

‘From reading to painting’

Authors and Audiences of Dutch Recipes for Preparatory Layers for Oil Painting

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Abstract

Historical recipes have been used as sources of information on artists' materials and methods since the nineteenth century, first in the field of art history, more recently also in conservation studies and the history of science. The reliability of recipes as historical sources remains an important issue. This paper examines the relationship between recipes for preparatory layers for oil painting and artistic practice by investigating the authors, their intentions and the recipes themselves. Preparatory layers or grounds are applied to prepare a support (e.g. canvas, panel, copper) for painting. Their influence on the visual characteristics of paintings and their stability with age makes preparatory systems an important topic in art technological studies. Ground recipes were written by artists, amateurs and lexicographers, for artists, amateurs and the general audience. Dutch writers had strong international connections, evidenced by translations, re-workings, references to earlier foreign sources, and by the export of their recipes. Comparison between ground recipes and actual grounds in paintings shows similarities in ground layering and colour, but also demonstrates that recipes may be repeated long after artists have abandoned the ground types described.

Keywords: historical recipes, painting grounds, historical source research, paint materials, ground colour, historiography

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Introduction

‘[B]efore we speak of the handling of colours in oil, it is no diversion from the subject if we say something about the priming, upon which, whether it is good or bad, depends the beauty & liveliness of the colours’, Theodore de Mayerne (1573-1655) wrote in the early seventeenth century.³ Priming, also called preparation or ground in other sources, is the term used for the layers that are applied to painting supports to prepare them for painting. Typically, the preparation of a traditional oil painting consists of the following layers: a size layer, often a glue, used to seal the support (usually wood, canvas or sometimes copper), followed by one or more layers of oil- or glue-bound pigments to fill irregularities and colour the support, and possibly a final thin isolating layer to regulate the absorbency of the image’s preparation or preparatory system.⁴

Artists used the ground colour to create a tonal harmony in their paintings. For example, the artist depicted by Vermeer in his *Art of Painting* (fig. 1), makes use of the grey ground. By leaving this grey uncovered in some areas and applying highlights and shadows, he uses the

¹ ‘Van t’lesen tot t’wercken’. From the sonnet by P. Bor: ‘... Dit heeft hy al clierlijck beschreven, Met Exemplen betoont daer neven, Om de Lesers te maken lustigh Van t’lesen tot t’wercken te treden, En te schildren veel fraey-icheden, De gheesten te vermaken rustigh.’ van Mander, *De Grondt*, 8. Unless stated otherwise, all translations are by the author.

² The author would like to thank Ella Hendriks, University of Amsterdam, Jenny Boulboulé, Utrecht University and Clara von Waldthausen, University of Amsterdam for reading and commenting on this paper in different stages of production; Lidwien Speleers, Dordrechts Museum, and Sepha Wouda, University of Amsterdam for sharing the images of Farrington’s *River Landscape*. The Kunsthistorisches Museum Vienna is kindly acknowledged for permission to reproduce Vermeer’s *Art of Painting*.

³ ‘Devant que parler du maniment des couleurs a huile, il ne sera du tout hors du propos sy nous disons quelque chose de l’Imprimerie de laquelle selon comme elle est bonne ou mauvaise depend la beauté & vivacité des couleurs.’ De Mayerne, *Pictoria*, 1620-1644, folio 98v.

⁴ The term ‘preparatory system’ employed in this paper to indicate the combination of layers that together form the preparatory stage before the painting is executed is modern. It is used because the meaning of word ‘ground’ is somewhat confused, as this term is used both to describe a complete preparatory system and to indicate only those layers that consist of pigments in a binder within the preparatory system.



Fig. 1 Detail. Johannes Vermeer, *The Art of Painting*, c. 1666-1668, oil on canvas 120×100 cm, Vienna, Kunsthistorisches Museum. Photo and digital image copyright KHM-Museumsverband. The artist depicted by Vermeer works on a canvas with a grey ground. On the ground, he has drawn a sketch in white chalk to guide his hand in the painting stage. The artist is depicted while painting the blue headdress of *Pictura*.

grey colour as a midtone. This tone would provide smooth transitions between light and dark passages and give a particular tonality to the painting. The ground's colour co-determines the execution of a painting because an artist will employ different techniques depending on the colour of the ground. Had Vermeer's artist painted on a white ground, this white could have formed the highlights in the painting, while the midtones and the shadows would have been applied in paint. It is difficult to imagine what a painting by Rembrandt would have looked like, had Rembrandt used a white ground for his highlights instead of the thickly sculpted application of lead white paint that is so characteristic of his style.

De Mayerne's manuscript, *Pictoria, Sculptoria et Quae Subalternarum Artium*, is nowadays considered one of the most important original recipe sources on painting technique in the seventeenth century. De Mayerne noted down recipes that he obtained from artists at the

British court, amongst others Netherlandish artists Peter Paul Rubens (1577-1640), Anthony van Dyck (1599-1641), Paul van Somer (c. 1577-1622) and Daniel Mytens (1590-1647).⁵ These recipes include a number of recipes for priming layers. They are practical instructions that describe the materials and their application, sometimes including notes about the desired characteristics of grounds and about the quality of the recipe.⁶ Such information adds a unique angle to research into artistic practices, and in this case, into the function and characteristics of the preparatory system. An example from the Dutch *Huishoudelijk Woordenboek* (1743) illustrates the value of recipes. Firstly, the recipe casts a light on workshop practices by describing the materials to be used and the steps the artist should take to prepare and apply a ground layer. Secondly, from the effort the author makes to describe a smooth and even surface for the artist to paint on, we can deduce the author's ideas about the role of the ground layer. Thirdly, the recipe demonstrates that the author's advice to artists was motivated by concerns about the longevity of the support, concerns that took into account both physical strength (resistance to tearing) and the influence of the ground on the long-term stability of colours that would be used in the painting:

Take cloth that is very even; and after having stretched it on a strainer, apply a glue to cover the thin threads and fill the holes. Then draw over a pumice stone to remove the knots. When it is dry, apply an even colour, which gives softness to the other colours. This is brown-red, to which lead white is added to make it dry faster. Mix the paint with linseed and nut-oil, which are the best for painting, and apply it with a large knife, made for this purpose, [taking care] that it is not too thick. Then this paint is rubbed with a pumice stone to make it more even, and a second paint can be applied, with lead white and coal black to make it grey. This paint must be spread as thinly as possible, to prevent the cloth from tearing, and [ensure] that the colours applied on top keep better.⁷

While paintings have changed due to natural aging since they left the artist's studio, and due to earlier restoration treatments, recipes like that in the *Huishoudelijk Woordenboek* highlight the qualities the author was seeking for in the freshly painted artwork. Recipes like these thus offer the possibility of bringing modern researchers significantly closer to understanding works of art as they were originally designed.

However, recipe study is not without problems and limitations, as the relation of written recipes to actual artistic practice is often difficult to establish. For example, how does the

5 Stols-Witlox, *Historical Recipes*.

6 Alonso-Almeida concluded from early modern culinary and medical recipes that recipes can be characterized by their mention of (many of) the following elements: ingredients, preparation, application, evaluation, storage, expiry date and virtues. Alonso-Almeida, 'Genre Conventions', 72. Most of these aspects are also included in ground recipes, which typically describe the materials, how they should be mixed and applied, what their effect would be and sometimes why the method described in the recipe beats its alternatives.

7 'Men moet doek nemen, dat zeer effen is; en, na dat het op een raam wel is gespannen, moet gy 'er op leggen een lym om 'er de dunnen draadjes te dekken, en de gaatjes te vullen. Daar na moet gy 'er over stryken een dryfsteen [puumsteen] om daar de knoopen mede af te stryken. Als het droog is, moet men 'er een effe kleur op leggen, die aan de andere kleuren zachtheid byzet. Deze is bruin-rood, daar men loodwit onder doet, om 't eerder te doen drogen. Men moet de verw mengen met lym [typing error, must be 'lyn'] en noten-olie, die de bekwaamste, om te schilderen zyn, en men smeert ze met een groot mes, dat daartoe is gemaakt, op dat het niet te dik zy. Daar na smeert men deze verw met dryfsteen, om ze gelyker te maken, en men kan nog een tweede verw 'er over heen leggen, met loodwit en koolzwart om ze graau te maken. Men moet deze verw zo dun leggen als mooglyk is, op dat het doek niet scheure, en de kleuren beter blyven, die men 'er over heen legt.' Chomel, *Huishoudelijk Woordenboek*, 948.

recipe that is published in a general dictionary like the *Huishoudelijk Woordenboek*, written for a general audience, relate to the daily practice of a specialized Dutch artist in his studio? In fact, the connection between this particular recipe and eighteenth-century Dutch practice is even more problematic. As will be discussed below, this eighteenth-century recipe is not an original, but has been taken and translated from a French source dated 1676.

This paper focuses on the relationship between historical recipes and artistic practice, between reading and painting. By examining the professional backgrounds of their authors, the authors' stated motives for writing, their intended and actual audiences, this paper aims to assess the reliability of historical recipes as a source for learning more about historical artistic production. The paper builds upon earlier research performed by this author in which an extensive number of historic recipes on grounds in painting between 1550 and 1900 was collected, inventoried and stored in a custom designed database.⁸ This database allows for a comprehensive view of the relationship between writing (author), reading (public) and painting (execution). The first section places the methodology followed in this paper in the context of recipe research within the fields of conservation, art history and the history of science, and introduces the corpus of recipes. In the second section, the professions of the authors and their motives for publishing these recipes are investigated. In subsequent sections, the contents of the recipes will be analyzed and compared, and the audiences of the ground recipes will be examined. Finally, a comparison between the grounds as described in recipes and grounds employed on actual paintings will be made, in order to evaluate the relation of ground recipes to painting practice.

Methodology: Recipe Research for the Investigation of Historical Studio Practice

Earlier research has formulated various theories about the role of recipes in artistic practice, and the relationship between recipes and artist-to-pupil instruction in a studio. Smith has pointed out that early modern recipe books were written for a variety of reasons, for example to collect information, as a 'repository of memory', but also to explain expert knowledge to laymen. In addition, writing may also have contributed to increasing an author's social status. Smith stresses the significance of recipe books as places where the principles of artistic practices were discussed, principles that readers could use for their own improvisations.⁹ Smith believes that recipes may have played a role in 'systematising and consolidating' existing knowledge, but she considers much reprinted seventeenth and eighteenth century arts and crafts texts as being, 'probably more about owning and connoisseurship than about making'.¹⁰ Prak agrees with Smith, but also considers the additional role that published recipes had as an active agent in increasing the knowledge

8 Stols-Witlox, *Historical Recipes*; Stols-Witlox, 'By no means'; Stols-Witlox, "The whitest White"; Stols-Witlox, 'Sizing Layers'.

9 Smith, 'Why write a book?'

10 Smith, 'Craft Techniques', 77.

of artisans with existing practical training.¹¹ Clarke, in discussing the role of methods in the interpretation of historical sources, believes that ‘there is a greater correspondence between text and practice than is commonly appreciated’.¹²

Still, as Oltrogge writes, ‘it is extremely rare to prove the use of an art technological recipe collection by a practicing artist’.¹³ Some recipe books seem to offer good reason to doubt their influence on practicing artists, such as our recipe from the *Huishoudelijk Woordenboek*, a dictionary that was advertised as ‘a treasury of science to all houses and households, whatever their state or nature, serving to provide lessons that can be used to one’s advantage, or to obtain economical and innocent pleasure from it’.¹⁴ And not only does one wonder which artist would have used such a book, a second doubt concerns its author: what would an author – or compiler – of a general dictionary actually know about painting? Interestingly, such questions are not new. In fact, the publisher of the *Huishoudelijk Woordenboek* himself was sensitive to this issue. In his ‘message for readers’, translated from the introduction to the original 1709 French *Dictionnaire Economique* by Noël Chomel, on which the *Huishoudelijk Woordenboek* was based, the editor explained how its author, clergyman Noël Chomel (1633-1712),¹⁵ had become knowledgeable on a wide variety of subjects through varied professional occupations, which included managing an estate and a school, and working in a hospital.¹⁶

Researchers have suggested different means to overcome the problems sketched above, and methodologies have been described that include rigorous study of the varying contexts of individual recipes like marginalia and paratext.¹⁷ Reconstructions or recreations of historic recipes are increasingly employed for the interpretation of these historical recipes. When reconstructing a recipe and learning about its executability and effects, the credibility of a recipe can be evaluated and compared to what is known from examinations of historical paintings.¹⁸ Investigations by Carlyle and by Clarke have shown that the evaluation of individual recipes in the context of larger collections, as well as investigations

11 Prak, ‘An Artisan “Revolution”’, 9.

12 Clarke, ‘Asymptotically Approaching the Past’, 21.

13 Oltrogge, ‘Transmission’, 26.

14 ‘DIT WOORDBOEK is een Schatkamer van wetenschappen in alle huizen en Huishoudingen van wat staat en aart, dienstig en noodig om’er lessen tot voordeel, zuinig en onnozel vermaak uit te halen; ’t zy ze Adelyk zyn en van hunne Inkomsten, of door middel van enige Oeffeningen en Hanteringhen hun bestaan erlangen, en ze in de Stad, of op ’t Land in afgelegen hoeken der Wereld, en eenzame plaatsen zyn, en gehouden worden.’ Chomel, *Huishoudelijk Woordenboek*, v.

15 ‘Prêtre et Curé de la Paroisse de Saint Vincent de la Ville de Lyon’. Chomel, *Dictionnaire Oeconomique 1709*, title page.

16 Chomel, *Huishoudelijk Woordenboek*, ‘Bericht aan de lezers’.

17 See Clarke, ‘Asymptotically Approaching the Past’. Paratext refers to the front matter (cover, introduction, etc.) and the back matter of a book (notes, epilogues, etc.).

18 See Clarke, ‘Codicological Indicators’; Neven ‘Recording and Reading Alchemy’ and Clarke ‘Asymptotically Approaching the Past’; Bilak et al., ‘Making and Knowing’ describe the approach taken in the Making and Knowing project, which prepares a critical edition of a sixteenth century French manuscript containing artisanal recipes. They reflect on the challenges of reading and interpreting historical recipes and suggest critical close-reading, reconstructions, comparison between recipes and artistic objects to overcome these difficulties. Carlyle, ‘Exploring the Grammar of Oil Paint’ focuses on the role of reconstructions in the interpretation of historical paint recipes.

of repetitions and re-workings of recipes, are all important aids in the evaluation of the relation between recipes and actual painting practice.¹⁹

While earlier studies have applied text-critical methods to individual recipe sources, no study has so far focused on the character of authorship, and the readers of a larger but well-defined and thus finite group of recipes from a particular time period. This is the methodology proposed and applied in the present paper. Focusing on recipes for preparatory layers dating from 1600 to 1800, a dataset has been assembled that contains all available recipes produced during this time.²⁰ The recipes were taken from all types of recipe books, ranging from general encyclopedias and dictionaries to manuals written by professional artists and manuscripts intended for personal use. Studying a comprehensive collection of recipes on one topic allow us to uncover the general characteristics and specifics of recipe writing during a particular time period.

The dataset assembled for this purpose consists of 27 Dutch recipes for preparatory layers (table 1). The recipe in the *Huishoudelijk Woordenboek* quoted above demonstrates that Dutch recipes were influenced by international texts. This is not surprising, considering the availability of international literature in the Dutch Republic due to the extensive production and international trade in books in the Netherlands during the seventeenth and eighteenth centuries.²¹ The Dutch published recipes will therefore be compared with 66 contemporary foreign European recipe sources published between 1600 and 1800 containing 141 recipes (details on the individual recipes are provided in table 2). Most recipes describe preparatory layers for canvas supports. Panel grounds form the second largest group. Recipes for other supports (copper, stone, other metals, paper) are much less frequent, reflecting the use of each type of support during the seventeenth and eighteenth centuries. For comparisons between recipes and actual paintings, published data has been collected on 142 Dutch paintings from the period.²²

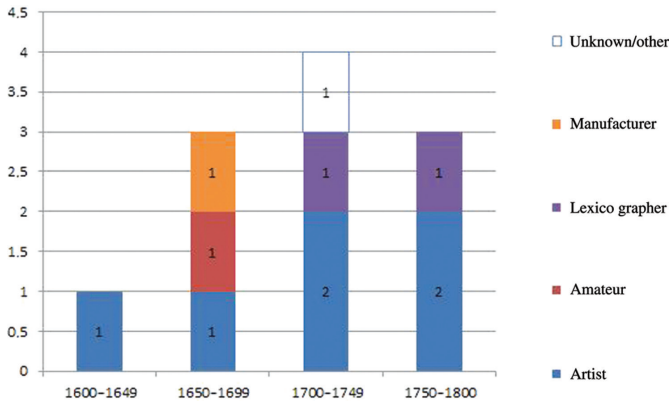
19 Carlyle, *The Artists' Assistant*; Clarke, 'Transmission'. See also Stols-Witlox, *Historical Recipes*.

20 A study with a scope as wide as this one can never claim to have gathered all recipes. The fact that continued searches did not result in new additions to the recipe dataset was considered a sign that a comprehensive and highly representative collection had been established.

21 The Dutch maintained this position right up until 1730-1740, when the situation for book production in other European countries improved. Rasterhoff, 'Carrière en concurrentie', 166. It must have been this characteristic of Dutch society that led to the translation and publication of Dutch recipe books abroad. Beurs, *Groote Waereld* of 1692 appeared in German translation in 1693; *Lairesse* was published in the following international editions: Nürnberg: Weigel 1728-1730, London: J. Brotherton, W. Hincliffe, J. Oswald, et al., 1738 and Paris: l'hôtel de Thou 1787. Also the recipe for a canvas ground from the 1743 *Huishoudelijk Woordenboek* was exported abroad. It appeared in French translation in the 1767 Paris edition of Chomel, indicating that its French publisher used the 1743 Dutch edition for the updated 1767 French edition.

22 This dataset was also investigated in Stols-Witlox, 'By no means', which focused on North West European ground colours in historical recipes and in paintings, 1550-1900. For the current study, data on Dutch paintings was isolated and processed. No new painting examinations were carried out. The dataset consists of data harvested from earlier publications about the ground colours of paintings. See Stols-Witlox 'By no means', note 41 for a list of data sources. Unfortunately not all time periods are equally represented. Eighteenth-century paintings are relatively poorly researched.

Fig. 2 Dutch authors who provide recipes for preparatory layers, 1600-1800, divided into categories



Dutch Recipe Authors in an International Context

Recipes for preparatory layers were produced by authors or compilers from varying backgrounds. The authors of Dutch seventeenth- and eighteenth-century recipes were professional artists, amateur artists and lexicographers (see table 3A for author professions). Van Mander (1604), Beurs (1692), de Lairesse (1712), Horstok (c. 1800) and van Leen (1800) were professional painters. Simon Eikelenberg (1679-1704) was an amateur artist who wrote about painting technique due to a personal interest in the subject.²³ Ground recipes also appeared in (arts) encyclopedias or dictionaries like the *Huishoudelijk Woordenboek* (1743) and the *Nieuwen Verlichter* (1777), written by authors whom we will call lexicographers. One Dutch recipe source, the *Recepten-Boeck* (c. 1650-1700), is a manuscript written by an anonymous author, who – judging by the contents of the manuscript – was a professional manufacturer of dyed fabrics or wool in Haarlem. Besides recipes for dyeing wool and other fabrics, the manuscript contains some personal notes by its author, amongst them a couple of recipes for preparatory layers obtained from friends or acquaintances.²⁴

In a diagram visualizing author profession distribution over time, the continuous involvement of professional artists jumps off the page (fig. 2). Artists form the largest group of authors. This supports the idea that painter-authors had first-hand knowledge on the topic of grounds, which is not self-evident considering the availability of commercially-primed canvas in the seventeenth- and eighteenth century Netherlands.²⁵

²³ Eikelenberg was the town historiographer of the Dutch town of Alkmaar. He was acquainted with a number of artists, also wrote poetry.

²⁴ A recipe for 'slecht wit tot een gront' ['bad' or 'low quality white for a ground'] carries the text 'Mr. van Loosdrecht zwager' ['Mr. van Loosdrecht brother in law']. Eikelenberg, *Aantekeningen*, folio 5 [146 when counting from earlier section]. A recipe for making a purple colour starts with the line 'Seker schilder heeft my gesegt...' ['certain painter has told me...'] Eikelenberg, *Aantekeningen*, [124].

²⁵ In Simon Eikelenberg's *Aantekeningen*, 385, mention is made of a professional primer residing on the Haarlemmer Dijk in Amsterdam. According to Abraham, *Het gebruik*, the Haarlem guild of St. Luke included professional primers amongst its members. The canvases used for the ensemble at the *Oranjezaal* in Paleis Huis

If we are to believe their own words, the motives of these artist-authors centered around educating others. Van Mander intended to follow in the footsteps of illustrious earlier writers about the art of painting like Apelles, as he did not see any of his contemporaries expressing such a desire. He described himself as a person who knows painting from the inside out, and he intended to explain all the secrets (‘verborgenheden’) of painting in his book, in particular to instruct young practitioners.²⁶ In the ‘dedication’, Willem Beurs expressed the hope that his *Groote Waereld* will ‘refresh the thoughts of the reader’, and that his explanations will be clear. The dedication to three of his female students emphasizes his educational goals.²⁷ De Lairese also had an educational purpose with his writings. This is evidenced not only from the description of his intended audience (see below), but also from the fact that he described his book as an instruction manual for painting.²⁸ Horstok, who was, according to the title page of his book, a professional painter in Alkmaar, had a more limited purpose. His manual concerned the ‘invention’ of a new binder for painting, an emulsion of oil and egg. His purpose was to lay a claim about his invention and to demonstrate the uniqueness of his method. The ground recipe he included describes a ground prepared using this new binder.²⁹

The artist-authors of the manuscripts presented in the dataset only rarely state their motives directly. Eikelenberg and van Leen do not express their motives, Wiltschut and Dankers indicate their audience (‘young practitioners’) but do not provide a detailed explanation of their motives. The absence of authors’ motives are explained by the nature of such manuscripts. In contrast to publications, manuscripts were (still) in the hands of their owners or compilers, and even if authors envisioned their publication, as was true for example for Eikelenberg, they had not yet reached that stage.

A number of Dutch authors had international equivalents, i.e. authors with similar motives producing recipe books with similar characteristics (table 3A). Eikelenberg’s *Aantekeningen* shows some resemblance to De Mayerne’s *Pictoria*. Both authors demonstrate a keen interest in the practicalities of painting, assembled recipes and other information from artists and other sources with knowledge about painting, adding their own observations and performing experiments with these recipes. Of course there are differences, De Mayerne writing with a professional knowledge of chemistry and having direct access to important Golden Age painters and Eikelenberg living a more modest life in Alkmaar. However, they seem to have a similar interest in the practicalities of artistic methods, and like to perform their own experiments with them. De Lairese’s treatise, described by the author himself as the materialisation of oral lessons he gave to students and painters, includes discussions about the role of ground colour in painting

ten Bosch (1648-1652) were ordered centrally from a professional primer in Haarlem. Van Gelder, ‘De schilders’, 121-122. Van de Wetering *Rembrandt*, 22 discusses Rembrandt’s use of professionally primed supports. Henny, ‘Hoe kwamen de Rotterdamse Schilders aan hun Verf?’, provides a description of the activities of a professional dealer in paint materials in Rotterdam.

²⁶ Van Mander, *De Grondt*, 4v.

²⁷ ‘op datge hier moogt u gedagten ververschen, en klaar vertoont zien, ’t gene ik u door gestadig onderwijs hebbe voorgedragen.’ Beurs, *De Groote Waereld*, 3.

²⁸ ‘een handleiding, om tot de zelve te geraaken.’ De Lairese, *Groot Schilderboek, voorrede*.

²⁹ Horstok, *Bericht*.

that seem very similar in character to French painter Jean-Baptiste Oudry's lectures on painting, read to students of the Académie de Peinture in Paris in 1752. Like de Lairesse, Oudry focuses on the refinement of techniques, and addresses an audience of professional art students. For Horstok an international counterpart can be found in English author Dossie, who in his 1758 *Handmaid to the Arts* introduced innovations in the use of binders for grounds, out of a desire to improve the practice and longevity of painting.³⁰ In the case of Horstok, his manual had the additional purpose of laying his claim on the method described.

Two recipe sources in the Dutch recipe corpus, the *Huishoudelijk Woordenboek* (1743) and the *Nieuwen Verlichter* (1777) were translated from earlier French recipes. Their authors, or compilers, fall within the group of lexicographers. The ground recipes in both sources are almost identical, and must have had an identical source (tables 1 and 2). As stated earlier, the main source of the *Huishoudelijk Woordenboek* was Chomel's *Dictionnaire Economique*. However, Noël Chomel's 1709 *Dictionnaire* did not contain any ground recipes, nor did any other French edition of Chomel that appeared prior to the 1743 Dutch edition. The recipe was introduced by the editors of the 1743 Dutch edition, and can be traced back to another French source, André Félibien's *Des Principes de l'Architecture, de la Sculpture, de la Peinture* from 1676. Félibien (1619-1695) was historiographer to the French king, friend and biographer of Nicholas Poussin (1594-1665), and secretary of the Académie d'Architecture. He published art critiques, biographies of artists and wrote on art theoretical topics, amongst these his celebrated *Entretiens sur les Vies et les Ouvrages des Plus Excellens Peintres Anciens et Modernes* (Paris, 1666-1688). Four editions of Félibien's *Principes* are known to have been published.³¹ The book had a considerable influence on Dutch authors; Félibien was mentioned by name in the 'voorreden' (introduction) to Wilhelmus Beurs' *Groote Waereld* of 1692, in the *Wiltshut manuscript*, and by the anonymous author of the *Nieuwen Verlichter*.³² Judging from the repetitions of his ground recipe in later sources (table 4), Félibien not only influenced Dutch writing about grounds, but also in Denmark, Germany and England. As table 4 demonstrates, his ground recipe was repeated well into the nineteenth century.

Interestingly, the overview in table 4 demonstrates that authors did not always copy Félibien's recipe word-by-word. Some made changes to the original text, possibly because they wished to introduce their own ideas about ground preparation. The recipe in the *Huishoudelijk Woordenboek* is not a direct copy of Félibien's recipe. While the line 'to make the colours which are applied on top keep better' comes directly from Félibien, the description of the role of the glue and the sentence about the priming knife match the wording and sequence of a version of the same recipe in Bernard Dupuy du Grez' *Traité de la Peinture* much more closely. Dupuy du Grez does not repeat Félibien's comment about the role of the ground in 'keeping' the colours. Dupuy du Grez (1639-1720) was an amateur artist and lawyer from Toulouse. He founded the Toulouse art academy, later known as the Académie

30 As Dossie himself stated: 'diffusing a more general and accurate knowledge of those secondary or auxiliary arts that are requisite to the practicing design; or to the execution of works dependant on it'. Dossie, *Handmaid*, vii.

31 1676, 1690, 1697 and 1699.

32 The author of the *Nieuwen Verlichter* also mentions Dupuy du Grez, the Comte de Caylus, and du Fresnoy.

Royale de Peinture de Toulouse.³³ Dupuy du Grez admired Félibien, hailing him in his preface as one of ‘our French writers’,³⁴ and acknowledging him as a source for his own treatise.

The Dutch lexicographers of the 1743 edition of Chomel’s dictionary combined elements from the versions of Félibien (1676) and of Dupuy du Grez (1699).³⁵ These editors were Jan Lodewyk Schuer, A.H. Westerhof, and a ‘certain amateur’. On the title page of the *Woordenboek*, the authors prominently announced that they had added ‘useful entries’ to Chomel’s dictionary while removing some entries that they considered of little relevance to the Dutch market.³⁶ Apparently the entry on grounds was one of the new additions. Schuer and Westerhof were not painters. Schuer was a Dutch translator, editor and compiler of books, who had emigrated to the Netherlands from Hamburg.³⁷ Westerhof, educated at the University of Leiden, was the principal of a Latin School, and author of several theological works. He also contributed to a Dutch-Latin dictionary, translated books and wrote poetry.³⁸ Unfortunately the identity of the third contributor, ‘certain amateur’, remains unknown. The fact that Westerhof, Schuer and the ‘certain amateur’ turned to Félibien as a source of information was not surprising, considering Félibien’s reputation. Dupuy du Grez’ *Traité* on the other hand, was not widely known and only two editions of his work were published, the first in 1699 and a second in 1700.³⁹ It is puzzling that lexicographers without documented first-hand knowledge about painting technique chose to change the text of a recipe on this subject, as was the case in the *Huishoudelijk Woordenboek*.

A second Dutch recipe in this group is a 1777 recipe for a ground on canvas in the anonymous *Nieuwen Verlichter*. Comparison of the details with other versions of the recipe (table 4) demonstrates that its most likely source was *Traité de la Pratique de la Peinture* published in 1730 by Philippe de la Hire (1640-1718).⁴⁰

33 www.data.bnf.fr/13011007/bernard_dupuy_du_grez. (Accessed on 18 October 2016).

‘À coucher le poil de la toile, & à remplir les petits trous’ and ‘couteau fait à cet usage’ Dupuy du Grez, *Traité sur la Peinture*, 243-244. Félibien, *Principes*, 407-408. The Dutch recipe actually goes against Félibien’s original instructions in advising glue and nut oil (‘lijm en note-olie’) to bind the pigments in the first ground layer. Glue is not advised for use in any of the other – and they are numerous – versions of the recipe. It is likely that the Dutch word for glue contains a typing error. Other versions of the recipe mention linseed oil, and in Dutch ‘lym’ and ‘lyn’, meaning ‘glue’ and ‘linseed’, only differ one single letter.

34 ‘[N]os Ecrivains François’, together with two other writers, Roger de Piles and the anonymous author of a treatise on miniature painting. Dupuy du Grez, *Traité*, ‘Preface’.

35 Attention was drawn to the roles of publishers and printers earlier by Ezell, ‘Cooking the Books’.

36 ‘vermeerderd met nuttige artikelen, door de heeren Jan Lodewyk Schuer, A. H. Westerhof, en zeker liefhebber’. Chomel, *Huishoudelijk Woordenboek*, title page. In their introduction, the authors mention two sources from which they took additional entries: a German ‘Aeconomics Lexicon’, the ‘Lexicon Technicum’ by Harris. They probably were referring to Harris, *Lexicon Technicum* (London: Brown, Walthoe, Knapton, et al., 1723) and the *Allgemeines Oeconomisches Lexicon* (Leipzig: Johann Friedrich Gleditschens sel. Sohn, 1731). Neither book contains the ground recipe reproduced in the *Huishoudelijk Woordenboek*. Chomel, *Huishoudelijk Woordenboek*, VIII.

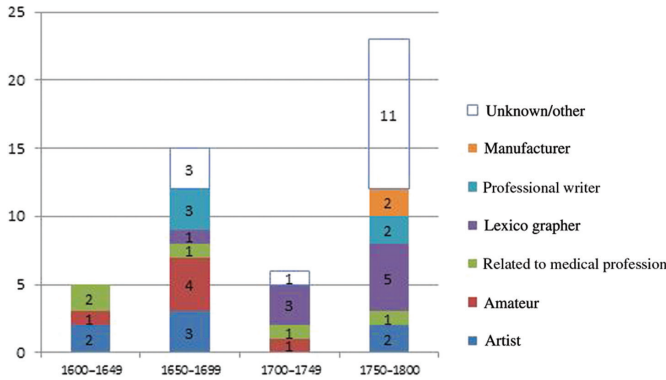
37 Frederiks and van den Branden, *Biografisch Woordenboek*, 705.

38 A.H. Westerhof is identified in the Digital Library for Dutch Literature (DNBL) as Arnoldus Henricus Westerhof. Details about Arnoldus Henricus Westerhof’s life are found in: Aa, van der, *Biografisch Woordenboek der Nederlanden*, xx, 143-144.

39 Paris: Florentin and Pierre Delaulne, 1700.

40 Philippe de la Hire was an engineer and astronomer, he painted for leisure. He was professor in mathematics, also director of the *Académie des Sciences*. His treatise was based on a lecture at this Academy in 1709. Massing, ‘French painting technique’.

Fig. 3 German, English and French authors providing recipes for preparatory layers, 1600-1800, divided into categories



Studying the various sources authored in Dutch and the descriptions they encompass regarding ground recipes demonstrates that there are different levels and categories of authorship during this period, and by implication variation in the nature of authorship of ground recipes. Authors who expressed their motives, often had educational purposes, in particular the artists. Ground recipes found in encyclopedic works were primarily diffusing knowledge, and less concerned with a targeted audience such as students or artists.

Dutch authors operated in international circles and used foreign examples. Fig. 3 provides an overview of German, English and French authors and their occupations. Comparison with fig. 2 demonstrates that in these countries, professional artists played a comparatively lesser role, while lexicographers played a larger part in the production of recipes for grounds than in Dutch sources.

Like Dutch authors, international artist-authors of ground recipes had various motives (fig. 3, and table 3B). Instructing young painters in the art of painting was mentioned by several.⁴¹ Hidalgo, for example, wrote his treatise for painting students, but he also believed that painting ‘is learned with greater perfection and brevity by those who can study under some great and skillful painter’.⁴² Painters did not only address students or other painters, however. Lebrun hoped that his treatise would help amateurs to speak on the subject of painting with ‘propriety’.⁴³ Pacheco intended to accumulate information

41 Oudry, ‘Discours’; Palomino, *El Museo*; Hidalgo, *Principios*, in Veliz, *Artists’ Techniques*, 133.

42 Hidalgo, *Principios*, in Veliz, *Artists’ Techniques*, 133.

43 Mrs. Mary P. Merrifield discussing the scope and purpose of Pierre Lebrun’s *Recueil des Essais des Merveilles de la Peinture*. Merrifield, *Medieval and Renaissance Treatises*, 759. Merrifield bases this statement on the anecdote with which Lebrun began his treatise, the story of Alexander the Great visiting the studio of Apelles. Alexander’s ignorance made Apelles’ pupils laugh and Alexander the Great stopped speaking and laughed. Lebrun then says: ‘Reader – my dear friend, I desire to free you from this annoyance, and from the fear that your ignorance should be the subject of derision, when you speak of painting on a flat surface, one of the most noble arts of the world.’ [‘Je desire lecteur mon grand amy, vous delivrer de ceste peine, et de la peur qu’on ne se gausse de vostre niaiserie quand vous voudrez parler de la platte peinture, l’un des nobles artifices de monde’]. Lebrun, *Recueil*, in Merrifield, *Medieval and Renaissance treatises*, 766, 767.

from earlier authors, information on which he commented and to which he added his own view.⁴⁴ A special case was miniaturist Edward Norgate’s treatise on painting, which, according to Talley, was written at the request of De Mayerne, who hoped to learn Norgate’s methods for (miniature) painting.⁴⁵

Table 3 demonstrates that many of the books produced by lexicographers were in fact French dictionaries and encyclopaedias (Furetière, Chomel, *Dictionnaire Universel des Arts*, Pernetty, Diderot and d’Alembert). An overview of different versions of the recipe for a canvas ground in the *Huishoudelijk Woordenboek* (table 4) shows that many of such dictionaries and encyclopaedias incorporated information about painting technique from Félibien, directly or indirectly, sometimes making small changes to Félibien’s recipe.⁴⁶

Lexicographers typically addressed large audiences with little prior knowledge about painting technique. Furetière published to ‘conserve the complete language for posterity’,⁴⁷ De la Marre, editor of the 1767 edition of Chomel’s *Dictionnaire Oeconomique*, hoped it would ‘contribute to the progress and solidity of our knowledge, multiply the number of genuine amateurs, able producers, intelligent economists’,⁴⁸ Barrow’s focus on a general audience was evident in his assurance to his readers that ‘proficiency [is] attainable much sooner than they might possibly expect’.⁴⁹

These examples demonstrate how the intended audiences of several authors were readers without any direct connection to professional painting practice. While authors with a closer relation to painting practice wrote down recipes in manuscripts for personal use, as an *aide-mémoire*, or published to instruct other artists or amateurs, other authors published recipes out of a desire to spread knowledge. Possibly also the wish to raise the quality of artistic practice with experience from one’s own profession played a role, for instance for authors with backgrounds in chemistry or alchemy. However, this is not stated as such by these authors.

The Contents of the Dutch Recipes for Preparatory Layers Compared to Recipes from Neighbouring Countries

Authors provided different kinds of information, with varying levels of detail. As can be seen in table 1, most Dutch recipes for grounds included information about the pigments to be used and described the layer build-up, regardless of whether the recipe was written by artist-authors or by others. Table 2 shows that internationally, this is was

44 Pacheco, *Arte de la Pintura*.

45 Talley, *Portrait Painting*, 156-157.

46 Non-French lexicographers Chambers, Barrow, *Huishoudelijk Woordenboek*, Griselini and Fassadoni all reproduced a version of the recipe for ground on canvas that originated from Félibien.

47 Hoffman quoting Furetière. Hoffmann, ‘Palimpsests of Knowledge’, 48.

48 ‘Puisse mon ouvrage contribuer au progrès & à la certitude de nos connoissances; multiplier le nombre des vrais Amateurs, des Cultivateurs habiles, des oeconomes intelligens’. Chomel and De la Marre (ed.), *Dictionnaire Economique*, iiii.

49 Barrow, *Dictionarium Polygraphicum*, ij.

also the trend. Reiteration of a recipe is evident only in the recipe in the *Huishoudelijk Woordenboek*.

The nature of the preparation specified in recipes depended on the characteristics of the support. For panels, most authors advised a first layer of chalk and glue followed by an oil-bound, pigmented layer. A number of authors dispensed with the first layer and advised only oil-bound layers for panels. For canvas supports, authors described the application of a size layer consisting of animal glue or flour paste, followed by one or more layers of oil-bound pigments.⁵⁰ Recipes for grounds on copper supports are few, and described the use of a single layer of oil-bound pigments. The materials mentioned in Dutch ground recipes show many similarities with those described in neighbouring countries. For example, the use of glue size layers, of ground layers containing pigments like chalk, lead white, ochres, umbers, blacks, the number of layers applied to the supports, these are always mentioned. Internationally, more variation in the use of materials is incorporated into recipes, and a considerable number of these materials are not mentioned in Dutch recipes from the same period. This is not surprising considering the fact that the total number of international recipes is roughly seven times higher; more recipes lead to more room for variation. The fact that comparison between Dutch and foreign recipes for the production and cleaning of lead white pigments and for animal glue as an ingredient in paintings, also shows such similarities, demonstrates that this is a more general trend.⁵¹

Most recipes include details that reveal something about the reasoning behind the instructions (tables 1 and 2). Detailed procedures described for ground application show how much care was taken in smoothing the surface of the ground, smoothness that could be obtained by scraping the ground with a sharp tool or by smoothing with tools like pumice stone. In the case of copper supports, measures were taken to create a surface texture in the ground in order to increase the adhesion of subsequent paint layers to the ground, illustrating that with copper supports adhesion of the paint layers could be problematic.

Comments about the choice in materials and the layering of the ground appear in the recipes, regardless whether their authors are painters or not. They demonstrate authors' beliefs that grounds influence a painting's longevity and in their pronounced effect on the characteristics of the paint layers applied on top. In particular a ground's resistance to flaking (fig. 4a and 4b), the sinking in of paint layers and the impact of the ground's colour receive much attention. The term 'sinking in' is used to describe how matt spots or areas appear in a painting when the oil binder is absorbed in unequal measure by a lower layer. It is an undesired effect, because the sinking in of colours changes not only their gloss, but also results in lighter and less saturated tones. While sinking-in may be remedied afterwards by applying oil or varnish to re-saturate matt areas, it prevents an artist from judging the effect of his work during the painting process. Therefore sinking in is a topic that would have been of particular interest to those practically involved

50 The cellulose fibers of a canvas painting support will deteriorate when in direct contact with linseed oil. This explains why authors generally advise a size layer for canvas. They wish to prevent oil from penetrating the canvas support.

51 Stols-Witlox, "The whitest White"; Stols-Witlox, 'Sizing Layers'.



Fig. 4a Detail of the trees in Richard Farrington's *River Landscape with Hunters and a Harbour*. The light source has been placed at a low angle (raking light) to emphasize the irregular surface of the painting, caused by the ground detaching itself from the canvas support, taking the paint layers with it. This is the first stage of flaking. When the process is not stopped by a conservation treatment, flakes of paint of which the corners have detached themselves from the support will start falling out of the painting, leaving behind the bare canvas. Photograph: Sepha Wouda

in painting. In the Dutch recipes it is mentioned only by Eikelenberg in a recipe for a ground on canvas (fig. 5):

The priming. It must not be too black, but take some umber and add a tiny bit of brown red, furthermore some white and a little from the pencil-tray or the *klatpot* [= jar with a little oil to rest brushes in] but only a little, because it is tough and makes it sink in.⁵²

Several authors in neighbouring countries discussed the topic as well, author-painters and authors with other backgrounds.⁵³

Dutch sources Beurs, Wiltschut and Danckers, de Lairesse, the *Huishoudelijk Woordenboek* and the *Nieuwen Verlichter* all wrote about ground colour, discussing how ground colour should be suited to the subject of the painting, or pointing at its effect on the long-term stability of the colours of the painting, by ‘keeping the colours beautiful’.⁵⁴

The recipes provided by van Mander, Wiltschut and Dankers and by de Lairesse stands out within the group, because these authors did not include detailed information about the pigment composition or the layer build-up of the ground but only provided detailed information on specific aspects of grounds.

Van Mander wrote in detail about the grounds used by his ‘moderne voorgeders’ (‘recent predecessors’), who would prepare their panel for painting by applying a chalk and glue

52 ‘Dat moet niet al te swart zijn maer Neemt wat omber en een kleijn weijnigje bruijn root daer bij dan voort wat wit en een luttel uijt de penselen-back ofte uijt de klatpot maer een weijnich want dat is taj en doet het inschieten’ Eikelenberg, *Aantekeningen*, 385. The recipe seems plausible, as similar materials are advised in contemporary recipes and found in contemporary paintings. Stols-Witlox, ‘By no means’, 180, describes the use of palette scrapings or of deposits from the brush rinsing jar or pencil tray as an addition to grounds.

53 Amongst others De Mayerne, *Pictoria*, 98v; Lebrun, *Recueil*, 772; Lana, *Prodromo*, 158; De la Fontaine, *l’Academie*, 28-29; De la Hire, *Traité*, 710; Robert Dossie, *Handmaid*, 202.

54 Wiltschut and Dankers, *Wiltschut manuscript*, 27-28 refer to the long-term effect of grounds on the colours of a painting in such terms. Stols-Witlox, ‘By no means’, focuses on these aspects of ground recipes.



Fig. 4b Richard Farrington. *River landscape with hunters and a harbour*. ca.1648-1664. Oil on canvas. 83.7×103.5 cm. Dordrecht, Dordrechts museum. Photograph: Sepha Wouda

ground, covered with a thin pinkish second layer which was semi-transparent.⁵⁵ His description of methods employed by his contemporaries on the other hand only mentions the primed support in passing, in a paragraph explaining how nowadays some painters combine elements from preparatory drawings or sketches and set up their composition on the primed support with a liquid paint.⁵⁶

Wiltshut and Dankers pointed out how the ground can assist an artist in creating beautiful colours, and provided instructions on ground pigmentation. Possibly this focus is explained by the fact that discussions on the tone of the ground and its influence on the colours of a painting appear in a section on the painting of flowers, which demands a very precise use of colour.⁵⁷

De Laresse focused on the relation between ground colour and subject. According to de Vries, de Laresse wrote for an audience of ‘young professionals, either apprentices in the last phases of their training, or young masters who had not yet fully developed their

55 ‘16. Ons moderne Voorders voor henen plachten Hun penneelen dicker als wy te witten en schaeften s’alsoo glat als sy wel mochten Ghebruyckten oock cartoenen die sy brochten op dit effen schoon wit en ginghen sitten Dit doortrecken soo met eenich besmitten Van achter ghewreven en trockent moykens daer nae met swarte krijkens oft potlykens.

17. Maer t’fraeyste was dit/dat sommighe namen eenich sine-kool swart al fijntgens ghewreven met water ja trocken en diepten t’samen hun dinghen seer vlijtich naer het betamen: dan hebbenser aerdich over ghegheven een dunne primuersel alwaer men even Wel alles mocht doorsien ghestelt voordachtich: end’het primuersel was carnatiachtich.’ Van Mander, *De Grondt*, 47r, 47v.

56 ‘7. Ander zijnder die met veel moeyten swaerlijck Wt schetsen oft teyckeninghen met hoopen Hun dinghen te samen rapen eenpaerlijck En teyckenen daer nae suyver en claelrijck Volcoomlijck wat sy in den sin beknopen Op t’primuersel met een verwe die loopen Can, dunne ghetempert, oft treckent netlijck Met Potloot en vaghent reyn onbesmetlijck.’ Van Mander, *De Grondt*, 47.

57 Wiltshut and Dankers, *Wiltshut manuscript*, 27-28.

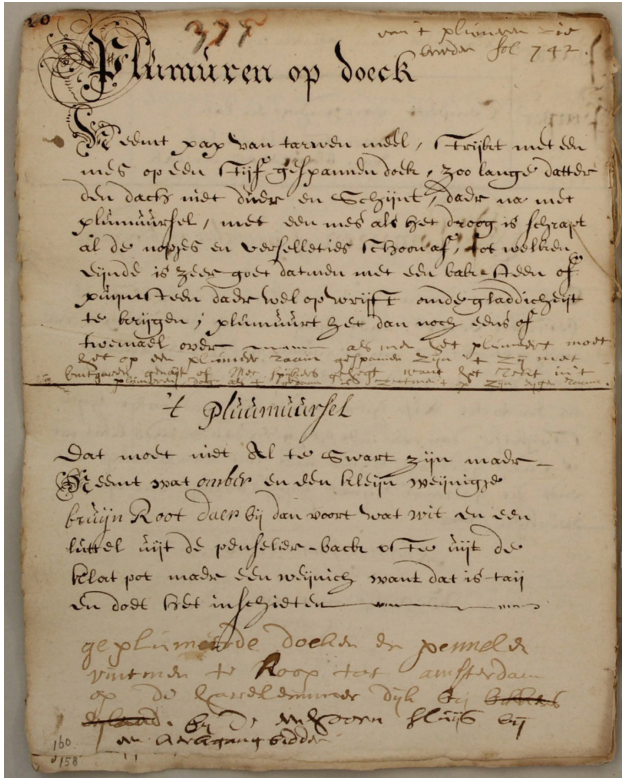


Fig. 5 Folio 377, Simon Eikelenberg, *Aantekeningen over Schilderkunst*, 1679-1704. Image: Regional Archief Alkmaar (RAA)

own style and repertoire of subjects'.⁵⁸ The fact that de Laresse did not explain the basics of ground preparation, but instead gave instructions that helped artists refine their use of ground colour fits this theory.

While the focus of these authors, all professional painters, might suggest that painters were less interested in explaining the technicalities of ground preparation and application, other artist-authors did include basic information on ground preparation. For instance the recipes provided by Wilhelmus Beurs in his *Groote Waereld* of 1692 described all the steps taken in ground preparation in detail, as did Willem van Leen in his *Over Teeken- en Schilderkunst*. Possibly a diverging focus is not necessarily related to an author's distance from practice, but should be explained by the audiences the authors intended to serve with their recipes.

The Intended and Actual Audiences of Dutch Ground Recipes

Intended audiences are relatively easy to establish, as they were often described in the preface, and sometimes the title or subtitle betrays the audience the author or compiler was

⁵⁸ De Vries, *How to create beauty*, 30.

addressing. For example, the title page of the 1777 *Nieuwen Verlichter* states that the book was written for an audience consisting of ‘artists, varnishers, gilders and marblers, and all lovers of these praiseworthy arts’.⁵⁹ Is this typical for the audiences of Dutch recipe books with ground recipes? Who read Dutch ground recipes and is there any evidence that artists were amongst the readers?

The character of the text and the level of information in a recipe can help establish the type of audience the author hoped to reach. One might assume that those authors who provide detailed, step-by-step instructions had a practical use in mind for their recipes, as only those who actually paint would need to know how to prepare supports for painting. While this may be the case, we have to consider the possibility that even when authors included detailed and complete instructions, their audience did not consist of (aspiring) artists. This is evidenced by Félibien. While he provides step-by-step instructions for ground preparation and application, Félibien’s preface described his intended audience as people who needed to *discuss* the making of art with those who made it, and of individuals who wished to acquire a general knowledge about art.⁶⁰ He was not explicitly writing for the artists themselves.

Fig. 6 gives an overview of intended audiences of Dutch recipes.⁶¹ It demonstrates that artists were often included in the descriptions of target audiences. Van Mander proclaimed to write for ‘painters, art lovers and poets’, Wilhelmus Beurs described his audience as ‘lovers and students of the honorable art of painting’ and de Lairese as ‘art loving readers’ and ‘young students’.⁶² The fact that Eikelenberg expected his audience to make practical use of the recipes, shows from the disclaimer he included in the first pages of his manuscript:

Reader. The notes that have been gathered in this book over many years, both by me and through the pen of others, though they contain many good and sure things about many kinds of paints, are not polished and [not] all tested by myself. Yes, there are also many about which I found out later that they are no good, and have not had time to remove them, and they have only been gathered so I could use them later, when I had time, after having tested them sufficiently, I would describe them well for the service of the world. Take this into account.⁶³

⁵⁹ ‘konst-schilders, vernissers en marmelaers, en alle liefhebbers van deze lofbare konsten’. Anonymous, *Nieuwen Verlichter*, I, title page.

⁶⁰ ‘Car ce qui fait bien souvent que les ouvriers n’executent pas les choses comme on se les est imagines, & qu’ils sont le contraire de ce que l’on souhaite, c’est qu’ils parlent un langage que l’on n’entend pas bien, & que faute de leur exprimer dans ce mesme langage ce que l’on desire, ils ne conçoivent qu’imparfaitement l’intention de ceux qui les employment, qui de leur part ne peuvent souvent juger de ce qu’on doit faire que quan l’ouvrage est achevé.’ ... ‘Cet ouvrage n’est pas fait pour apprendre aux artisans à parler proprement, mais plustost pour les entendre, & pour parler comme eux, quand il est question de s’entretenir de leur métier.’ Félibien, *Principes*, preface.

⁶¹ This figure is based on information about intended audiences presented in Table 3.

⁶² ‘dienstich en nut den schilders constbeminners en dichters’. Van Mander, *De Grondt*, title page; ‘liefhebbers en leerlingen der Ed. Schilderkonst’, Beurs, *De Groot Waereld*, title page; ‘ten dienst van de wereld’; De Lairese, *Groot Schilderboek*, ‘konstbe-minnende’, ‘jonge Leerlingen’.

⁶³ ‘Lezer. De aantekeningen die by in dit boek vind zijn sederd verscheijde jaren door mij, zoo door mijn pen als die van anderen bijeenvergaderd, en behelzen wel vele goede en zekere dingen ten opzigt van allerley slag van verzfels, maar zijn, onbeschaaft en niet alle van mij beproeft, ja ook vele, die ik nog geen tijt heb gehad daar uit te doen, niet goed zoo daar na heb ondervonden, en zij zijn slegs bij een gesteld op dat ik mij daar naderhand af zou komen bedeenen, en als ik tijt, en hen genoeg beproeft had, hen ten dienst van de wereld, geschicktelyk beschrijve. Zijt dit gedagtig.’ Eikelenberg, *Aantekeningen*, folio 3-4.

Fig. 6 Intended audiences of Dutch sources containing recipes for preparatory layers, 1600-1800

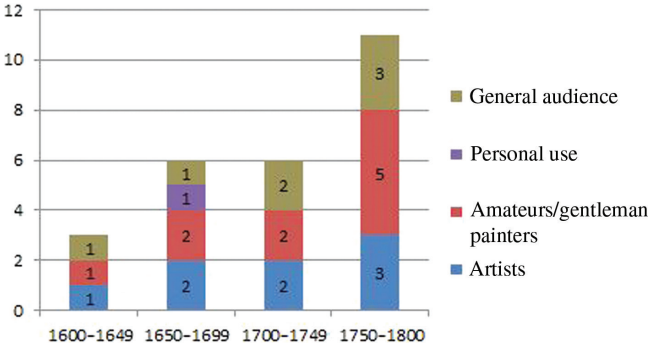
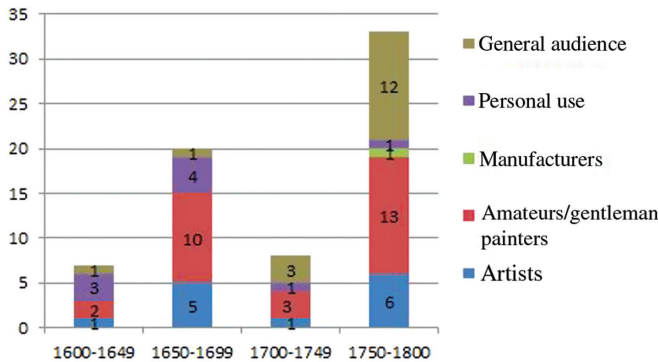


Fig. 7 Intended audiences of German, English and French sources containing recipes for preparatory layers, 1600-1800



Internationally (fig. 7),⁶⁴ similar groups of readers were mentioned as those addressed by the Dutch: authors, artists, amateur painters and 'art lovers' forming the largest audiences. The only exception is the mention of manufacturers as an audience in the German *Praktisches Handbuch für Mahler und Lakirer* of 1795.⁶⁵ No Dutch author expressed writing for such readers.

To what extent intended audiences represent actual audiences is difficult to say. However, some indications can be given about the audiences reached by the authors of these recipes. While fellow authors were not mentioned as target audiences, repetitions and re-workings of recipes in later sources demonstrate that they did read recipe books. Some mentioned the authors they admired or that inspired them by name. The anonymous author-compiler of the *Nieuwen Verlichter* mentioned, amongst others, van Mander,

⁶⁴ Fig. 7 is based on data on intended audiences presented in Table 3.

⁶⁵ The *Praktisches Handbuch* is volume 11 of the *Encyclopädie für Künstler, .. für Künstler, Chemiker, Fabrikanten und Oekonomen bestimmt*.

Félibien, du Fresnoy, Dupuy du Grez and Van Gool. The anonymous Swiss author(s) of Mss.Hist.Helv.xvii, 233 (A and B) and Mss.Hist.Helv.xvii.234 referred to the treatise by Wilhelmus Beurs (in the German translation of 1693), but also to a French *Traité de Peinture*, to de Piles' *Élemens de la Peinture Pratique* (1684) and to Leonardo da Vinci's treatise (fifteenth century).⁶⁶ This case shows a surprisingly wide distribution of sources: a Swiss author in the Bern region is quoting from books published at least three quarters of a century earlier in Amsterdam and Paris, and even refers to a treatise that originated in Florence some three hundred years ago.⁶⁷

Unfortunately, there is little information about artists' reading habits, making it difficult to check whether the authors of recipes reached their intention and educated artists. There is, however, some evidence to suggest that artists were interested in recipe books. Some seventeenth- and eighteenth-century book auction catalogues concerned artists' book collections. Such catalogues reveal that the collection of painter Pieter Saenredam (1597-1665, auction in 1667) contained the 'book of secrets' of Carel Baten, a book that provided recipes for paint manufacture. The collection of painter Robert Duval (1649-1732) and 'an amateur' (auction in 1732) included d'Emery's *Nouveau Recueil des Secrets* and the treatise by Félibien. The catalogue of the collection of painter Frans van Mieris ii (1689-1763, auction in 1764) mentioned Leonardo da Vinci's *Traité de la Peinture*, the anonymous Italian *Abecedario Pittorico* and du Fresnoy's *Van de Schilderkonst*; the catalogue of the 1785 auction of the book collection of artist Jan Stolker (1724-1785), of writer Abraham van Alleplas and unknown 'K.B.', included van Mander, Chomel's *Dictionnaire Oeconomique*, de Lairese's *Cours de Peinture* and an anonymous *Traité de Vernis*.⁶⁸ A second source of information on artist book ownership is probate inventories. Bredius' *Künstlerinventäre* demonstrates that painter Cornelis Dusart (1660-1704) owned works by van Mander and de Lairese, as well as 'hundreds more books'; Bartholomeus van der Helst (1613-1670) was the owner of Baten's *Secreetboeck*. Unfortunately, most inventories only provided specifications for the most expensive items, and books are not always described in full.⁶⁹

Although evidence on book ownership by artists as presented in this section constitutes only a very small sample, it does demonstrate that seventeenth- and eighteenth-century artists owned recipe books. It furthermore shows that books written for general audiences were amongst these books. This implies that the division between specialized information for professionals and books for amateurs was less clear-cut than is sometimes suggested, and opens up the possibility that artists derived information from the second category of sources.

The Relation Between Recipes and Studio Practice

It could be argued that reading recipes does not automatically imply that the reader actually used them in his painting. Perhaps readers were interested in recipes for reasons that

⁶⁶ Stettler, *Maltechnische Angaben*, 132-133.

⁶⁷ Leonardo da Vinci's treatise knew several seventeenth and eighteenth century editions and was available in the English, French, German and Dutch languages at the time of writing of the Bern manuscripts, dating from circa 1750.

⁶⁸ Van Selm et al., *Dutch Book sales Catalogues, 1599-1800*.

⁶⁹ Bredius, *Künstlerinventäre*, I, 52-53, (Dusart), II, 410 (Van der Helst); IV, 1041 (Linse).

mirrored the various reasons for writing, as discussed by Smith. Perhaps artists read treatises as an intellectual entertainment, or out of mere curiosity, and not necessarily as practical instructions.⁷⁰ One thing is certain, artist-authors themselves did not always practice what they preached.⁷¹ De Lairese even warned his readers that in his book they might find advice that would contradict what they had seen de Lairese himself do in his studio. He acknowledged that he did indeed sometimes paint differently than described in his book. The reason was that reflection had produced new insights since his painting days.⁷²

Obtaining more clarity about the relevance of recipes for painting practice requires systematic comparisons between preparatory systems advised in recipes and grounds that were actually employed in paintings from the same time period. For, only if recipes match contemporary painting practice, it is possible that recipes served as sources of information about actual painting practice.

Using scientific data on 142 Dutch paintings from the period, the main types of grounds and the colours of these grounds can be compared in a systematic manner to seventeenth- and eighteenth-century recipes, in order to investigate whether materials and techniques described in recipes match those employed in contemporary paintings.⁷³ As earlier researchers have focused their attention mainly on those periods and areas that are considered of larger art historical relevance, information from painting analyses is not divided evenly across the period covered by the present study. Much detail is available about grounds in seventeenth-century Dutch paintings, but the eighteenth century is not very well represented.⁷⁴ However, taking a step back and looking at the seventeenth and eighteenth centuries as a whole, some patterns in the layer build-up and use of ground colour can be compared.

Descriptions of the Dutch and European recipes earlier in this paper demonstrated that three main types of grounds were advised relatively frequently: single or double lead white based grounds; two-layer (double) grounds made up of a first layer of earth or clay in oil,

70 Smith, 'Why write a book?'

71 Talley and Groen, 'Thomas "Bardwell"', compared the recipes provided by British painter Thomas Bardwell in his treatise *The Practice of Painting* of 1756 to the techniques he employed in his paintings and concluded that while Bardwell employed techniques similar to those he advised in his recipes, his paintings were generally less complicated than suggested on the basis of his recipes.

72 'Mogelyk zal men my betichten dat ik op veele plaatsen regelen voorschryf die ik zelf in myn werken niet altoos waargenomen heb, zulks beken ik; doch men moet weten, dat myne memorie en denkbeelden, in die staat daar ik my tegenwoordig in bevind, veel sterker en geruster, en by gevolg de geest en oordeel, door de opmerkingen en gestadige gedachten tot de konst, scherpzinniger en fijnder gesleepten geworden zyn, als in myn schildertyd.' De Lairese, *Groot Schilderboek, voorrede*.

73 See Stols-Witlox earlier paper 'By no means'.

74 Considering the huge production of paintings in the Dutch seventeenth century, a dataset of 142 paintings also only allows for some preliminary conclusions. The availability of technical information on paintings is likely to improve in the near future, thanks to new initiatives to connect and make available the results of painting research in electronic database systems. The Netherlands Institute for Art History, rkd, hosts the Rembrandt Database, with technical data on paintings by Rembrandt or (once) attributed to him. www.rembrandtdatabase.org. (Accessed on 15 June 2017). A second very interesting initiative is the development of a research database of cross-sections (task 8.4) within the Iperion-CH research program (Integrated Platform for the European Research Infrastructure on Cultural Heritage, a consortium of 23 partners from important research centers, universities and museums active in cultural heritage, with amongst its museum partners the National Gallery London, the Statens Museum in Copenhagen, the Prado Museum in Madrid).

Fig. 8 Ground types mentioned by the authors of Dutch recipes, 1600-1800

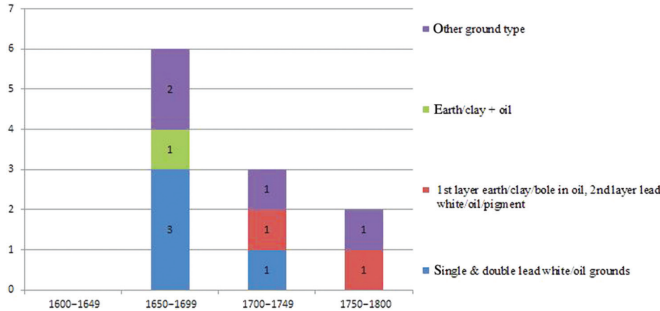
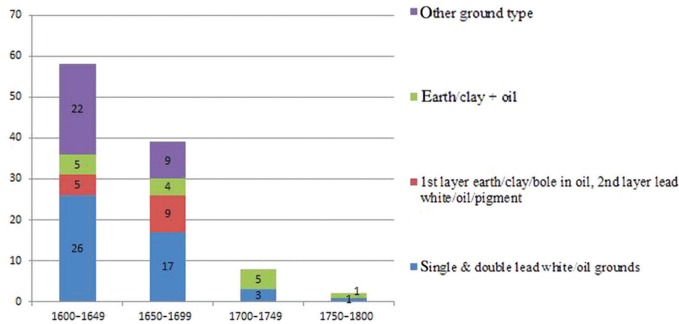


Fig. 9 Ground types for canvas observed in Dutch canvas paintings, 1600-1800

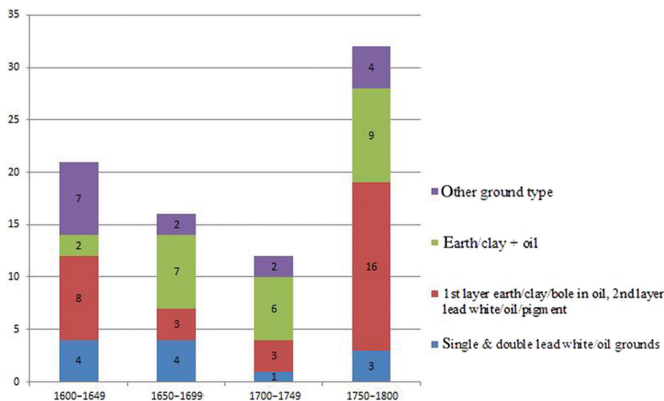


covered by a second layer containing lead white mixed with some pigments, also in oil; and grounds consisting of one or more layers of earth pigments in oil. Figs. 8-11 give the division over time of these groups of grounds, both in the recipes and in painting examinations. These figures allow cross-comparisons between Dutch recipes and paintings, and comparison with recipes and paintings from other European countries.

Focusing first on recipes and occurrences in paintings of single and double lead white/oil grounds, there seems to be a reasonable correspondence between recipes and practice (figs. 8 and 9). Recipes for this type of ground are present throughout the period, and lead white-based grounds are identified in paintings from both the seventeenth and eighteenth centuries, in the Netherlands and abroad.

The occurrence of double grounds consisting of a first layer of cheaper earth or clay pigments, covered by a second layer of lead white is very different in recipes and paintings. Within the Netherlands, such grounds are mentioned in eighteenth-century recipes, while so far they have not been identified in eighteenth-century Dutch paintings. And although these grounds were not mentioned in Dutch seventeenth-century recipes, double grounds of this type were in fact commonly employed by Dutch and Flemish seventeenth-century painters, like Antony Van Dyck, Rembrandt van Rhijn (1606-1669), Aelbert Cuyt (1620-1691), Caesar van Everdingen (1616-1678), Bartholomeus

Fig. 10 Ground types for canvas mentioned by the authors of English, French, German, Italian and Spanish recipes, 1600-1800



van der Helst (1613-1670) and Caspar Netscher (1635-1684).⁷⁵ While this diversion between theory (recipes) and practice (paintings) might be taken as a sign that recipe authors looked back to earlier Dutch practices, another explanation seems more likely: all these recipes are based on Félibien's recipe. Therefore we may conclude that these eighteenth-century recipes provide no evidence that eighteenth-century authors were describing earlier Dutch methods. It is more likely that the motivation of the authors to include recipes for this type of ground can be linked to a desire to connect to a famous seventeenth century French academic authority. These authors looked to the literature for inspiration, not to earlier artists.

Internationally, the situation is different. Already in the seventeenth century this type of ground was described by de Mayerne and in Manuscript Sloane 1990 (fig. 10). These recipes have direct links to contemporary practice. The first came from a professional primer ('from the Wallonian primer, now living in London'), the second from Flemish portrait painter Paul van Somer I (Antwerp c. 1577 - London 1622). These sources confirm the authenticity of the recipes.⁷⁶

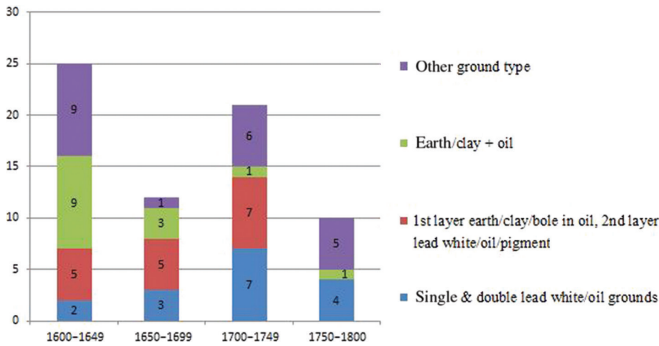
As in the Netherlands, internationally the eighteenth-century recipes for this type of ground were influenced by Félibien. All but one recipe for this type of ground that date from the second half of the eighteenth century are versions of Félibien's, demonstrating once again its enormous impact.⁷⁷

⁷⁵ See Roy, 'The National Gallery Van Dycks' on Van Dyck's use of this type of ground, and Noble, 'Technical Examinations' on the use of such double grounds by Cuyp, Rembrandt, Van Everdingen, Van der Helst and Netscher. Internationally, similar grounds are found in seventeenth century England and in the works of French painters, amongst which Nicholas Poussin. Reddish grounds are more frequent in French contemporary paintings. Rioux, 'Note sur l'Analyse'. On the grounds of English artists: Christie, 'The Grounds of Paintings', Hackney et al., *Paint and Purpose*.

⁷⁶ De Mayerne, *Pictoria*, 5 ('De l'Imprimeur Wallon demeurant à Londres'), 35, 36, 38v, 87, 90, 95 ('Recept of Van Somer'); [De Mayerne], *Manuscript Sloane 1990*, [78-79].

⁷⁷ The one exception being a recipe in Robert Dossie's *Handmaid to the Arts* of 1758, 203.

Fig. 11 Ground types for canvas observed in English, French, German, Italian and Spanish paintings, 1600-1800



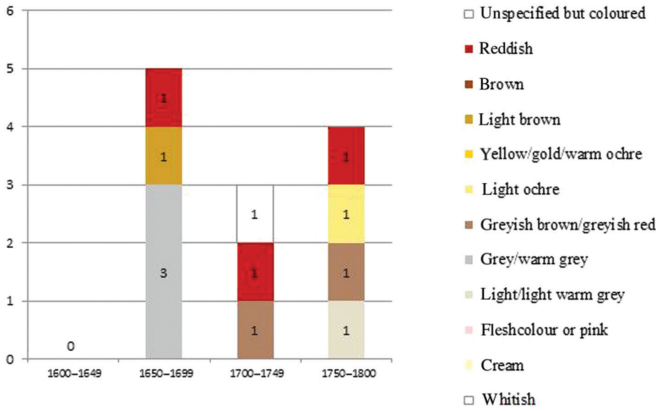
Both in the Netherlands and internationally, many of these later versions of Félibien's recipe appeared in encyclopedic works aimed at general audiences (table 4). Analyses of paintings from the eighteenth century show this type to have been used very infrequently during the first half of the eighteenth century; during the second it appears to have been completely absent (fig. 11). Both facts combined lead to the tentative conclusion that the relation between this particular recipe and actual painting practice was by that time very weak. However, as the number of painting analyses from the second half of the century is low (sixteen paintings in total), more painting examinations would have to be performed to confirm this hypothesis.

Single earth- or clay-based grounds, as they were used by a number of seventeenth- and eighteenth-century artists, both Dutch and international, are all but absent from the Dutch recipes. Only Simon Eikelenberg provided a recipe for a clay ground, consisting of a single-layer of potters' earth and linseed oil.⁷⁸ Internationally, earth pigment or clay-based grounds were mentioned more frequently. While their use seems to have gradually diminished in favour of other types of grounds, their mention in historical sources did not decrease in frequency. An important cause for this is again Félibien's recipe, which includes the option to only apply the first, earth-based ground layer, omitting the lead white-based second layer (one Dutch recipe and thirteen recipes in other European countries). Here, the same argument applies as for the two layer ground consisting of a layer of earth pigments covered by a lead white based layer: the connection between this particular recipe and actual painting practice seems to weaken over time.

Besides layer build-up, the colour of the ground was a topic that strongly interested the authors of ground recipes. Ground colour was considered an important issue, and authors wrote about actively engaging the ground colour in the design and execution of paintings. In his *Groot Schilderboek* of 1712, Gerard de Lairese for example recommended differently coloured grounds for different subjects: a pearl coloured ground for landscapes, umber toned grounds [greyish brown] for indoor scenes, and grounds tinted with Cologne

⁷⁸ Eikelenberg, *Aantekeningen*, 404-405.

Fig. 12 Ground colours described in Dutch recipes for canvas and panel, 1600-1800



earth or umber and black for night scenes.⁷⁹ De Lairese explained that he wished the ground to have ‘something in common with the nature of the subject: the first with the blue of the sky; the second with the reflections; and the third with the shadows’.⁸⁰ Other authors during the period were not as elaborate as de Lairese, but nonetheless some of their recipes provide evidence that they considered the topic of a painting in their choice of ground colour.⁸¹ So far, examples in painting investigations of the practice of connecting ground colour to the topic of a painting are rare. Noble discusses two examples, both concerning pendant portraits where the male sitter is executed on a ground with a darker tonality than the ground used for the female sitter. One series is painted by Caspar Netscher (1635-1684), the other by George van der Mijl (1723-1763).⁸²

Unfortunately, not all recipes contain information about the colour of the ground. Twelve colour descriptions are available (fig. 12). The ground colours of eighteenth-century Dutch paintings have not been frequently analysed (fig. 13). The grounds on eighteenth-century canvas paintings that have been investigated, have single-layer grounds of a varying colour (whitish, ochre, brown and grey).⁸³ The three eighteenth-century recipe sources mention

79 De Lairese, *Groot Schilderboek*, 330.

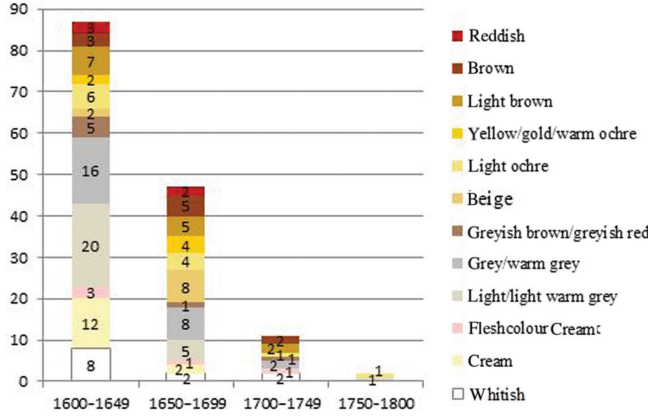
80 ‘vermits zy gemeenschap met de natuur van de zaak hebben: de eerste met het blaauw der lucht; de tweede met de reflexien; en de derde met de schaduwe.’ Ibidem.

81 Wilhelmus Beurs, *De Grootte Waereld*, 19-20 advises a cool grey tone for landscapes and a warmer grey for other subjects. The relation between ground colour and subject is also discussed in Wiltshut and Dankers, *Wiltshut manuscript*, 27-28. Internationally, the subject is addressed by a number of authors (table 2).

82 Noble, ‘Technical examinations’, 331.

83 Kühn, ‘Untersuchungen zu den Malgründen Rembrandts’, investigated the grounds of Aert de Gelder’s *Flagellation of Christ* (c. 1715, single layer of lead white mixed with ochre) and his *Capture of Christ* (c. 1715, single layer of ochre with lead white), Van der Mijl’s *Garden flowers* (1715, single layer of lead white and ochre). Wallert, *Still Lifes* describes the grounds of Rachel Ruysch’ *Still Life with Flowers on a Marble Tabletop*, 1716, Rijksmuseum Amsterdam SK-a-2338, single layer, dark brownish grey, Coenraet Roepel’s *Still Life with Flowers*, 1721, Rijksmuseum Amsterdam SK-a-336, single layer of a light ochre colour, and his *Still Life with Fruit*, 1721, Rijksmuseum Amsterdam SK-A-337, single dark brown layer). Noble, ‘Technical examinations’ discusses the

Fig. 13 Ground colours observed in Dutch panel and canvas paintings, 1600-1800



white, reddish brown and grey ground colours. This limits possibilities for comparing recipes and paintings from in particular the first half of the eighteenth century.

Both in recipes and in paintings, greyish ground colours are frequent. They form roughly half of the colours described throughout the period. There is a difference between the relatively high frequency of reddish grounds in recipes and their much more limited actual use in Dutch paintings. The first mention of a red ground, in the anonymous *Recepten-boek om Allerlei Kleuren te Verwen*, dating from the second half of the seventeenth century, is rather puzzling. The recipe advised to prepare a cloth or silk for painting with a mixture of warm glue and red bole, but such a mixture would cause flaking, as the glue was likely to become too stiff for a flexible canvas support. Its content is unique and no other recipe proposes a similar preparation for canvas.⁸⁴ The two other recipes for red grounds, in the *Huishoudelijk Woordenboek* and in the *Nieuwen Verlichter*, belong to the series of recipes derived from Félibien (table 4). In these recipes, red was one of the options. Artists could apply another (greyish) layer on top.

Yellowish grounds are featured both in recipes and in paintings of the period. In recipes, their colour is the result of the use of earth pigments (ochres), or in van Leen's recipe of lead white heated to a temperature where it changes colour to a light yellow.⁸⁵ Painting investigations describe the use of ochre and other earth pigments, sometimes mixed with lead white and chalk.

grounds of paintings by Cornelis Troost (*Portrait of a Man*, c. 1730, Mauritshuis mh 1068, two layers, an ochre layer covered by a lead white layer) and those employed by George van der Mijl (*Portrait of Cornelis Ploos van Amstel*, c. 1758, Mauritshuis 729, single layer, ochre coloured, *Portrait of Elisabeth Troost*, c. 1758, Mauritshuis 730, single layer, cool grey).

⁸⁴ The fact that it describes a ground for cloth or silk could indicate decorative purposes. Silk is not a commonly used support for oil paintings. The manuscript focuses mainly on textile dyeing. Van Leen, *Over Teken- en Schilderkunst*, 18.

⁸⁵ Van Leen, *Over Teken- en Schilderkunst*, 18.

Flesh coloured grounds are absent from the Dutch recipes. Only Karel van Mander mentioned them when he discussed the historical practices of 'our modern ancestors'.⁸⁶ Hendriks' investigations of the ground colours of paintings dating from the sixteenth to the eighteenth century produced in Haarlem demonstrates that flesh colour or pink grounds were employed by seventeenth-century Haarlem artists.⁸⁷ However, in other artistic centres their use seems to have been more limited, and the absence of Haarlem recipe books from the period may explain this particular difference between recipes and paintings.⁸⁸

Both comparisons between the layer build-up and the colour of grounds in recipes and paintings demonstrate similarities. There is a reasonable correspondence between recipes and contemporary paintings. Yet, differences have also been identified. In particular repetitions of Félibien's recipe over the course of the eighteenth century seem to result in a decrease in correspondence between recipes and paintings later in that century. Many of the pigments described by the Dutch authors are also found when performing pigment analysis on paintings. As these pigments are part of the standard palettes of painters during the seventeenth and eighteenth centuries, this may not seem very significant. However, with these pigments, a wide range of colours would be possible, and the fact that ground colours (mentioned in recipes) do match those in paintings to a large degree, demonstrates the relevance of the correspondence between recipes and paintings.

Conclusions

Tracing the road 'from reading to practice' is a challenge. This paper has highlighted how combining different types of evidence, and investigating single recipes in the wider context of total recipe production, leads to more insight into the reliability of individual recipes. The recipes analysed in this paper demonstrate the possible gain of this approach.

The extensive re-use of Félibien's recipe serves as a warning about the complexities of evaluating the relevance of recipes for painting practice, and thus about the use of historical recipes in studies into paint materials. It also underscores the need for broad-based and interdisciplinary study. Examining the many derivatives of Félibien's recipe and the numerous reproductions of them in an international context demonstrated that the adaptation of recipes from earlier sources was not a uniquely Dutch phenomenon; Félibien's recipe was translated and published in English, German and Danish sources as well. Félibien's recipe demonstrates that such copies of recipes, even if they appeared in encyclopaedias aimed at general audiences, were nonetheless changed and updated by the compilers of such sources. These updates, which modify or further explain procedures, might even suggest that recipes still had a practical relevance in settings that at first sight

⁸⁶ Van Mander, *De Grondt*, 47v, 48r.

⁸⁷ Hendriks, 'Haarlem Studio Practice'.

⁸⁸ Van Mander also worked in Haarlem. Pinkish grounds in Haarlem is a topic worth investigating further in the future.

appear remote from actual painting practices. The fact that recipes were still ‘alive’ and changing implies that such recipes have a higher relevance than was previously assumed, a thought that finds support in the fact that the book collections of some artists contained publications aimed at a general audiences. Yet, comparisons between recipes and actual paintings also leads to opposite conclusions, as they demonstrated that Félibien’s ground was found less and less in actual paintings of the later eighteenth century. This obviously means that the role of texts like Félibien’s recipe changed. While at the time of its first publication, the recipe corresponded to contemporary painting practice, later re-workings and replications of the recipe must have served other purposes, probably reproduced within a literary rather than a practice-oriented tradition.

This paper has been able to show that a number of recipes correspond closely to artistic practice of the period; in particular ground colours described in recipes show a good resemblance to those used in paintings that are contemporary to their writing or publication. From comments in these recipes we furthermore learn about artists’ motives, for example about the decision of some artists to match their grounds to the painting they wished to create, deliberately adapting and using the ground layer’s characteristics like colour and texture. Knowledge of this kind proves especially important in the interpretation of painting investigations, as it explains its findings. For instance, recipes help explain why differently coloured grounds were observed in two pendant portraits by Caspar Netscher and another series by George van der Mijl – to match the tonality of the sitter. Such information makes recipes rich sources of information. They can serve an important purpose, both in painting examinations as well as in studies into the development of the society that produced them. While the anonymous author of the *Nieuwen Verlichter* is right in saying that his great example, Apelles, ‘did not use his tongue to produce such beautiful paintings’, it is clear that the tongue – or the pen or printing press in our case – had an importance of its own.⁸⁹

89 ‘Het en is met de tonge niet dat Apelles zulke schoone stukken heeft voortgebracht,’ Anonymous, *Nieuwen Verlichter*, vol. ii, 128.

The following tables provide details on the individual recipes and on their authors. Information about the recipe characteristics, the professions of the author, their geographical origin, etc. forms the basis of the graphs included as illustrations with this article.

Table 1 *Ground recipes in Dutch, 1600-1800*

General info recipe		Support		Layering		Type of information given			Details reasoning	
Date	Source	Page		Size layer	First ground layer	Second ground layer	Ingredients	Technique	Goal/reasoning	
1604	Van Mander	47v, 48r	panel		witten [applying layer of chalk/glue]	carnatiachtig primmerseel		x	x	technique helps to envision end-result
1650-1700	<i>Recepten-boek</i> FHM	5	canvas		lym, roo bolus			x		
1650-1700	<i>Recepten-boek</i> FHM	1			lootwit, lijn olie	ceruys, lijn olie [2x]		x	x	
1650-1700	<i>Recepten-boek</i> FHM	1			slecht wit tot een gront: ceruys en kryt			x		
1679-1704	Eikelenberg	403	panel	lijm	potaarde, lijnolij			x	x	price, smoothness, prevent sinking in, longevity
1679-1704	Eikelenberg	404-405	canvas	pap van tarwen meel	potaarde, lijnolij			x	x	price, smoothness, prevent sinking in, longevity
1679-1704	Eikelenberg	385	canvas	pap van tarwen meel	[lead white], omber, bruijn root, luttel uit de penselen-back oft klatpot			x	x	smoothness, prevent sinking in
1679-1704	Eikelenberg	159	copper		wit of groen as, fermeloen, geel oker			x		
1692	Beurs	20	canvas	water en bry	ombel; loodwit, oly			x	x	smoothness
1692	Beurs	19-20	panel		[x 3-4] lijnverwtje, krijtwt	loodwit, oly, omber		x	x	fill woodgrains, smoothness
1692	Beurs	19-20	panel		lijnverwtje, krijtwt	loodwit, oly, swart		x	x	fill woodgrains, smoothness colour of the ground (landscape)
1701, 1724	Wilschut/ Dankers	27-28			[colour mixture for priming:] serruijs blauw swert, bruijnen oker			x	x	to keep colours beautiful, prevent ground colour shining through, ground colour depends on subject

Table 1 (continued)

General info recipe			Support		Layering		Type of information given				Details reasoning
Date	Source	Page	Size layer	Layering	First ground layer	Second ground layer	Ingredients	Technique	Goal/reasoning	Goal/reasoning	Details reasoning
1701, 1724	Wiltshut/ Dankers	27-28			[colour mixture for priming:] blauw swert krijdt, wit en een weijnigh bruijen roodt en oker		x		x		to keep colours beautiful, prevent ground colour shining through, ground colour depends on subject
1701, 1724	Wiltshut/ Dankers	[72 in pdf]			eyschaelen wit is ook een trefelijc wit niet alleen voor fresco schilder maer selfs voor witte gronden		x				
1712	De Lairese	330		canvas	[landscape:] paerlkoleur				x		colour should fit character of subject
1712	De Lairese	330		canvas	[indoor room:] omber				x		colour should fit character of subject
1712	De Lairese	330		canvas	[candle light:] keulsche aarde of omber met zwart		x		x		colour should fit character of subject
1743	Chomel <i>Huishoudelijk Woordenboek</i>	948	lym	canvas	bruin-rood, loodwit, lijn- en notenolie	olieverw	x	x	x		- as little as possible, thin layer prevents crack formation and results in better preserved colours - second layer can be omitted - smoothness
1743	Chomel <i>Huishoudelijk Woordenboek</i>	948		panel	lym, kryt	olieverw	x		x		
1747	Pictorius	355	lymwater, tarwe meel	canvas	verwe		x	x	x		smoothness

Table 1 (continued)

General info recipe			Type of information given				Details reasoning			
Date	Source	Page	Support	Layering	First ground layer	Second ground layer		Ingredients	Technique	Goal/reasoning
1777	<i>Nieuwen Verlichter</i>	166-167	canvas	lym van snippelingen van handschoenen of van leer, gestolt en verkout	bruynrood in olie, droogzel (rode menie ofte lood-wit)	lood-wit, weynig bruyn rood, kol-zwart [x 2]	x	x	x	- as little as possible, thin layer prevents crack formation and results in better preserved colours - second layer can be omitted - smoothness - keep board straight, fill pores of the wood, smoothness, especially suited to small size paintings with minute detail - texture created to promote adhesion of subsequent layers
1777	<i>Nieuwen Verlichter</i>	170	panel	warme lym van leer, perkament ofte snippelingen van handschoenen	wit kryt en lym [x verscheyde mael]	ceruyze-wit, weynig bruyn rood en kol-zwart [x 1-2]	x	x	x	keep board straight, fill pores of the wood, smoothness, especially suited to small size paintings with minute detail - texture created to promote adhesion of subsequent layers
1777	<i>Nieuwen Verlichter</i>	171	copper		ceruyze-wit, weynig bruyn rood en kol-zwart [x 2-3, beat with handpalm to create texture]		x	x	x	texture created to promote adhesion of subsequent layers
1800	Horstok	19-21	panel		loodwit, momverw [binder of oil and egg, diluted with water]		x	x	x	smoothness, mattness, adhesion of subsequent layers
1800	Van Leen	18	panel		geel oker, wijning wit, terpentijnwater, [olie]	geel gegloeid loodwit, gekookte olie, weynig terpentijn [x 6-8]	x	x		smoothness
1800	Van Leen	18	canvas						x	even, smooth, flexible prepared canvas is important

Grey marked recipes describe only part of the layer build-up of the ground.

Table 2 *European, non-Dutch recipes for preparatory layers, 1600-1800*

General info recipe			Support		Layering		Type of information given			Details information/reasoning
Date	Source	Page	Support	Size layer	First ground layer	Second ground layer	Ingredients	Technique	Goal/reasoning	
1620-44	De Mayerne	11	canvas	cuir de veau our cheurotin	blanc de plomb, peu d'ombre [x 1-2]		x	x	x	- from artist Abraham Latombé, Amsterdam - smoothness - glue size causes flaking - better than size to prevent flaking
1620-44	De Mayerne	11	canvas	huile siccativ preparée avec la lytharge	terre d'ombre ou autre couleur		x	x	x	- better than size to prevent flaking
1620-44	De Mayerne	11	canvas	huile siccativ preparée avec la lytharge	terre d'ombre & blanc de plomb broyés à huile colle & croye	blanc de plomb & ochre ou blanc de plomb & noir couche legere avec blanc de plomb & ombre	x	x	x	
1620-44	De Mayerne	11	panel				x			
1620-44	De Mayerne	111v	unknown		vielle couleur, miel, therebentine		x			
1620-44	De Mayerne	5	canvas	colle de retailons de cuir ou size qui ne soit pas trop espasse	brun rot, ou rouge brun d'Angleterre [x 1]	blanc de plomb, charbon de braise, smale coals, peu de terre d'ombre [x 2-3]	x	x	x	- flaking & cracking - de l'imprimeur Wallon demeurant à Londres
1620-44	De Mayerne	7v	canvas	colle, peu de miel			x		x	- honey supposed to improve glue, but still leads to formation of bloom
1620-44	De Mayerne	85	canvas		blanc de plomb, ocre rouge, peu d'ombre, peu de charbon de bois, cherkole		x		x	- colour good for all colours
1620-44	De Mayerne	87	canvas	colle forte	bolus, terre d'ombre ou rouge qui est bruslée, huyle [x 1]	ceruse, terre d'ombre [x 1]	x	x	x	- strong glue not good, use colle de retailons de cuir, non trop fort, or it flakes
1620-44	De Mayerne	90	canvas	colle forte	bolus, umbre, huile [x 1]	ceruse, umbre, [no minium] [x 1]	x	x	x	- not good, flakes

Table 2 (continued)

General info recipe			Support			Layering		Type of information given			Details information/reasoning
Date	Source	Page	Support	Size layer	First ground layer	Second ground layer	Ingredients	Technique	Goal/reasoning		
1620-44	De Mayerne	90v	panel		croÿe broÿee, colle	ceruse & umbre, huÿle [x 1]	x	x			
1620-44	De Mayerne	95	canvas		bolus, terre d'ombre [x 2-3]	esmail, blanc de plomb, peu de laque	x	x			Van Somer, for landscape
1620-44	De Mayerne	96	canvas	colle fort	bolus, umbra	ceruse, peu d'umbre, [then] blanc de plomb, peu d'ombre & du smalle	x	x	x		- dries in less than a day - very beautiful for landscape
1620-44	De Mayerne	98v	canvas		blanc de plomb, fort peu d'ocre, mine ou autre couleur compentant		x		x		- myne, verd de gris, noir de fumee ou de lampe sont comme des poissons qui font mourir les couleurs - good mixture for last layer of ground
1620-44	De Mayerne	99	panel		blanc, peu de miel		x		x		- not best option for panel
1620-44	De Mayerne	99	panel	legerement encolé	bonne & fort imprimeure a huÿlle		x	x	x		- better than chalk ground
1623-44	Unknown [prob. de Mayerne]	78-79		coller	blanc broÿe avec colle, peu de miel [x 1-2]	blanc, peu de mine, huÿle	x	x	x		- honey prevents cracking
1623-44	Unknown [prob. de Mayerne]	78-79			blanc de croÿe avec colle & miel	ocre broÿee avec huÿle, peu de mine	x	x			
1623-44	Unknown [prob. de Mayerne]	78-79			os de moutons brusles, peu de ceruse ou de blanc de plomb, peu de massicot		x		x		- drying - creating body - for portrait
1633	Bate	167	panel		glue, whitening [x 2-3]	white lead, oil	x	x			
1633	Bate	167	canvas	size, little honey	whiting, size, little honey [x 1]		x	x	x		- honey prevents cracking, peeling, breaking out

Table 2 (continued)

General info recipe			Support		Layering		Type of information given			Details information/reasoning
Date	Source	Page	Support	Size layer	First ground layer	Second ground layer	Ingredients	Technique	Goal/reasoning	
1634	Peacham	130	panel		size, Spanish white [x 3]	red lead or some other colour	x	x	x	
1635	Lebrun	772	canvas		colle de parchemin, terre de potier, terre jaune ou ocre, huile de noix ou de lin		x	x		- is the work of the boy
1635	Lebrun	812								
1635	Lebrun	820-821								
1635	Lebrun	820	canvas		colle de parchemin, imprimure en huile		x	x	x	- umber not good in grounds, makes colours sink in - old priming is better - quick ground on canvas, can be painted on the same day - flakes when rolled up
1640	Norgate	91	panel		size, whitening	white lead, oil	x	x		
1642	Bisagno	111-112	panel		ingessate [gesso, glue]		x	x		
1649	Pacheco	382-383	panel		giscola de guantes, yeso grueso, [x 3-4], [Yeso] mate [x 5-6]	alvayalde, sombra de italia, azeite de lianaze	x	x	x	
1649	Pacheco	383-384			gacha de harina ó de harrijas, acetate de comer, poca de miel [x 1]		x	x		
1649	Pacheco	383-384			cola de guantes, yeso	almagra, azeite de linaza. Otros: alvayalde, azardon, negro de carbon, olio con azeite de linaza [x 1-2]	x	x		
1649	Pacheco	383-384			cola de guantes	almagra, azeite de linaza. Otros: alvayalde, azardon, negro de carbon, olio con azeite de linaza [x 1-2]	x	x		
1649	Pacheco	383-384	canvas		glue size	ceriza cernida, [cola de guantes]	x	x		
1649	Pacheco	384-385	canvas		cola de guantes	barro que se usa en Sevilla, alvayalde, linaza [x 2]	x	x	x	- flour, gesso, cerniza flakes

Table 2 (continued)

General info recipe			Support		Layering		Type of information given			Details information/reasoning
Date	Source	Page			Size layer	First ground layer	Second ground layer	Ingredients	Technique	Goal/reasoning
1649	Pacheco		metal			alvalalde, sombra, olio [spread with fingers]		x	x	
1650-1652	Symonds	4v	canvas		colla	imprimatura, olio di lino		x		
1653	King	48	canvas		thin starch	primer		x		
1653	King	52, 52v	panel		glew	Spanish white, size	ceruse, coale black, little red lead	x	x	- recipe provided by a Monsieur Molon, professional primer
1656	<i>Tractato</i> ^a	111	canvas		flour gacheta, common oil	powdered shells from lakes, linseed oil [x 2-more]		x	x	
1664	<i>Art of Painting</i>	93	paper			oyle colour		x	x	- not as durable as panel or canvas
1664	<i>Art of Painting</i>	94	panel			strong size, whitening [x 1-2]	white lead, red lead, linseed oil, [2 nd layer with Spanish brown, umber, little lamp black added]	x	x	- even boards
1664	<i>Art of Painting</i>	95-96	canvas		thin size, honey	white lead, little red lead, Spanish brown, umber [x 1]	white lead, little red lead, Spanish brown, umber, lamp black [x 1]	x	x	- adjust colour to picture
1664	<i>Art of Painting</i>	97	panel			whiting, size [with the ball of the hand]		x	x	
1670	Lana	158	canvas, panel			terra d'ombra, poco di biacca, terra rossa, oglio di lino [x 2-3]		x	x	- too many layers make the painting sink in
1670	Volpato ms.	729	canvas		pigs skin glue [x 2]	earth pigments (for example 'terra da bocali', terra rossa, little umber), linseed oil [x 2]		x	x	- smoothness - no gesso, it flakes

Table 2 (continued)

General info			Support		Layering		Type of information given			Details information/reasoning
Date	Source	Page	Support	Layering	First ground layer	Second ground layer	Ingredients	Technique	Goal/reasoning	
1670	Volpato ms.	729	canvas	pigs skin glue [x 2]	'terra da bocali' steeped in water, terra rossa, little umber), boiled linseed oil, oil pressed from used brushes [x 1]	'terra da bocali'; terra rossa, little umber), linseed oil [x 1]	x	x	x	- water in first layer speeds up process
1672	Salmon	141	panel canvas		whiting, glue [x 2-3]	white-lead, oyl	x	x		
1676	Félibien	407	panel	collé	blanc, colle [x 1]	imprimeure a huile	x	x		
1676	Félibien	407-408	canvas	eau de colle	brun rouge, peu de blanc de plomb, huile de noix ou de lin [x 1]	blanc de plomb, peu de noir de charbon [x 1]	x	x	x	- as little as possible, thin layer prevents crack formation and results in better preserved colours - second layer can be omitted - smoothness
1676	Félibien	410	stone metal		legere couche de couleurs		x	x		
1677, 1681	Beale	56r, 56v	canvas	thin size or stiff size	white lead, cullens earth, blew black, burnt umber, red oker, oil		x	x	x	- fears that stiff size will result in flaking
1679	De la Fontaine	27-28	panel	colle de cuir	blanc d'espagne, eau, colle [x 3]	gris à huille	x	x		
1679	De la Fontaine	27-28	panel	colle de cuir	blanc d'espagne, eau, colle [x 3]	colle [x 2]	x	x		
1679	De la Fontaine	28-29	copper		blanc de plomb, terre d'ombre, noir de charbon [x 2]		x	x		
1679	De la Fontaine	28-29	plaster stone		blanc de plomb, terre d'ombre, noir de charbon [x 1]	blanc de plomb, terre d'ombre, noir de charbon [x 1]	x	x	x	- first layer more clear, otherwise colours sink in - plaster absorbs oil
1679	De la Fontaine	43-44	canvas	colle	terre d'ombre, brun rouge	blanc de plomb, terre d'ombre, peu de noir de charbon	x	x		

Table 2 (continued)

General info recipe			Support			Layering		Type of information given			Details information/reasoning
Date	Source	Page	Support	Size layer	Layering	First ground layer	Second ground layer	Ingredients	Technique	Goal/reasoning	Details information/reasoning
1684	De Piles	62-63	canvas			[oil priming, soft tone]		x	x	x	- soft colour for beginners, light grey ground for experienced painters. The colour are better preserved on light grey - panel distemper ground, leave preparation to 'plus habiles' - colour depends on wishes
1684	De Piles	64-65	panel copper			[panel prepared in 'détrempe' [copper can be used after degreasing with garlic]			x	x	
1687	Catherinot	16	canvas							x	- canvas primed 3-4 years ago is better
1688	Stalker & Parker	54				[priming consists of white lead, brown or red oker, umber. Painters use oldest skinny colours, putting them in a bag and expressing the primer, leaving behind skins and filth. Apply in thin layer.]		x			
1692	Smith	75	panel			whiting, strong size [x 6-8]	priming		x	x	- only paint on well dried priming, for the priming colours will 'incorporate' with the painting.
1693	Hidalgo ^b	137	canvas	glove clippings size [x 2]		almagra, umber or fuller's earth, cooked linseed oil, drier [x 2-3]	cooked linseed oil with a drier		x		
1693	Hidalgo	137	canvas	gacha, size, little honey [x 2]		almagra, umber or fuller's earth, cooked linseed oil, drier [x 2-3]	cooked linseed oil with a drier		x		

Table 2 (continued)

General info recipe			Support			Layering			Type of information given			Details information/reasoning
Date	Source	Page	Support	Size layer	First ground layer	Second ground layer	Ingredients	Technique	Goal/reasoning			
1699	Dupuy du Grez	243-244	canvas	eau de colle	rouge brun, blanc de plomb ou blanc d'Espagne, huile du lin ou de noix [x 1]	blanc de plomb, noir de charbon [x 1]	x	x	x			<ul style="list-style-type: none"> - smoothness - second layer may be omitted - as thinly as possible to prevent cracking and that the canvas cannot be rolled - smoothness - stability over time - without honey and oil it forms bloom or mold in humid places and rots the canvas
1715	Palomino	31-32	canvas	harina de trigo, agua, poco de miel, poco de azeite de linaza [x 1]	imprimacion de azeite de linaza		x	x	x			<ul style="list-style-type: none"> - smoothness - stability over time - without honey and oil it forms bloom or mold in humid places and rots the canvas
1715	Palomino	31-32	canvas		legamo o greda, almazzarron ò almagra, azeite de linaza		x					
1715	Palomino	33	panel		imprimacion a el olio				x			<ul style="list-style-type: none"> - no size layer, it swells in humidity, blocks the oil from penetrating the wood, is detrimental to preservation - thin priming to prevent flaking
1715	Palomino	34-35	canvas						x			
1719	Orlandi	480	canvas		ritagli di pelle di guanti, gesso	terra, olio di noce [x 1]	x	x				
1726	Wilschut ms.	78	canvas	mehl, lein ohl [x 1]	bleijweis, leinöhl, mahler fernis oder troben öhl [x 3]	bleijweis, magen oder nus ohl, etwas Berliner blau [x 1]	x	x				
1728	Chambers	Vol. 2, 735	canvas	vorgeleimt	ocker, trockenendes öl, etwas bleiweis [x 1]	bleiweis, holzkobleschwarz [x 1]	x	x	x			<ul style="list-style-type: none"> - as little as possible, thin layer prevents crack formation and results in better preserved colours - second layer can be omitted - smoothness

Table 2 (continued)

General info recipe			Type of information given			Details information/reasoning				
Date	Source	Page	Support	Layering	First ground layer		Second ground layer	Ingredients	Technique	Goal/reasoning
1729	Cröker	74-76	canvas	buchbinder- kleister (rocken- oder staub-mehl, wasser) [x 1] leim-wasser	rothem bolus, fürnis [x 1]		x	x	x	- apply thinly - make smooth
1729	Cröker	75-76	paper		fürnis, ogger, ombra [other colour that dries quickly, like] indich und bleyweis, oder kienrauch und bleyweis]		x	x		
1729	Cröker	75-76	paper		oel aus dem wasch-fasse, darinne die pinsel reine gemacht worden [or] einen von der droben gemeldeten fürnis, grundgemeine fürnissen		x	x		
1729	Cröker	75-76	paper		lein-oel, fürnis		x	x		
1729	Cröker	78	panel	leim [x 1-2]	oel-grund		x	x	x	- work cleanly
1730	De la Hire	708-709	panel	cole chaude de cuir [x 1]	blanc de craie, cole de cuir [x several times]	blanc de plomb, peu de brun rouge & noir de charbon	x	x	x	- wood better for precise works because more smooth
1730	De la Hire	709	copper		blanc de plomb, peu de brun rouge & noir de charbon [x 2-3, beaten with hand palm]		x	x	x	- hand palm creates more grip for paint layers

Table 2 (continued)

General info recipe			Layering			Type of information given			Details information/reasoning	
Date	Source	Page	Support	Size layer	First ground layer	Second ground layer	Ingredients	Technique	Goal/reasoning	
1730	De la Hire	710	canvas	cole de cuir figue [x 1]	brun rouge, mine rouge [x 1]	blanc de plomb, peu de brun rouge & noir de charbon [x 2]	x x	x	x x	– third layer optional, some artists are afraid it makes the colours 'dead'; however it results in less even structure, so only suited to large-scale works – as little as possible, thin layer prevents crack formation and results in better preserved colours – second layer can be omitted – smoothness
1735	Barrow	n.p.	canvas	couch or lay of size	oker, little white-lead [x 1]	white-lead, little charcoal-black [x 1]	x	x	x	
1735	Barrow	n.p.	panel		white, size	white chalk, red oker, etc.	x	x	x	
1735	Barrow	n.p.	panel	oil	white chalk, red oker, etc.		x	x	x	
1735	Barrow	n.p.	copper		slight couch of colours		x	x	x	
1750	Mss. Hist. Helv. XVII.	48-49	canvas		braun roth, keßelbraun, bleyweiß [x 1]		x	x	x	– thin layer saves money
1750	Mss. Hist. Helv. XVII.23 ^d	85-86	panel	leinwaßer [x 3], [or] öhl	braunroth [x 1]	kohlschwarz, bleyweiß, ungesottenem lein öhl [x 1]	x	x	x	
1752	Oudry	108-109	canvas		brun-rouge		x			– very bad effect, half-tones disappear, shadows are hard – shine through some colours with time
1752	Oudry	108-109	canvas		blanc		x			
1754	Barrow	n.p.	canvas	couch or lay of size	oker, little white-lead [x 1]	white-lead, little charcoal-black	x	x	x	– as little as possible, thin layer prevents crack formation and results in better preserved colours – second layer can be omitted – smoothness

Table 2 (continued)

General info recipe			Type of information given				Details information/reasoning		
Date	Source	Page	Support	Laying	First ground layer	Second ground layer	Ingredients	Technique	Goal/reasoning
1754	Barrow	n.p.	panel	Size layer	white, size [x 1]	white chalk, red oker, etc.	x	x	x
1754	Barrow	n.p.	panel	boiling oil [x 3]	white chalk, red oker, etc.		x	x	
1754	Barrow	n.p.	stone metal		slight couch of colours		x	x	
1755	Orellana	107	canvas	pieles de guantes [x 1-2]	almagra		x	x	
1756	Pernety	295-296	canvas		brun rouge, huile				- brun rouge is bad, colours applied on top redissolve it - apply as little as possible to keep the colours fresh
1756	Pernety	lxcj	canvas	colle de gand figée [x 1]					
1756	Pernety	lxcj	plaster	huile bouillante [x 1-2]	brun-rouge ou ocre mêlé de blanc de plomb		x	x	
1756	Pernety	lxxxviii	panel	colle de gand chaude [x 1]	blanc de crayes, colle [x 2-3]	blanc de plomb, peu de brun-rouge et noir de charbon [x 1-2]	x	x	x
1756	Pernety	lxxxvix	copper		couleur à l'huile [x 2-3, last layer beaten with palm of hand]		x	x	- smoothness of panels good for small paintings with much detail - hand to create grain to help adhesion of paint
1756	Smith	58	canvas	glew, little honey	whiting, size	white-lead, little black, linseed-oil	x	x	x
1758	Dossie	203-204	panel	hot drying oil [as long as it soaks in]	white lead, colour		x	x	x
1758	Dossie	204	copper		oil, lead, oker [x 1]		x	x	- animal glue in binder results in flaking
1758	Dossie	204-205	copper panel canvas		flake white, fat oil, colour [x 1]		x	x	

Table 2 (continued)

General info recipe			Type of information given				Details information/reasoning		
Date	Source	Page	Support	Layering	First ground layer	Second ground layer	Ingredients	Technique	Goal/reasoning
1758	Dossie	201-203	canvas	hot drying oil Size layer	drying oil, red oker [x 2-3]	hot drying oil, then white lead, oil, colour [x 1]	x	x	x - commercial primings bad quality - commercial grounds use animal glue, which leads to flaking
1759	<i>Ecole de la Mignature</i>	173	panel	encollé [x 1]	blanc, colle [x 1]	imprimeure à huile [x 1]	x	x	- as little as possible, thin layer prevents crack formation and results in better preserved colours - second layer can be omitted - smoothness
1759	<i>Ecole de la Mignature</i>	173-174	canvas	eau de colle [x 1]	brun rouge, peu de blanc de plomb [x 1]	blanc de plomb, peu de noir de charbon [x 1]	x	x	
1759	<i>Ecole de la Mignature</i>	177	stone metal		legere couche de couleurs [x 1]		x	x	
1761	Hallen	321-322	panel	erwärmten leime aus handschueder oder pergaments pänen [x 1]	leim, kreide [x few layers]	schieferweis, oel, braunrot und kohlenschwärze [x 1]	x	x	
1761	Hallen	322	copper		oelfarbe [x 3, last layer beaten with handpalm]		x	x	- hand to create grain to help adhesion of paint
1761	Hallen	322	canvas	pergamentleime 1, gelled]	[x rottem bolus oder andrer schlechten farbe	schmierigen wachs öle aus dem waschfasse	x	x	- some omit glue size because they fear flaking - 'wax oil' to protect against humidity
1761	Hallen	322	plaster	siedendes oel [x few layers]	braunrot, oder okker mit schieferweis [few layers]		x	x	

Table 2 (continued)

General info recipe			Type of information given				Details information/reasoning			
Date	Source	Page	Support	Layering	First ground layer	Second ground layer		Ingredients	Technique	Goal/reasoning
1766	Jombert/De Piles	126-131	canvas	colle de rognure de gants ou de cuir, figée [x 1]	brun rouge, huile, quelque siccatif (mine rouge ou blanc de plomb) [x 1]	blanc de plomb, rouge brun, peu de noir de charbon [2]	x	x	x	<ul style="list-style-type: none"> - smoothness - second layer may be omitted, but canvas grain appears so only for large-scale works - as thinly as possible to prevent cracking and that the canvas cannot be rolled - as little as possible, thin layer prevents crack formation and results in better preserved colours - second layer can be omitted - smoothness - aqueous ground would be better for colours but will flake
1767	Chomel	869	canvas	eau de colle de gants [x 1]	brun rouge, peu de blanc de plomb, huile de lin ou de noix [x 1]	blanc de plomb, noir de charbon [x 1]	x	x	x	
1767	Chomel	869	panel	colle de gants [x 1-2]	impression à huile		x	x		
1772	Griselini/Fassadoni	268-269	panel		bianco, colla [x 1]	gesso, creta bianca, ocre rossa, etc. [x 1]	x	x		
1772	Griselini/Fassadoni	269	canvas	colla [x 1]	ocra, poco di cerussa [x 1]	cerussa, poco di nero di carbone [x 1]	x	x	x	<ul style="list-style-type: none"> - as little as possible, thin layer prevents crack formation and results in better preserved colours - second layer can be omitted - smoothness - as little as possible, thin layer prevents crack formation and results in better preserved colours - smoothness
1772	Watin	190-191	canvas	colle de gants de moyenne force, consistance bouillie [x 1]	brun rouge, huile de noix, litharge [x 1]	blanc de ceruse, noir de charbon très-fin, huile de noix & huile de lin par moitié [x 1]	x	x	x	<ul style="list-style-type: none"> - as little as possible, thin layer prevents crack formation and results in better preserved colours - smoothness

Table 2 (continued)

General info recipe			Support		Layering		Type of information given			Details information/reasoning
Date	Source	Page	Support	Layering	First ground layer	Second ground layer	Ingredients	Technique	Goal/reasoning	
1775	<i>Valuable Secrets</i>	133	panel	size [x 1]	whitening, size [x 1]	boiling oil [x 1]	x	x		
1775	<i>Valuable Secrets</i>	133-135	canvas	size [x 1]	brown-red, little white lead, nut or linseed oil [x 1]	white lead, charcoal black [x 1]	x	x	x	- as little as possible, thin layer prevents crack formation and results in better preserved colours - smoothness
1779	Le Pileur d'Apigny	69-70	canvas	colle [x 1]	ocre, huile, peu de blanc de plomb [x 1]	blanc de plomb, charbon [x 1]	x	x		
1779	Le Pileur d'Apigny	70	canvas	colle, peu de miel [x 1]	blanc de plomb, peu de miel [x 1]		x	x	x	- honey prevents flaking
1779	Le Pileur d'Apigny	72	panel	blanc, colle [x 1]			x	x		
1779	Le Pileur d'Apigny	72	stone		légère teinte [x 1]		x	x		
1779	Dutens	62	panel	colle de gant [x 1]	blanc, colle [x 1]	blanc de plomb, brun route, huile	x	x	x	- beaten to prevent polished surface
1779	Dutens	62	copper		couleur [beaten with palm of the hand]		x	x	x	
1779	Dutens	62	canvas paper	colle de gant [for canvas]	noir-dochre, blanc, peu de rouge brun [x 1]		x	x		
1781	Pernety	8	panel		blanc à la colle	imprimer à l'huile	x	x	x	
1781	Pernety	8	canvas	eau de colle [x 1]	brun rouge, peu de blanc de plomb, huile de noix ou de lin [x 1]	blanc de plomb, peu de noir de charbon [x 1]	x	x	x	- as little as possible, thin layer prevents crack formation and results in better preserved colours - second layer can be omitted - smoothness - as little as possible, thin layer prevents crack formation and results in better preserved colours - smoothness
1785	<i>Artist Assistant</i>	93	canvas	size, or paste [x 1]	oker, little white lead [x 1]	white lead, little charcoal black [x 1]	x	x	x	

Table 2 (continued)

General info recipe			Support		Layering		Type of information given			Details information/reasoning
Date	Source	Page			Size layer	First ground layer	Second ground layer	Ingredients	Technique	Goal/reasoning
1789	Diderot/d'Alembert	145	canvas	colle de gants de moyenne force, bouillie [x 1]	brun-rouge, huile de noix, litharge [x 1]	blanc de ceruse, noir de charbon, huile de noix & huile de lin, par moitié [x 1]	x	x	x	- as little as possible, thin layer prevents crack formation and results in better preserved colours - smoothness
1792	Monton	42	panel	cola	blanco, cole de retazos de guantes	inprimacion de aceyte	x	x	x	- hand to create grain to help adhesion of paint
1792	Querfurt	34	copper		oelgrund [x 2-3, handpalm]	beat last layer with handpalm]	x	x	x	
1792	Querfurt	33-34	panel	heissen genter leim [x 1]	leim-kreidengrund [x 2-3]	bleijweiß, braunroth, kohlschwarz [x 1-2]	x	x	x	- smoothness of panels good for small paintings with much detail
1792	Querfurt	36-39	canvas		weißen wasserfarben		x			- cannot be rolled - chosen to prevent ground from spoiling the colours of the paints - cannot withstand moisture
1792	Querfurt	36-39	gypsum	heissen oel [x 1-2]	braunroth, oder gelben ocker und bleijweiß [x 2]		x	x	x	
1793	Golden Cabinet	112	canvas	good size, little honey	whitening, size, little honey [x 1]		x	x	x	- honey to prevent cracking, peeling, breaking out
1793	Golden Cabinet	112	canvas	size, or paste-water	oker, oil, white-lead [x 1]	white lead, little charcoal-black [x 1]	x	x	x	- second layer can be omitted
1793	Golden Cabinet	113	stone metal	slight couch of colours			x	x	x	
1793	Golden Cabinet	112-113	panel	white, size [x 1]	white, size [x 1]	2-3 layers of boiling oil, [then] chalk, red okre, [oil] [x 1]	x	x	x	

Table 2 (continued)

General info recipe			Layering			Type of information given			Details information/reasoning
Date	Source	Page	Support	Size layer	First ground layer	Second ground layer	Ingredients	Technique	Goal/reasoning
1793	<i>Golden Cabinet</i>	112	canvas	size, paste-water [x 1]	okre, oil, white-lead [x 1]	white lead, little charcoal-black [x 1]	x	x	
1794	<i>Maler-og Forgylder Bog</i>	70-71	canvas	middelmaadig staerk hendskelim, slaget til en belling [x 1]	brunnrodt, selvergled, linolie [x 1]	bleywidt, kulsort, linolie [x 1]	x	x	- as little as possible, thin layer prevents crack formation and results in better preserved colours - smoothness - this layer will prevent colours from changing - is advice by George Robertson, landscape painter - as little as possible, thin layer prevents crack formation and results in better preserved colours - smoothness
1795	<i>Practical Treatise</i>	207-208	canvas		[unspecified first layer]	white, black made of burn peach-stones	x	x	x
1795	<i>Praktisches Handbuch</i>	84-85	canvas	mittelmaessig starken handschuhleim, zu einem brei [x 1]	braunroth, nuessil, silbergloete [x 1]	bleiweiss, kohlen-schwarz, nuess[öl]- halb mit leinöl [x 1]	x	x	x
1798	Stöckel	181-183	canvas	mittelmaessig starken handschuhleim, bis zu gehoerigen dicke oder brei [x 1]	braunroth, silbergloete, oehlfirniss [x 1]	bleiweiss, kohlen-schwarz, oehlfirniss [x 1]	x	x	x

Grey marked recipes describe only part of the layer build-up of the ground. Pigment and binder names are given in the recipe's language and spelling.

⁴Translation Veliz, *Artists' Techniques in Golden Age Spain*.

⁵Translation Veliz, *Artists' Techniques in Golden Age Spain*.

⁶Stettler, *Maltechnische Angaben*.
dStettler, *Maltechnische Angaben*.

Table 3 Dutch and European sources that provide recipes for preparatory layers, 1600-1800

A Dutch seventeenth and eighteenth century sources describing the preparation and application of preparatory layers

Date	Author	Geographical origin author	Profession	Intended audience	Geographical origin source	Abbreviated title
1604	Van Mander	Netherlands	Artist	Artists, amateurs, general audience	Netherlands	<i>Groot Schilderboek</i>
1650-1700	anonymous	Netherlands	Manufacturer	Personal use	Netherlands	<i>Recepten-boeck</i>
1679-1704	Eikelenberg	Netherlands	Historiographer (amateur)	Artist/Amateurs/Gentleman painters	Netherlands	<i>Aantekeningen</i>
1692	Beurs	Netherlands	Artist	Painters	Netherlands	<i>De Groote Waereld</i>
1701, 1724	Wilschut/Dankers	Netherlands	Artist	Artist/Amateurs/Gentleman painters	Netherlands	<i>Teycken bouck</i>
1712	De Lairesse	Netherlands	Artist	Artist/Amateurs/Gentleman painters	Netherlands	<i>Groot Schilderboek</i>
1743	Chomel	France	Cleric, lexicographer	General Audience	Netherlands	<i>Huishoudelijk woordenboek</i>
1747	Pictorius	Germany	Unknown	General audience	Netherlands	<i>Den Geheinen Illumineer-Konst</i>
1777	Anonymous	Unknown	Lexicographer	Amateurs/Gentleman painters	Netherlands	<i>Nieuwen Verlichter Bericht Wegens de</i>
1800	Horstok	Netherlands	Artist	Artists/Amateurs/Gentleman painters	Netherlands	<i>Uitvinding</i>
1800	Van Leen	Netherlands	Artist	Amateurs/Gentleman painters	Netherlands	<i>Over Teken- en Schilderkonst</i>

B Non-Dutch European sources providing recipes for preparatory layers, 1600-1800

Date	Author	Geographical origin author	Profession	Intended audience	Geographical origin source	Abbreviated title
1620-44	De Mayerne	England	Physician	Personal use/possibly publication	England	<i>Pictoria, Sculptoria et ...</i>
1623-44	Unknown [prob. de Mayerne]	England	Unknown	Personal use	England	<i>Ms. Sloane 1990</i>
1633	Bate	England	Possibly instrument maker	General Audience	England	<i>Mysteries of Nature and Art</i>
1634	Peacham	England	Schoolmaster & amateur artist	Amateurs/gentleman painters	England	<i>Compleat Gentleman</i>
1635	Lebrun	France	Artist	Personal use	France	<i>Recueil des Essais de Merveilles de la Peinture</i>
1640	Norgate	England	Miniature painter/musician	Artists/Amateurs/Gentleman painters	England	<i>Miniatura</i>
1642	Bisagno	Spain	Cavaliere di Malta	Artists/Amateurs/Gentleman painters	Spain	<i>Trattato</i>
1649	Pacheco	Spain	Artist	Artist/Amateurs/Gentleman painters	Spain	<i>Arte de la Pintura</i>

Table 3 (continued)

Date	Author	Geographical origin author	Profession	Intended audience	Geographical origin source	Abbreviated title
1650-1652	Symonds	Italy/England	Cursor, gentleman	Personal use	Italy/England	<i>Italian notebooks</i>
1653	King	England	Graphic artist	Personal use	England	<i>Secrets of the Noble Arts of Miniatura</i>
1656	Anonymous	Spain	Prob. amateur artist	Personal use	Spain	<i>Tractato</i>
1664	Anonymous	England	Unknown	Personal use	England	<i>The Art of Painting in Oyle</i>
1668	Anonymous	England	Unknown	Amateurs/Gentleman painters	England	<i>Excellency of the Pen and Pencil</i>
1670	Lana	Italy	Jesuit/Physicist	Amateurs/Gentleman painters	Italy	<i>Prodomo overo Saggio di alcune Inventione Nuove Premesso all'Arte</i>
1670	Anonymous	Italy	Artist	Artists/Amateurs/Gentleman painters	Italy	<i>Modo da tener ...</i>
1672	Salmon	England	Medical profession	Artists/Amateurs/Gentleman painters	England	<i>Polygraphice, or the arts of Drawing, Engraving...</i>
1673	De Piles/Du Fresnoy	France	Amateur artist	Artists/Amateurs/Gentleman painters	France	<i>L'Art de Peinture</i>
1676	Félibien	France	Historiographer, friend of Poussin	Artists/Amateurs/Gentleman painters	France	<i>Des Principes de l'Architecture, de la Sculpture, de la Peinture</i>
1677	Beale	England	Artist's Assistant	Personal use	England	<i>Pocket-book</i>
1679	De la Fontaine	France	Mathematician/author	General audience	France	<i>L'Academie de Peinture</i>
1681	Beale	England	Artist's Assistant	Personal use	England	<i>Pocket-book</i>
1684	De Piles	France	Amateur artist	Artists/Amateurs/Gentleman painters	France	<i>Premiers Elémens</i>
1687	Catherinot	France	Avocat du Roi	Artists/Amateurs/Gentleman painters	France	<i>Traité de la Peinture</i>
1688	Stalker & Parker	England	Unknown	Amateurs/Gentleman painters	England	<i>A Treatise on Japanning</i>
1690	Furetière	France	Abbot, lexicographer, lawyer	General audience	France	<i>Dictionnaire Universel</i>
1692	Smith	England	Prob. Amateur Artist	Amateurs/Gentleman painters	England	<i>The Art of Painting</i>
1693	Hidalgo	Spain	Artist	Artists/Amateurs/Gentleman painters	Spain	<i>Principios para Estudiar el Nihilissimo y Real arte de la Pintura</i>
1699	Dupuy du Grez	France	Lawyer, founder Toulouse Art Academy	Artists/Amateurs/Gentleman painters	France	<i>Traité sur la Peinture</i>
1715	Palomino	Spain	Artist	Artists/Amateurs/Gentleman painters	Spain	<i>El Museo Pictórico</i>
1719	Orlandi	Italy	Lexicographer	Gentleman painters/General audience	Italy	<i>Abecadario Pittorico</i>

Table 3 (continued)

Date	Author	Geographical origin author	Profession	Intended audience	Geographical origin source	Abbreviated title
1726	Anonymous	Germany	Unknown	Personal use	Germany	<i>German author in Wilschut manuscript</i>
1728	Chambers	England	Lexicographer	General audience	England	<i>Cyclopaedia</i>
1729	Cröker	Germany	Medical profession	Amateurs/Gentleman painters	Germany	<i>Der Wohl Aufführende Mahler</i>
1730	De la Hire	France	Amateur painter, astronomer, engineer	Artists/Amateurs/Gentleman painters	France	<i>Traité de la Pratique</i>
1735	Barrow	England	Mathematician, lexicographer, naval historian	Amateurs/Gentleman painters/General audience	England	<i>Dictionarium Polygraphicum</i>
1750	Anonymous	Switzerland	Unknown	Personal use	Switzerland	<i>Ms. Hist. Helv. xvii. 233B</i>
1750	Anonymous	Switzerland	Unknown	Personal use	Switzerland	<i>Ms. Hist. Helv. xvii.234</i>
1752	Oudry	France	Artist	Artists/Amateurs/Gentleman painters	France	<i>Discours</i>
1754	Barrow	England	Mathematician, lexicographer, naval historian	General audience	England	<i>Supplement to the Ditionarium Polygraphicum</i>
1755	Orellana	Spain	Lexicographer	Amateurs/Gentleman painters	Spain	<i>Traitado de Barnices y Cholores de Miniatura e de la Pintura</i>
1756	Pernety	France	Monk dedicated to academic work, Lexicographer	Artists/Amateurs/Gentleman painters	France	<i>Dictionnaire Portatif de Peinture</i>
1756	Smith	England	Unknown	Amateurs/Gentleman painters/General audience	England	<i>Laboratory; or, School</i>
1758	Dossie	England	Medical profession (apothecary) and colour maker	Artists/Amateurs/Gentleman painters	England	<i>Handmaid to the Arts</i>
1759	Anonymous	France	Unknown	General audience	France	<i>L'Ecole de la Miniature</i>
1761	Hallen	Germany	History Professor	General audience	Germany	<i>Werkstätte der Heutigen Künste</i>
1767	Chomel	France	Cleric, lexicographer	General audience	France	<i>Dictionnaire Oeconomique</i>
1772	Griselini/Fassadoni	Italy	Lexicographers	General Audience	Italy	<i>Dizionario delle Arti e de' Mestieri</i>
1772	Watin	France	Decorative painter, colour maker	Artists/Amateurs/Gentleman painters	France	<i>L'Art de Faire et Employer</i>
1775	Anonymous	England	Unknown	General Audience	England	<i>Valuable Secrets</i>
1779	Le Pileur d'Apigny	France	Writer, also philosophy	Artists/Amateurs/Gentleman painters/General audience	France	<i>Traité des Couleurs Matérielles</i>
1779	Dutens	France	Tradesman	Amateurs/Gentleman painters	France	<i>Principes Abrégés de Peinture</i>
1781	Pernety	France	Monk dedicated to Academic Work, Lexicographer	General audience	France	<i>Dictionnaire Portatif</i>
1785	Anonymous	England	Unknown	Amateurs/Gentleman painters/General audience	England	<i>The Artist Assistant</i>
1789	Diderot/d'Alembert	France	Lexicographers	General audience	France	<i>Encyclopedie Méthodique</i>

Table 3 (continued)

Date	Author	Geographical origin author	Profession	Intended audience	Geographical origin source	Abbreviated title
1792	Monton	Spain	Unknown	General audience	Spain	<i>Secretos de Artes Liberales</i>
1792	Querfurt	Germany	Artist	Artists/Amateurs/Gentleman painters	Germany	<i>Theoretisch-Praktisches Handbuch</i>
1793	Anonymous	England	Unknown	General audience	England	<i>The Golden Cabinet</i>
1794	Anonymous	Denmark	Unknown	Artists/Amateurs/Gentleman painters	Unknown	<i>Maler- og Førgylder Bog</i>
1795	Anonymous	England	Unknown	Amateurs/Gentleman painters	England	<i>Practical Treatise</i>
1795	Anonymous	Germany	Unknown	Amateurs/Gentleman painters/Trade/General audience	Germany	<i>Praktisches Handbuch für Maler und Lackirer</i>
1798	Stöckel	Germany	Hofschreiner	Artists/Amateurs/Gentleman painters	Germany	<i>Praktisches Handbuch für Küstler, Lackierliebhaber</i>

This recipe collection was established for Stols-Witlox *Historical Recipes*. Collections searched for this investigation include the libraries of the University of Amsterdam, Utrecht University, Delft University of Technology, Leiden University, Groningen University, the libraries of the Rijksmuseum Amsterdam, the Van Gogh Museum, the Stedelijk Museum Amsterdam, the Sikkens Museum Sassenheim, the Reinwardt Academy Amsterdam, the Royal Library The Hague, the Middelburg library, the library of Leeuwarden. Annotated bibliographies used are Bordini, *Materia e Immagine*, Schießl, *Die Deutschsprachige Literatur, Zindel, Güldene Kunstpforte*. For online searches use was made of the aata index, www.worldcat.org, www.books.google.com, www.archive.org, www.gallica.bnf.fr. Searching for recipe books continued until the information saturation point was reached, i.e. the point where this search strategy failed to turn up more new recipes. The concept of information saturation as a sign that sufficient information has been gathered to allow for an analysis of a situation, is frequently used in the social sciences. See for a discussion of the concept, Mason, 'Sample Size and Saturation in PhD Studies Using Qualitative Interviews'. Research on the survival chances of books by Bos and by Van Delft, quoted in Rasterhoff, 'Carrière en Concurrentie', 163-165, demonstrates that there is a 85 and 90 percent survival rate of Dutch books included in the Dutch Short Title Catalogue Netherlands (stcn), containing all titles from the invention of printing to 1800. This number gives a rough indication of the chances that titles have survived and become part of Dutch public libraries.

Table 4 Comparative overview of recipes for canvas grounds with a first layer of 'brown-red' based on Félibien's 1676 recipe

Source, date, page	Sizing description	First ground layer	Second ground layer	Mention of Titian/Veronese
Félibien 1676: 407-408	une couche d'eau de colle, & après on passe par dessus une pierre de ponce pour en oster les noeuds. L'eau de colle sert à coucher tous les petits fils sur la toile, & remplir les petits trous	On l'imprime d'une couleur qui ne fasse point mourir les autres couleur, comme du brun rouge qui est une terre naturelle qui a du corps, & qui subsiste, & avec lequel on mesle quelquefois un peu de blanc de plomb, pour le faire plutost secher. Cette imprimure se fait après que la couleur est broyée avec de l'huile de noix, ou de lin; & pour la coucher la moins epaisse que l'on peut, on prend un grand couteau propre pour cela. on l'imprime d'une couleur simple, comme du rouge brun, qui n'offence pas les autres couleurs, qui a du corps & qui subsiste: On y mêle le plus souvent du blanc de plomb pour le faire plutôt seicher: Ou pour mieux faire on y ajoute un peu de blanc d'Espagne. après que le rouge brun & la craie ont été bien broyez avec l'huile du lin, ou de noix, on l'étend sur la toile avec une maniere du truelle ou couteau fait à cet usage. Mais on la couche le moins épaisse que l'on peut	puis l'on fait, si l'on veut, une seconde imprimure composée de blanc de plomb, & d'un peu de noir de charbon, pour rendre le fond grisâtre, & l'une ou l'autre des deux manieres on met le moins de couleur que l'on peut, afin que la toile ne casse pas si-tost, & que les couleurs qu'on vient ensuite à coucher dessus en peignant, se conservent mieux;	Car quand l'on n'imprimeroit point les toiles, & qu'on peindroit tout d'un coup dessus, les couleurs ne s'en porteroient que mieux, & demeureroient plus belles, L'on voit dans quelques Tableaux de Titien, & Paul Veronese, qu'ils observoient d'en faire l'imprimure à détrempe, sur laquelle ils peignoient ensuite avec des couleurs à huile
Dupuy du Grez 1699 : 243-244	une couche d'eau de cole, qui sert seulement à coucher le poil de la toile, & à remplir les petits trous	On y peut mettre une second imprimure du blanc de plomb & du noir de charbon, pour avoir un fond grisâtre. Mais on y employe si peu de couleur qu'il se peut, de peur qu'elle ne soit cassante, lors qu'on voudra rouler la toile.	Félibien assure que quand on n'imprimeroit point les toiles, & qu'on peindroit tout d'un coup dessus, les couleurs ne s'emporteroient que mieux, & demeureroient plus belles. Il dit aussi qu'il a veu quelques tableaux de Titien & de Paul Veronés, don't l'imprimure est à la détrempe, & qu'ils avoient peint là-dessus ensuite avec de couleurs à huile	
Chambers 1728: 735	Here an addition to original recipe takes place: l'Auteur des remarques sur Dufrénoy* raporte que Rubens peignoit toujours sur des fonds blanc, pour maintenir, à ce qu'il dit, les couleurs fraîches vives & fleuries. a couch or lay of size By means of the size the little threads and hairs are all laid close on the cloth, and the little holes stopp'd up	lay on oker, which is a natural earth, and bears a body; sometimes, mixing with it a little white lead to make it dry the sooner.	After this, they sometimes add a second lay composed of white lead, and a little charcoal black, to render the ground of an ash-colour, observing in each manner to lay on as little colour as possible, that the cloth may not break, and that the colours, when they come to be painted over, may preserve the better.	In some paintings of Titian and Paolo Veronese we find they made their ground with water, and painted over it with oil; which contributed much to the vivacity and freshness of their works: for the water ground, by imbibing the oil of the colours, leaves them the more beautiful; the oil itself taking away a deal of their vivacity.

Table 4 (continued)

Source, date, page	Sizing description	First ground layer	Second ground layer	Mention of Titian/Veronese
De la Hire 1730 : 710	<p>cole de cuir qui doit estre figue. On couche cette cole avec le tranchant d'un grand couteau qui est asses mince ... On pousse un peu la toile par derriere aux endroits où l'on passe le couteau, pour étendre la cole plus également & plus uniment, & on n'y en laisse que le moins qu'on peut.</p>	<p>... avec du brun rouge broyé à huile, & médiocrement épais, dans lequel on met quelque seccatif, qui est pour l'ordinaire un peu de mine rouge bien brisée & bien mêlée avec le brun rouge. On étend cette impression sur la toile avec le couteau comme on a fait la cole, en poussant la toile par derriere de distance en distance à mesure qu'on étend la couleur pour n'y en laisser que fort peu, & seulement autant qu'il faut pour commencer à unir la toile.</p>	<p>Il y a des peintres qui se servent de ces toiles qui n'ont qu'une seule couche... mais comme le grain de la toile paroît toujours beaucoup quand ell n'à qu'une couche, on ne s'en sert ordinairement que dans les grands ouvrages. On donne presque toujours deux autres couches d'impression l'une apres l'autre sur la premiere, & de la meme couleur que les dernieres qu'on a mises sur les planches de bois [page 708-709]. Cette couleur est ordinairement du blanc de plomb ou de ceruse mêlé d'un peu de brun rouge & de noir de charbon, ce qui fait un gris tirant sur le rouge.], en ponçant toujours la precedente quand elle est seche avant que de mettre la suivante. Ces dernieres couches sont d'un gris rougeatre qui convient en general a toutes les couleurs de la peinture, & quand la toile est bien seche ell est alors preparée pour peindre</p>	
Barrow 1735: n.p.	<p>Additions to original recipe: Description of knife for sizing, of holding back of canvas during application Give it a couch or lay of size.... By means of this size, the little, threads and hair are all laid close on the cloth, and the little holes stopp'd up, so that no colour can pass through.</p>	<p>... oker, which is a natural earth, and bears a body; sometimes mixing a little white-lead with it to make it dry the sooner. When it is dry, they go over with the pumice-stone to make it smooth.</p>	<p>... sometimes a second couche is apply'd, compos'd of white-lead, and a little charcoal-black. as little colour as possible, that the cloth may not break, and that the colours when they come to be painted over may be preserv'd the better.</p>	<p>In some of the paintings of Titian and Paolo Veronese we find that they made their ground with water, and painted over it with oil</p>

Table 4 (continued)

Source, date, page	Sizing description	First ground layer	Second ground layer	Mention of Titian/Veronese
Chomel, <i>Huishoudelijk Woordenboek</i> 1743: 948	een lym om 'er de dunnen draadjes te dekken, en de gaatjes te vullen	... effe kleur op leggen die aan de andere kleuren zachtheid byzet. Deze is bruin-rood, daar men loodwit onder doet, om 't eerder te doen drogen. Men moet de verw mengen met lym [probably lym] en noten-olie, die de bekwaaamste, om te schilderen zyn, en men smeert ze met een groot mes, dat daartoe is gemaakt, op dat het niet te dik zy.	Men kan nog een tweede verw 'er over heen leggen, met loodwit en koolzwart om ze graau te maken. Men moet deze verw zo dun leggen als mooglyk is, op dat het doek niet scheure, en de kleuren beter blyven, die men 'er over heen legt.	De kleuren zouden ook nog beter blyven, zo ze over 't maakte doek maar heen gelegd waren.
Barrow 1754: n.p.	layer of size, or paste-water	... lay on an oker, which is a natural earth, and bears a body; sometimes mixing with it a little white lead	... they sometimes add a second layer composed of white lead, and a little little charcoal black ... as little colour as possible; that the cloth may not break, and that the colours ... may preserve the better	In some of the paintings of Titian and Paolo Veronese, we find they made their ground with water, and painted over it with oil
École de la Mignature 1759: 173-174	eau de colle	une couleur simple, & qui ne fasse point mourir les autres couleurs, comme du Brun rouge qui est une terre naturelle qui a du corps, & qui subsiste, & avec lequel on melle quelquefois un peu de blanc de plomb, pour le faire plutôt seicher. Cette imprime se fait après que la couleur est broyée avec de l'huile de noix, ou de lin; & pour la couche la moins épaisse que l'on peut, on prend un grand couteau propre pour cela	composée de blanc de plomb, & d'un peu de noir de charbon, pour rendre le fond grisâtre, & en l'une ou l'autre des deux manieres on met le moins de couleur que l'on peut, afin que la toile ne casse pas sitôt, & que les couleurs qu'on vient ensuite à coucher dessus en peignant, se conservent mieux;	quand l'on n'imprimeroit point les toiles, & qu'on peindrait tout d'un coup dessus, les couleurs ne s'en porteraient que mieux, & demeureraient plus belles. L'on voit dans quelques Tableaux de Titien, & de Paul Veronese, qu'ils observoient d'en faire l'imprime à détrempe, sur laquelle ils peignoient ensuite avec des couleurs à l'huile
Jombert/de Piles 1766: 126-131	colle faite de rognure de gants ou de cuir, qui doit être figée & refroidie	couleur simple & amie des autres couleurs, comme du brun rouge broyé à l'huile, médiocrement épais, dans lequel on met quelque siccatif, qui est pour ordinaire un peu de mine rouge ou de blanc de plomb bien broyé, pour le faire plutôt sécher	Il y a des peintres qui aiment mieux les toiles qui n'ont qu'une seule couche de couleur & qui les préfèrent à celles qui en ont deux, parce qu'elles font moins mourir les couleurs & qu'elles se roulent plus facilement quand on veut les transporter. Cependant comme le grain de la toile paroît toujours beaucoup sur celles qui n'ont qu'une couche, on ne s'en sert guere que pour de grands ouvrages.	de très-fameux peintres. tels que le Titien & Paul Veronese, dans l'idée où ils croient que les imprimures à huile gâtoient toujours les couleurs de leurs tableaux, se sont servis de toiles imprimées de blanc en détrempe, & ils ont peint à huile par dessus

Table 4 (continued)

Source, date, page	Sizing description	First ground layer	Second ground layer	Mention of Titian/Veronese
Chomel 1767: 869	couche d'eau de colle de gants	... quelque couleur simple, qui ne fasse pas mourir les autres couleurs: tel est le brun rouge; avec lequel on peut mêler un peu de blanc de plomb, pour le faire sécher plus promptement.	...deux autres couches d'impression, l'une après l'autre, sur la première, en ponçant toujours la précédente, quand elle est bien sèche, avant que de mettre la suivante. Ces dernières imprimures sont composées de blanc de plomb mêlé de rouge brun, & d'un peu de noir de charbon, pour rendre le fond d'un gris rougeâtre qui convient en général à toutes les couleurs de la peinture : observant d'y mettre le moins de couleur que l'on peut, pour que la toile en soit moins cassante & que les couleurs qu'on vient ensuite à coucher dessus en peignant, se conservent mieux. L'on peut faire encore une seconde impression, avec du blanc de plomb & du noir de charbon, pour rendre le fond grisâtre. Il faut que ces couches soient les plus légères qu'il est possible; afin que la toile ne casse pas, & que les couleurs que l'on y couche ensuite se conservent mieux.	On prétend que si l'on faisoit l'impression seulement en détrempé, les couleurs paroîtroient beaucoup plus vives, parce que cette couche boiroit l'huile qu'on mêle dans les couleurs, & qui ôte beaucoup de leur éclat: mais il y a à craindre qu'elle ne s'écaille. Les couleurs se conserveroient peut-être mieux encore, si elles étoient couchées sur la toile nue; mais il faudroit choisir pour cela une toile extrêmement serrée & unie. In alcune pitture di Tiziano e di Paolo Veronese si trova, ch'eglino faceano il loro fondo con acqua, e vi dipignean sopra a olio
Griselini and Fassadoni 1772: 269-270	mano di colla	...vi si stende sopra dell'ocra, ch'è una terra natural, e che ha corpo, mesciando alle volte con ella un poco di cerussa	... qualche volta vi si aggiugne un secondo strato compost di cerussa, e un poco di nero di carbone .men di colore ch'è possibile, affinché la tela non si rompa, e I colori, quando vi ssaran sopra distesi, e dipinti, si conservino meglio.	

Table 4 (continued)

Source, date, page	Sizing description	First ground layer	Second ground layer	Mention of Titian/Veronese
Watijn 1772: 190-191	colle de gants de moyenne force, qu'on puisse batter en consistance de bouillie	Prenez du brun rouge broyé à l'huile de noix avec de la litharge, & quand la couleur est suffisamment épaisse, remettez votre chassis à plat; étendez dessus la couleur avec un couteau destiné à cet effet	l'on peut encore passer la pierre ponce par-dessus pour la rendre plus unie. 70. Donnez dessus une couche de petit gris, fait avec du blanc de céruse & du noir de charbon très-fin, détrempés à l'huile de noix & huile de lin par moitié, le tout suivant la fantaisie: cette couleur se pose à la brosse fort légèrement. On met le moins de couleur que l'on peut, afin que la toile ne se casse pas sitôt, & que les couleurs qu'on vient ensuite à coucher dessus en peignant se conservent mieux	
Valuable secrets 1775: 133-135	coat of size	Lay on a coat of simple colour, which may not destroy the others; for example, brown-red, which is a natural earth, full of substance, and lasting... if you like, with a little white lead, it will dry the sooner, use nut, or linseed oil... as thin as possible	Then lay another coat of white lead and charcoal black... as little colour as you possible can, to prevent the cloth from cracking, and for the better preservation of the colours ...	Could there be no ground at all ... the colours would appear much more to their advantage, and preserve their brightness much longer.. Paul Veronese, and Titian, who used to impregnate their canvas with water colours only, and paint afterwards in oil over that ground
Nieuwen verlichter 1777: 167	lym van snippelingen van handschoenen of van leer, het gene moet gestolt en verkout. deze lym legt men met de sné van een groot mes het gene dun genoeg is, en men douwt of buygt het een weynig in 't breedten: het mes heeft eenen negt gekregen naer den rugge toe, op dat men met de hand daer men het zelve mede houd, den doek niet en raeké als men'er zig van bedient.	eenig simpel koleur en het gene met de andere koleuren overeenkomt, gelyk als bruyurood in d'olie gewreven, middelbaer dik, in 't welk men eenig droogzel doet, het gene gemeynelyk een weynig rode menie is ofte lood-wit wel gewreven, om beter te doen opdroogen. Het koleur van dezen grond wordt gewreven met noten- ofte met lys-Olie; en om den zelve zoo ligt te leggen als het mogelyk is, men breed hem op den doek met het zelve mes, het gene gedient heeft voor de lym, den doek van achter tegendouwende van plaetse tot plaetse, naer maete dat men het koleur uytbreyd	Daer zyn schilders die liever hebben dat den doek maer eene laege koleur en heeft, ... nogtans aengezien den draed van den doek altyd zeer verschymt op die, de welke maer eenen grond en hebben, men begrypet dien weynig dan voor groote werken. Men legt dan bynaer altyd twee andere grond-laegen op de eerste, d'eene achter d'andere, de naerteste altyd puyemde als zy wel droog is, eer men de volgende legt. deze laetste gronden zyn gemaekt van lood-wit gemengelt met bruyn rood en een weynig kol-zwart, om den grond een roodagtig grysk te geven. het welk generaeelyk overeenkomt met alle de koleuren van de schilderkonst: oplettende van ér zoo	Mention of Titian/Veronese Daer staet te bemerken, dat de koleuren hun veel beter zouden houden, waer 't dat zy op den blooten grond geleyd wierden, en die niet bereyd en is; maer men zoude daer toe eenen extra ordinairen gesloten en effen doek moeten verkiezen. Zelfs waer 't dat men den grond alleeneelyk maekte van water-verve, het is zeker dat de koleuren daer op veel levendiger zouden schynen, om dat die sorte van gronden de olie in zouden drinken, de welke men moet mengen met de koleuren, en die hun een deel van hunnen glans beneemt. ook de vermaerde schilders, gelyk als Titiaan en Paulus Veronesius, in verbedding zynde dat de gronden van olie altyd de koleuren van hunne schilderyen

Table 4 (continued)

Source, date, page	Sizing description	First ground layer	Second ground layer	Mention of Titian/Veronese
Pieur d'Apigny 1779: 69-70	colle Extra information: support reverse of canvas with the hand	Couche d'ochre broyée à l'huile à laquelle on peut ajouter un peu de blanc de plomb, pour faire sécher plus promptement	weynig koleur op te leggen als men kan, op dat den doek niet broos en worde en op dat de koleuren, de welke men daer op komt te leggen, in 't schilderen zig beter houden	Mention of Titian/Veronese bederfden, hebben zig bediend van doek daer eenen witten grond van water-verwe op lag, en zy hebben daer op in d'olie geschildert, het gene oortzaeke geweest heeft dat hunne koleuren zeer levendig en luysterlyk gebleven zyn
Pernety 1781: 8	couche d'eau de colle	... une couleur simple, qui ne fasse point mourir les couleurs, comme du brun rouge. terre naturelle don't la teint ne s'altere point; on y mêle quelquefois un peu de blanc de plomb... couleur broyée à l'huile de noix ou de lin ... coucher la moins épaisse qu'il est possible	... si on veut une seconde impression, composé de blanc de plomb & d'un peu de noir de charbon... fond grisâtre... le moins de couleur qu'il est possible, pour empêcher que la toile ne casse, & pour qu'elle conserve les couleurs don't on la recouvre en peignant.	Car si l'on n'imprimoit point les toiles, & qu'on peignoit dessus après les avoir simplement encollées, les couleurs se conserveroient mieux & n'en seroient que plus belles
<i>Artist assistant</i> 1785 : 93	size, or paste water	Layer of oker... sometimes with a little white lead to make it dry the sooner	Second layer, composed of white lead, and a little charcoal black is sometimes added, to render the ground an ash colour ... in each manner to lay on as little colour as possible	
Diderot & d'Alembert 1789: 145	colle de gants de moyenne force, qu'on puisse batter en consistance de bouillie	Brun-rouge à l'huile de noix, dans laquelle vous mettez de la litharge & détrempez-le à l'huile de noix... de façon qu'il n'en reste que ce qui est empreint dans la toile	Couche de petit-gris, fait avec du blanc de ceruse & du noir de charbon broyé très-fin, & détrempe à l'huile de noix & l'huile de lin, par moitié. ..fort légèrement... le moins qu'on peut, afin que la toile ne se casse pas si-tôt & que les couleurs qu'on vient d'appliquer dessus en poignant se conservent mieux	
Golden cabinet 1793: 112	size, or paste-water	Oker in oil, which may be mixed with white-lead to make it dry the sooner	A second couch is sometimes applied, composed of white lead an a little charcoal-black, to render the ground of an ash colour	

Table 4 (continued)

Source, date, page	Sizing description	First ground layer	Second ground layer	Mention of Titian/Veronese
<i>Maler- og forgylders bog</i> 1794-1795; n.p.	middelmaadig staerk hendskelim, som man har slaget til en belling	5) allfriver man brumrod og selvglied med linolie, og rorer det ind med den. Naar farven er tyk nok, laegger man rammen med laerredet atter plat med paa bordet, og stryger farven paa med en dertil bestemt traekniv. 6) naar farven er paastrøgen, og det overflodige atter er borttaget, lader man rammen torres igen, og derefter kan man endnu engang overguide laerredet med pimpsteen, for at gøre det fuldkommen glat ...Braunroth mit Nußöl und Silberglötte ab, und rühr es mit Oel ein. Wenn die Farbe dick genug ist, so legt man den Rahmen wieder flach auf die Erde, und streicht die Farbe mit einem hiezu bestimmten hölzernen Messer überall gleich darüber.	7) endelig giver man det et graag anstrøg af bleyvidt og kulsort, som er meget fint afrevet og indroret med linolie. Dette gjøres med en flygtig haand, og saa wydt som muligt, at der ikke saa snart skal komme bræk i laerredet, og paa det at den farve, der siden ester skal males derpaa, kan holde sig desbedre.	
<i>Praktisches Handbuch</i> 1795: 84-85	mittelmäßig starken Handschuhleim, den man zu einem Brei schlagen kann	...Braunroth und Silberglätte mit Nußöl ab, und rühret es mit Oehl ein. Wenn die Farbe dick genug ist, so legt man die Leinwand mit dem Rahmen wieder platt nieder, und streichet die Farbe mit einem dazu bestimmten hölzernen Messer auf	Anstrich von Grau, welches mit Bleiweiß und Kohlenschwarz, beides fein zerrieben, und halb mit Nuß- halb mit Leinöl ingerührt wird, gemahlt ist. Diese Farbe wird mit dem Borst-pinsel nur leicht aufgestrichen, und zwar so dünn wie möglich, damit die Leinwand nicht so bald bricht, und die Farben, so man nachher darauf bringt, sich desto besser halten grauen Anstrich von Bleyweiß und Kohlenschwarz, das sehr fein abgerieben, und mit halb Nuß-halb Leinöl ingerührt ist. Man verrichtet dieses mit einer flüchtigen Hand, und so dünne als möglich, damit die Leinwand keine Brüche bekomme, und die nachmahlige Farbe desto besser halte.	
Krünitz 1796, 1812, vol. 76: 623-625	mittelmäßig starken Handschuhleim, den man bis zur gehörigen Dicke oder einem Brei geschlagen hat	...on l'imprime d'une couleur simple, et qui ne fasse point mourir les autres couleurs; comme du brun rouge, qui est une terre naturelle qui a du corps, et qui subsiste, et avec laquelle on mêle quelquefois un peu de blanc de plomb... se broie avec de l'huile de noix ou de lin .. moins épaisse que l'on peut	...si l'on veut, une seconde imprimeure, composée de blanc de plomb et d'un peu de noir de charbon... fond grisâtre ... le moins de couleurs que l'on peut, afin que la toile ne se casse pas sitôt, et que les couleurs qu'on vient ensuite à coucher dessus, en poignant, se conservent mieux ...	
<i>Sécrets</i> 1801: 169	couche d'eau de colle de gants			... car quand l'on n'imprimeroit point les toiles, et qu'on peindroit tout d'un coup dessus, les couleurs ne s'en porteroient que mieux, et demeureroient belles. On voit dans quelques tableaux de Paul Veronèse et du Titien, qu'ils observoient d'en faire l'imprimura à détrempe [1], sur laquelle ils peignoient ensuite [2] avec des couleurs à huile ...

Table 4 (continued)

Source, date, page	Sizing description	First ground layer	Second ground layer	Mention of Titian/Veronese
Stöckel 1825: 181-183	mittelmässig starken Handschuhleim, zum Brei geschlagen	...Braunroth und Silberglötte mit schwach gesottenem Oehlfirmiß ab, und rühret es auch damit ein. Wenn die Farbe dick genug ist, so legt man den Rahmen mit der Leinwand wieder platt auf die Erde, und streicht die Farbe mit einem dazu besimmten hölzernen Messer auf.	einen grauen Anstrich von Bleijweiß und Kohlenschwarz, das sehr fein abgerieben worden und mit Oehlfirmiß eingerührt wird. Man verrichtet dieses mit einer flüchtigen Hand, un so dünne als möglich, damit die Leinwand nicht so geschwind Brüche bekömmt, und die nachmalige Farbe sich desto besser hält. ... une couche de petit gris formé avec du blanc de ceruse et du noir de charbon broyé très-fin et détrempe à l'huile de noix et à l'huile de lin par moitié... fort légèrement... le moins qu'on peut, afin que la toile ne se casse pas sitôt, et que les couleurs qu'on aurait à appliquer ensuite dessus, se conservent mieux	
Riffault 1826: 183-184	colle de gants de moyenne force, battue en consistance de bouillie	...Brun rouge à l'huile de noix, dans laquelle on met de la litharge, on détrempe à l'huile de noix ... étendue et retirée de manière qu'il n'en reste que ce qui est empreint dans la toile	...another coat of white lead and charcoal black... as little colour as possible, to prevent the cloth from cracking, and for the better preservation of the colours to be laid afterwards.	...that if there was not ground laid on the canvass of a picture, previous to painting it, and if painted directly on the bare cloth without any preparation, the colours would appear much more to their advantage, and preserve their brightness much longer... some of the first masters impregnate their canvass with water colours only, and paint afterwards in oil over that ground.
<i>Artist & tradesman's guide</i> 1827: 38-39	...coat of size	... simple colour, which may not destroy the others; for example, brown red, which is a natural earth, full of substance and lasting. If mixed with a little white lead it will dry sooner. In grinding this colour, use nut or linseed oil, and it should be prepared to lay on as thin as possible	...une couche de petit-gris formé avec du blanc de céruse et du noir de charbon broyé très fin et détrempe à l'huile de noix et à l'huile de lin par moitié. Cette couleur se pose à la brosse fort légèrement; on en met le moins qu'on peut, afin que la toile ne se casse pas sitôt, et que les couleurs qu'on aurait à appliquer ensuite dessus se conservent mieux.	
Vergnaud 1831: 137-138	colle de gants de moyenne force, battue en consistance de bouillie	... broyé du brun rouge à l'huile de noix, dans laquelle on met de la litharge broyée impalpable et avec le plus grand soin, on détrempe à l'huile de noix... qu'il n'en reste que ce qui est empreint dans la toile		

³Dupuy du Grez is referring to Roger de Piles, who indeed made this remark in his edition of Dufresnoy's treatise. (De Piles in Dufresnoy 1673: 216)

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