. The reconstructions of this ground reported on in Carlyle et al. 2008a result in a warm yellowish ground, even though no coloured pigments are added.

They all represent a practical, down-to-earth attitude towards colour, which fits well with the image of the painter or manufacturer at work inside his workshop.

Evidence from painting investigations shows that in the daily life of painters, compromises were made regarding ground colour. Roy (1999) and Van Eikema Hommes (2012) both investigated seventeenth century canvas paintings whose formats were extended during painting. Roy's investigation of Rubens's *Peace and war* (1629-30) found a central canvas with a warm mid-grey brown tone and an extension primed with a grey ground.⁶⁶ Van Eikema Hommes's investigation of an ensemble of five large canvas paintings by Ferdinand Bol for an Utrecht canal house (1660-1663) not only demonstrated the use of differently coloured grounds for the different canvases within the ensemble, but shows that even within a single canvas, extensions of different colours were tolerated. For instance in the painting of *Aeneas receiving a new set of armour from Venus*, the central canvas has a beige coloured ground, the extension to the top is primed with a warm brownish ground and the extension to the left with a more purplish, very dark preparatory layer. The fact that Bol was aware of the colour difference is evident from Van Eikema Hommes's analysis of the artist's technique in different areas. She concludes that depending on the tone of the ground, its colour played a different role in the finished painting.⁶⁷

These are two examples of a discrepancy between the ideal situation where the painting is executed on a uniform basetone and the actual practice of the artist, which at times is more pragmatic than suspected on the basis of art theoretical manuals.⁶⁸ Compromises such as described here hardly feature at all in written texts on the subject of ground colour. De Lairese's account of difficulties in matching canvases with a different ground is the only example found so far. This demonstrates the limitations of text-based research into the subject. Real life may be more capricious than authors dare describe.

⁶⁶ Roy 1999b: 89-95.

⁶⁷ Van Eikema Hommes 2012: 55-67

⁶⁸ Talley and Groen 1975 compared Thomas Bardwell's treatise to his painting technique and concluded that his paintings did follow the techniques he describes, but were generally less complicated.