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

Stols-Witlox, M.J.N.

Publication date
2014

Citation for published version (APA):

General rights
It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations
If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: https://uba.uva.nl/en/contact, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.
List of tables and figures in the main text

Unless otherwise stated, figures are prepared by the author. Every effort has been made to identify copyright owners over the images reproduced in this thesis. Any omissions are unintentional and will be gladly rectified.

**Figures**

Cover illustration of both volumes:
- Marie Victoire Lemoine, *The interior of an atelier of a woman painter*, 1796
  - oil on canvas, 116.5 x 88.9 cm
  - Collection: Metropolitan Museum of Art, accession number 57.103
  - Photograph: © Metropolitan Museum of Art, New York

Figure 2.1 Title page. Marshall Smith. *The art of painting according to the theory and practice*, second edition. London: M.S. 1693
  - Image: © Early English Books Online

Figure 2.2a Recipes for preparatory layers that provide a full layer build-up, divided per support
Figure 2.2b Comments in historical sources, grouped according to subject

Figure 2.3a Number of recipes, divided per country
Figure 2.3b Number of sources, divided per country
Figure 2.3c Partial recipes, divided per country

Figure 2.4 Factors to consider in the interpretation of the relevance of historical recipes

Figure 2.5a Sources grouped according to content, 1550-1900
Figure 2.5b Profession/occupation of the authors of the recipe books, 1550-1900

Figure 3.1 Schematic overview of the layer build-up of an easel painting

Figure 4.1 Folio 62v. Cennino Cennini’s ‘Libro dell’arte’. c. 1400.
  - Photograph: © Biblioteca Medicea Laurenziana, Florence. Manuscript available through http://teca.bmlonline.it

Figure 5.1 Folio 377, containing recipes for a ground on canvas (‘Plumuren op doeck’ and ‘t pluumsel’, as well as notes concerning the availability of primed canvas in Amsterdam.
  - Simon Eikelenberg. ‘Aantekeningen’. Manuscript, c. 1679-1704
  - Photograph: © Alkmaar Municipal Archive. Photographed from the collection of historical manuscripts of the Netherlands Cultural Heritage Agency, Amsterdam

368
Figure 5.2 Recipes for panel preparation, 1550-1900

Figure 5.3 Recipes for canvas preparation, 1550-1900

Figure 5.4 Binder categories in panel ground recipes, 1550-1900

Figure 5.5 Binder categories in canvas ground recipes, 1550-1900

Figure 6.1 Title page. Pulsifer, W.H. Notes for a history of the manufacture of white lead and lead oxides. New York: D. van nostrand, 1888. Book digitalized from the collections of the University of California, available through http://www.archive.org

Figure 6.2a Size layer types described in historical recipes for panel preparation, 1550-1900

Figure 6.2b Size layer types described in historical recipes for canvas preparation, 1550-1900

Figure 7.1 Title page. Bouvier, M.P.L. Manuel des jeunes artistes et amateurs en peinture. Paris: F.G. Levrault, 1827 Photographed by the author from the original in the collection of the Van Gogh Museum, Amsterdam.


Figure 7.3 Knife used for the application of size and ground layers. De Mayerne, T.T. Manuscript Sloane 2052, 1620-44: folio 5. Photograph © The British Library, London

Figure 8.1 P.P. Rubens. Portrait of Clara Serena Rubens, c. 1616. Oil on canvas, mounted on panel. 37 x 27 cm. (h x w) Photograph: © Liechtenstein. The Princely Collections, Vaduz–Vienna.

Figure 8.2 Ground colours for panel preparation, 1575-1900 according to NW European recipes

Figure 8.3 Ground colours for canvas preparation, 1600-1900 according to NW European recipes

Figure 8.4 Ground colours for canvas preparation, 1550-1800, according to South European recipes.
Figure 9.1  Page 13. 1897 catalogue of Winsor and Newton. Photograph: © ColArt International Holdings Ltd.

Figure 10.1 Page 194. Technische Mitteilungen, nr. 134, (1891) Photograph: courtesy of the Netherlands Cultural Heritage Agency

Figure 11.1 Set-up for glue boiling

Figure 11.2a Open-weave canvas with three layers of goatskin glue
Figure 11.2b Open-weave canvas with three layers of sheep parchment glue

Figure 11.3 Bulges and dents in canvas, caused by liquid calf (left) and liquid sheep parchment glue (right)

Figure 11.4a Open-weave canvas, sized with one layer of gelled sheep parchment glue. Size covered with a single layer of chalk in goatskin glue.
Figure 11.4b Open-weave canvas, sized with three layers of the same size. Size covered with a single layer of chalk in goatskin glue.

Figure 11.5 Effect of a glue size layer on ground penetration to the reverse side of the canvas

Figure 11.6 Pinhole formation seen from the reverse of a jute canvas covered with a chalk and glue ground layer

Figure 11.7a Vincent van Gogh. Self portrait with straw hat (June 1886) Oil on canvas, 41.5 x 32.5 cm (h x w) Collection of the Van Gogh Museum (Van Gogh Foundation), Amsterdam. Photograph: © Van Gogh Museum (Van Gogh Foundation)
Figure 11.7b Detail from background of Fig. 11.7a, showing pinholes. Location detail: 16 cm up and 1 cm left of the lower right corner. Photograph: © HART Project, De Mayerne Programme

Figure 12.1 Wringing crushed seeds in linen bag to extract starch

Figure 12.2 Extracted starches settling

Figure 12.3 Reconstruction canvas 2

Figure 12.4 Boiling wheat flour paste

Figure 12.5 Applying Zeeuwse Witte wheat flour starch as a size layer

Figure 12.6 Wholemeal flour as a binder for ground layers: bran results in an uneven layer

Figure 12.7 Crack formation in ground layer made with seed starch and pipe clay
Figure 12.8  Halo formation in reconstruction canvas 6, section 3

Figure 12.9  Cross sections of flour paste and starch paste grounds

Figure 13.1  Lead white flakes in a stack-process corrosion pot from the Schoonhoven factory
Archive of Old-Holland Classic Colours, Driebergen, Netherlands.
Photograph: © HART Project, De Mayerne Programme, Amsterdam

Figure 13.2a  Lead white recipes grouped according to function
Figure 13.1b  Lead white recipes grouped according to geographical origin

Figure 13.3  Reaction speed of stack-process lead white with different sources for carbon dioxide

Figure 13.4  Drying pots for lead white. From the collection of the Molenmuseum.
Photograph: © Ineke Houter-Lautenbach, Vereniging De Zaansche Molen, Koog aan de Zaan, Netherlands

Figure 13.5a  Washing treatments in lead white preparation recipes
Figure 13.5b  Washing treatments in recipes for the use of lead white by painters

Figure 13.6  Most frequently used lead white names in recipes from North West Europe, 1400-1900

Figure 13.7  Lead white qualities as provided in the recipes

Figure 14.1  Grinding lead white in demineralized water on a granite slab with a muller.

Figure 14.2  SEM backscattered-electron image of a cross-section from the tile floor in Johannes ermeer’s The art of painting, c. 1666-8
Photograph: © Jaap Boon - JAAP Centre for Art Scientific Studies, Amsterdam and courtesy of the Kunsthistorisches Museum, Vienna

Figure 14.3  Diffractogram with unwashed, water washed and vinegar washed lead white
Diffractogram: © Luc Megens, RCE

Figure 14.4a  SEM-backscattered electron image of stack process lead white ground in water. Paint prepared with poppy oil.
Image: © Luc Megens, RCE
Figure 14.4b  SEM-backscattered electron image of stack process lead white ground in vinegar. Paint prepared with poppy oil.
Image: © Luc Megens, RCE

Figure 14.5  Lead white and chalk with a drop of wine vinegar: gas bubbles have formed
Figure 14.6a False-colour SEM backscattered electron image of paint made with lead white and chalk, water ground. Paint prepared with poppy oil. Image: © Luc Megens, RCE

Figure 14.6b False-colour SEM backscattered electron image of paint made with lead white and chalk, vinegar ground. Paint prepared with poppy oil. Image: © Luc Megens, RCE

Figure 14.7a SEM-backscattered electron image of a cross section from paint made with the most coarse part of the lead white: the deposit after decanting. Paint prepared with poppy oil. SEM-BSE image: © Luc Megens, RCE

Figure 14.7b SEM-backscattered electron image of a cross section from paint made with decanted lead white (first decanting). Paint prepared with poppy oil. SEM-BSE image: © Luc Megens, RCE

Figure 14.8 Diffractogram demonstrating the shift in balance between cerussite and hydrocerussite caused by decanting Diffractogram: © Luc Megens, RCE

Figure 15.1 P.P. Rubens, *The triumph of Rome: the youthful emperor Constantine honouring Rome* (c. 1622-3) Oil on panel, 54 x 69 cm (h x w). Inv. 837, Royal Picture Gallery Mauritshuis, The Hague. Photograph courtesy of the Royal Picture Gallery The Mauritshuis, The Hague.

Figure 15.2 Detail of Figure 15.1 Photograph courtesy of the conservation studio of the Royal Picture Gallery The Mauritshuis, The Hague

Figure 15.3 P.P. Rubens, *The ascent to Calvary. The bearing of the cross* (c. 1634) Oil on panel, 104 x 78 cm (h x w). Inv. 1856, National Gallery of Denmark, Copenhagen Photograph © SMK Photo

Figure 15.4 Detail of Figure 15.3 Photograph © SMK Photo

Figure 15.5 Reconstruction of turpentine oil thinned oil imprimatura

Figure 15.6a Sample from reconstruction of imprimatura with goat’s skin glue, VIS image.

Figure 15.6b Sample in Figure 15.6a, UV Image

Figure 15.7 Air-bubbles in reconstruction of egg white imprimatura
Figure 15.8  Reconstruction of imprimatura bound with lean emulsion of egg and oil

Figure 16.1  Reconstructions of animal glue size layers

Tables

Table 2.1  Book sales catalogue excerpts. Books belonging to artists, that include recipes for or discussions on the topic of preparatory layers

Table 3.1  Historical terminology for preparatory layers in English, Dutch, German, French and Italian historical recipes, c. 1550-1900