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

Stols-Witlox, M.J.N.

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## Appendix 12 Partial recipes for preparatory layers, including South European recipes

In chronological order

<i>source</i>	<i>recipe title</i>	<i>recipe topic</i>	<i>description of support preparation</i>	<i>description sizing layer</i>	<i>ground composition</i>	<i>smoothing</i>	<i>isolation material</i>	<i>material for treating support before painting</i>	<i>type of coating for the reverse</i>
Bnf Ms. Fr640 1580-1600: perso 2	FR	-		[degreasing of ground with ashes and water]					
Borghini 1584: 135	IT	colla di limbellucci		[preparation of glue]					
Bate 1633: 175	UK	-		[use of colours from rinsing jar for ground]					
Lebrun 1635: 770	FR	-		[use of colours from rinsing jar for ground]					
Lebrun 1635: 812	FR	-		[umber in ground makes other colour sink in]					
'Recepten-boeck' 1650-1700: 1	NL	om slecht wit tot een gront		[ground mixture of ceruse, chalk and oil]					
Excellency 1668: 100	UK	-		[scraping canvas before first layer]	with edge of knife scrape cloth				
Excellency 1668: 49	UK	How to prepare your copper		[before applying ground, clean with charcoal/water, rinse with water, rub with rag and chalk, do not touch plate with fingers]	well planisht, rub with burnt charcoal and water, wash off with clean water. When dry, scrape with chalk, rub with clean rag, do not touch with fingers				

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Beale 1677: 56r (transcribed in Talley 1981: 285)	UK	-		[sizing with thin and stiff size: which one best?] [no answer provided]						
Beale 1677: 56v (transcribed in Talley 1981: 286)	UK	-		[ground for canvas]		10 l. white lead, 6 ounces yellow oker, 3 1/4 ounces cullens earth, 2 3/4 ounces ordinary blew black, 1 ounce 5/8 burnt umber, 2 1/8 ounces red oker				
Beale 1681: 52v (transcribed in Talley 1981: 285)	UK	-		[pumicing before ground application]	pumiced					
Wilschut ms. 1701: 27-8	NL	vant pramuren		[colour mixture for priming: ceruse, blue black, brown ochre]		ceruse, blue black, brown ochre				
Wilschut ms. 1701: 27-8	NL	vant pramuren		[colour mixture for priming]		blue black, chalk, white, little brown red and ochre				
Wilschut ms. 1701: [72]	NL	-		[eggshell white good white for white grounds]		eggshell white paste				
Cröker 1729: 77	GE	-		[flour paste preparation for canvas ground]		1 or 2 parts pure water, little rock- or dust-flour, more water and flour				

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Dossie 1758: 202-3	UK	-		[varnish isolation layer over ground to prevent sinking in; may result in delamination]				varnish		
<i>Encyclopedie methodique</i> 1788: 236	FR	Encoillage blanc		[parchment glue/white layer]						
<i>Encyclopedie methodique</i> 1789: 237	FR	Impression		[lead white in oil layer]		ceruse white, oil				
<i>Practical treatise</i> 1795: 94-5	UK	-		[superior ground colour]		light-red, white				
Hodson and Dougall 1805: 244	UK	-		[pigmentation for landscapes]		brown ochre, white, light red				
Sully 1809-71: 020	US/ UK	C.W. Peale's way of preparing canvas	C.W. Peale's way of preparing canvas		isinglass jelly	required colour	flatten with the spatula			
Sully 1809-71: 025	US/ UK	Neagle's ground	Neagle's ground			even coat of paint. While wet, standing position, sift over some fine sand, pumice when dry.	reduce with pumice stone			
Sully 1809-71: 057	US/ UK	-		[2 pounds of lead white required for 42 pieces of paper prepared with thin paste]	thin paste	white lead				

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Sully 1809-71 (recipe date 1848): 134	US/UK	-		[white lead in skimmed milk good absorbent ground, very good to cover former painting.]		white lead, skimmed milk				
Sully 1809-71 (recipe date 1848): 134	US/UK	-		[Fuller's earth in milk for canvas: too dark when oiled over]		fuller's earth, milk				
<i>New family receipt-book</i> 1811:313	UK	621. For the second priming		[second ground layer]		second priming: 100 weight white lead, equal quantity (bulk) Spanish white, grind pretty stiff with linseed oil, when you use it: put in some drying oil and a little oil of turpentine				
<i>Introduzione</i> 1821: 157	IT	Imprimatura		[definition of imprimatura. Recently imprimatura have been made in which a solution of 'gomma elastica' was added.]		solution of 'elastic gum' ('gomma elastica') [as addition to ground]				
'13' 1824-50 (recipe date 1849): 13P015L13	UK	Panel canvass ground tried Dec 1849		ground for canvas and panel		16# white lead grd in oil, 8# dry white lead, 2 pints plaster of Paris, 1 1/2# Grecian, 1 1/2 pints oak varnish				
'13' 1824-50 (recipe date 1850): 13P039L01	UK	Millboard ground used by Gale 1850		millboard ground		80# powdered whiting, 20# grecian powder/levigated fluid from potteries, 20# pumice powder,				

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					6# sour glue, boiled with Aq/5# Scotch glue				
'13' 1824-50: n.p.	UK	Size	stated by Mr Hodge that sulphate of zinc or acetate of lead will prevent decomposition of size	sulphate of zinc, acetate of lead prevent decomposition of size					
'13' 1843-50 (recipe date 1850): 13P029L13	UK	Millboard ground 1850	millboard ground		40 lb whiting, 20# Grecian powder, 20 # pumice powder, mixed with Aq to a stiff paste, 5# glue made into stiff size				
Leuchs 1825: 549	GE	Oele mit harzigen Zusätzen	[If painting with oil with resins, then the ground must be covered with a paint saturated with drying oil or with amber- or copal solution, to prevent absorbing of the ground]				saturated with drying oil or with ambar or copal solution		
Montabert 1829, vol 9: 409	FR	-	[paints with copal oil require a glue ground for adhesion]		glue underlayer				
Montabert 1829, vol 9: 162-3	FR	-	[degreasing support before ground application: garlic or onion]	garlic, onion					
Montabert 1829, vol 9: 137-8	FR	-	[wax coating on the back of unlined canvas]						wax

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Montabert 1829, vol 9: 170	FR	-		[stable mixture: egg white and quicklime]						
Montabert 1829, vol 9: 170	FR	-		[stable mixture: egg white and linseed oil]						
Montabert 1829, vol 9: 164	FR	-		[increase adherence of paint to ground with layer of pumice powder, sprinkled into wet preparatory 'varnish', loose powder removed when dry]		pumice powder dusted over the wet ground				
'A relic of old times P.01' 183?-76: REPO24L03	UK	1st prepd for milbds		millboard ground		1st prepd for Milbds: 6 D handfulls powd whiting, 1D handfull powdered Bath- 1/2D pot of mixtre of size				
'A relic of old times P.01' 183?-76: REPO43L0	UK	Millboards		More .rit. [gritt?] in last two coats tan to the first ones and the returns are used.						
'A relic of old times P.01' 183?-76: REPO43L12	UK	-		fine clear parcht size with camel hair brush over the grd after the face is given to bind it				fine clear parcht size		

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'A relic of old times P.01' 183?-76: REP043L01	UK	Canvass 1st Colouring	.2 quarter flour, [Firkin?] of size, rather more than 3 treacle, too much whiting is injurious. Soap is used with the size in the 1st canvass process			.2 quarter flour, [Firkin?] size, treacle, whiting, soap				
'A relic of old times P.01' 183?-76: REP032L16	UK	Millboards	[6 coats on front, 5 on back, 7 coats on ft, 5 on back, last 2 coats on fronts longways, all single size]			single size				
'A relic of old times P.01' 183?-76: REP029L15	UK	Millboards -	[never use size the least stale for the fronts and use all the bottoms of the mixtures for the backs]							
'A relic of old times P.01' 183?-76: REP037L15	UK	Ross: finishing color before surfacing milboards	Final ground for millboards			finishing color: 1/4D pot single size 4D handfals whiting 1D gritt				
'A relic of old times P.01' 183?-76: REP036L11	UK	Oil grounds	oil ground	rubbed down with pumice		3d worth soft soap (formerly treacle instead of soap) 3d worth bees wax, linseed oil, quarter flour				
'A relic of old times P.01' 183?-76: REP022L01	UK	On Wednesday night	mixture for a ground, purpose not specified			12 3/4 lbs whiting, 6 lbs 7 oz bath powder, size (weak jelly) 3 lbs, dry white lead 14 lbs 2 oz Span B. 3 lbs/oz, grd bath 2 lbs 8 1/2 oz				

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Roberson 1831: last page	UK	-	ground recipe			2 Gall. Lins Oil, turnings/cuttings of Ind Rubber, 1 lb white rosin, 1 lb litharge and copperas				
Bickes 1834: 54	GE	-		[ground preparation always with chalk and glue. Preparation of the chalk/glue mixture.]		Chalk, glue water				
Fernbach 1834: 3-4	GE	-		[flour paste sizing layer is bad, but can be used as reverse protection]						flourpaste
'17' 1834-55: 17P032L10, 17P033L10	UK	Canvass preparing -		[lac in ammonia solution as sizing layer. To remedy possibly brittleness: wax or alkaline soap addition. Lac bleaching to prevent canvas staining]	lac of ammonia					
Field 1835: 214-5	UK	Caoutchouc		[experiment: caoutchouc upon a proper base the best of all grounds for oil painting?]						
Field 1835: 214	UK	Sugar of lead		[sponge grounds with weak solution of sugar of lead to remedy ill-drying grounds]					weak solution of sugar of lead in water	

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Field 1835: 213	UK	Titian's ground		[add drying oil to glue/size. Also bees'-wax, sugar, treacl, albumen have been added]		glue, unidentified pigment				
Ursin and Hummel 1838: 210-13	DK	-		[preparation of amber varnish, copal varnish, both used in ground recipe ]						
Selvatico 1842: 220-1	IT	-		[thin ground with lead white, oil and a little gesso is advised by nearly all academies, but is bad preparation: oil becomes rancid and yellow, transparency increases, varnished picture discolours]		lead white mixed with little gesso, then the imprimatura				
'Om Gath No 01' 1838-44 (recipe date 1843): 01P018L01	UK	Oil panel colour 1843	panel ground			- [1] hot lead/tube broken up in turps thick as paste (1 lb W B litharge, 1/4 lb sugar lead 1/2 lb W copperas grd in oil) 28 lbs Grexn powder, 1 gall oak varnish 1 gall boiled oil [...] colours composed of 2 bladders YELLO 1 [...] Ven red - 1 bt umber using as much as may be required				

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'15' 1843-50: 15P035L01	UK	Canvass priming		[shell lac in water with liqu ammonia instead of size. Idea to use rollers for flattening sized canvas]	shel lac in water & liq ammonia					
'Omnm Gathm No 04' 1844-6 (recipe date 1844): 04P016L04	UK	Panel colour made up Dec 1844		panel ground		1 12# Tub Lead broken in Turps, 10# dry Gecian powder, 1/2 gall quick Anime Varnish 1 # patent dryers finely grd				
'P.09' 1844-93: 9PP016L01	UK	Expts for a substitute for size in prepd canvass.		substitute for glue size	1 3/4 oz Bora refd, 4 oz Orange shellac, 2 pint Aq					
'P 1' 1846-67: P1P450L07	UK	White flat.g for canvas -a very superior-		flatting recipe		3 lbs finely grod artists' white in poppy oil, 4 lbs [ditto] in turp.n				
Hundertpfund 1847: 127-9	GE	-		[preparation of flour paste with pipe clay.]						
'P.2.' 1848-65 (1834?): P2P126AL16	UK	1493A. Another 1st Colour for Canvas priming Dec 23/34.		mixture for first layer for canvas ground		another 1st colour': dry sifted whiting, mixing oil 23 galls, patent dryers strong, pure -				
'P.2.' 1848-65: P2P151AL01	UK	Extra strong patent dryers 1528 for canvas use				sul barytes, sul zinc, sul: lead, powd litharge, grod white lead linseed oil				

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Templeton 1849: 13	UK	-		[prepare ground on canvas before use]		remove greasy deposit from aged canvas with flannel and powdered pumice stone, washed with weak solution of sugar of lead in water, then again powdered pumice must be applied and removed with a brush			pumice stone/piece of flannel, washed with sugar of lead/water, dried, powdered pumice again, removed with brush	
Osborn/ Bouvier 1845: 115-6	US	-		[prepare ground on canvas before use]					rub with pumice stone, wash with water to which may be added a portion of alcohol	
'Varnish book No. 2' 1850-63: V2P376L01	UK	1st Colour Oil Augt 1. 55		[binding medium for first ground layer of canvas ground]		30 galls varnish bottoms, 30 galls raw linseed oil				
'Varnish book No. 2' 1850-63: V2P360L01	UK	1st Colour Oil for Canvass May 16. 1855		[binding medium for first ground layer of canvas ground]		12 galls drying jelly, 10 galls drying oil, 8 galls 1/2 & 1/2 bottoms, red lead				
'Varnish book No. 2' 1850-63: V2P401L01	UK	Boiled Red Hard Dryers (Oct 55)		[siccativ used in 1st color for canvas]		varnish botts, powd litharge, red lead, sugar lead, linseed oil				

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'Varnish book No. 2' 1850-63: V2P196L01	UK	Canvass 1st Colouring	[ground mixture for 1st layer on canvas:]		18 lbs drying jelly A, 27 lbs dry whiting, 18 lbs grod white lead, 2 1/4 lbs red dryers, 2 1/4 lbs strong fine grd white dryers, 9 lbs drying jelly, 3 pints turps				
'Varnish book No. 2' 1850-63: V2P196L01	UK	Drying jelly	[drying oil used in 1st color for canvas]		34 1/2 galls varnish botts, 34 1/2 galls common linseed oil				
'Varnish book No. 2' 1850-63: V2P423L01	UK	First colour for canvass Jan 17. 1856	[ground mixture for 1st layer on canvas]		sieved whiting, first colour oil, boiled red dryers				
'Varnish book No. 2' 1850-63: V2P526L01	UK	First colour for canvass July 1859	[ground mixture for 1st layer on canvas:]		whiting, raw linsd oil, red dryer, 1st colour oil, turps, Wt lead				
'Varnish book No. 2' 1850-63: V2P375L01	UK	First colour for canvass. Made up July 30. 1855	[ground mixture for 1st layer on canvas]		whiting, 19 1/2 galls 1st colour oil, dryers				
'Varnish book No. 2' 1850-63: V2P444L01	UK	First colour for canvass. Oct 28. 1856	[ground mixture for 1st layer on canvas:]		putty, raw oil, B oil foots, raw oil, no dryers, 1st lead colour bottoms				

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'Varnish book No. 2' 1850-63: V2P521L01	UK	First colour oil for canvass July 1859	[drying oil used in 1st color for canvas:]			thick bottoms of Vsh, 20 galls linsd oil, 7 galls (about) of various oil dryers from R P, 14 galls (about) thick black oil which had been used for an oil bath many times, thick as treacle, linsd oil				
'Varnish book No. 2' 1850-63: V2P424L01	UK	First colour oil Jan 12, 1856	drying oil used in 1st color for canvas			thick dirty Vsh bottoms, linseed oil				
'Varnish book No. 2' 1850-63: V2P338L01	UK	Oil for mixing the Canvass 2st Colouring – Dec 21. 54	[drying oil used in 2nd color for canvas]			10 galls dryd jelly, 10 galls of oil				
'Varnish book No. 2' 1850-63: V2P361L01	UK	Pan of 1st Colouring for Canvass May 17.66	[ground mixture for 1st layer on canvas]			7 galls 1st colour oil, whiting, patent dryers				
'Varnish book No. 2' 1850-63: V2P340L01	UK	Pan of 1st Colouring for Canvass priming dec 23. 54	[ground mixture for 1st layer on canvas]			dry sifted whiting, mixing oil 23 galls, patent dryers				
'Varnish book No. 2' 1850-63: V2P334L01	UK	Strong Dryd. Oil	[binding medium for use in ground preparation]			70 galls finest linseed oil, 35 lbs W B Litharge, 35 lbs Red Lead				
'P.09' 1844-93 (recipe date 1854): 9PP014L16	UK	AHN's meguilp	megilp precipe			AHN/s meguilp: 1/2 oz Bees'wax, 1 meg pot turps, 1 meg pot dble mastic vsh				

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'P.2.' 1848-65 (recipe date 1856): P2P126AL01	UK	First Colour for Canvass. Oct 28/56	mixture for first layer for canvas ground			equal parts of putty made with raw linseed oil, & boiled oil foots, bo.t of S[...?] Turner [contains linseed oil & dryers], thinned with mixture of aqual parts raw linseed oil & boiled oil foots. To be kept several months before using. White lead colour bottoms				
'24' 1856-62: 24P006L01	UK	Flower painting on Grecian or Marble Grounds?	[distemper or size layer with marble sifted on, [for painting with powder colours & crayon, not for oil painting].]							
Gullick and Timbs 1859: 217	UK	-	oiled paper			oiled				
Burnet 1861: 3	UK	-	[wash surface with chalk and water to remove grease from ground]						chalk and water	
Redgrave 1866: 592	UK	-	[reverse protection of painted cloth]							painted cloth
Holyoake 1870: 44	UK	-	[historical use of panels with just a little colour (white or reddish) rubbed over]			white or reddish tint				

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'P.04'1834-93 (recipe date 1871): P04P140L01	UK	Mem.o regarding the preparations used by W&N for canvass priming in 1871	[1st colour recipe: 8 galls 1 st color oil, 8 galls raw linsed oil, whiting. Make into putty. Add 4 galls 1st colour oil, 4 galls linseed oil, add 56# patnt dryers. Keep 6-12 months with small quantity of Linsd oil on top. Apply to canvas.]			8 galls 1 st color oil, 8 galls raw linsed oil, whiting. Make into putty. Add 4 galls 1st colour oil, 4 galls linseed oil, add 56# patnt dryers. Keep 6-12 months with small quantity of Linsd oil on top. Apply to canvas.				
'P.04'1834-93 (recipe date 1871): P04P141L13	UK	Mem.o regarding the preparations used by W&N for canvass priming in 1871	[2nd colour for canvass]			64 lbs putty, 80 lb ground white lead (from tub), 2 1/2 lb patent dryers				
'P.04'1834-93 (recipe date 1871): P04P142L01	UK	Mem.o regarding the preparations used by W&N for canvass priming in 1871	[third colouring for canvass:]			168 lb grod white lead, 36 lb putty, 1 1/2# patent dryer, thinned with turpentine				
Dietrich 1871: 20-1	GE	Grundirung auf Holz	[smoothing wood with linseed oil and pumice stone before ground application]	pumice stone, linseed oil						
Sully 1873: 048	US/ UK	-	[knots in wood rubbed with garlic before painting (not trust this expedient)]	garlic						
Blockx 1881: 3-4	BE/ FR	supports	[description of ground, sufficient drying of support]			ceruse, linseed oil				

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Blockx 1881: 25-6	BE/ FR	-	[degreasing canvas and panel grounds before use with water, soap and brush, then water wash]	Soap water, hard brush					
Blockx 1881: 31	BE/ FR	Peinture sur panneaux non préparés	[preparing wooden panel for painting without a ground]	Wash with turpentine essence	thin layer of oil				oil, leadwhite and gum lac
Grace 1881: 86-7, 89	UK	On different methods of preparing canvas	[detailed discussion on properties of different grounds]		size, whitening				
Muckley 1882: 63-4	UK	-	[reverse protection of canvas, which is usually covered with chalk and glue]		whiting, glue size				white lead
Ellis 1883: 146	UK	-	[ground on panel, general description]		white lead				
Ellis 1883: 45	UK	-	[reverse side protection of white paint]						common white paint
Collier 1886: 112	UK	-	[reverse side protection of starch and flake white]						starch, flake white

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Church 1890: 28	UK	-		[reverse side protection]					5% corrosive sublimate (mercuric chloride) in methylated spirit or tannin in methylated spirit. When dry, a layer of white lead ground in starch. These solutions coagulate some of the size in the canvas, the tannin turns it into leather. Corrosive sublimate prevents mildew or mould and prevents attack of animal organisms.
Scott Taylor 1890: 33	UK	-		[reverse side protection of lead white and starch paste (quotes Church)]					white lead, water, starch paste
'P.2.' 1848-65 (recipe date 1891): P2P086AL05	UK	-		[Oil]			20 gallons linseed oil 5123, 2 lbs 8. Manganoleate tied up in 4 separate bags.		
<i>Technische Mitteilungen</i> , nr 112 (1891): 8	GE	-		[rubbing canvas with linen cloth before painting to remove particles from surface]	Rub with linen cloth				
<i>Technische Mitteilungen</i> , nr. 123 (1891): 91-2	GE	Zur Verbesserung der Ölfarbe		[discussion on merits and drawbacks of different types/colours of grounds]			gypsum		

<i>source</i>		<i>recipe title</i>	<i>recipe topic</i>	<i>description of support preparation</i>	<i>description sizing layer</i>	<i>ground composition</i>	<i>smoothing</i>	<i>isolation material</i>	<i>material for treating support before painting</i>	<i>type of coating for the reverse</i>
Standage 1892: 73-4	UK	-		[reverse side protection of zinc white in linseed oil or lead white with a second layer of zinc white]						zinc white/linseed oil or white lead/[unspecified] with a layer of zinc white/[unspecified]
Standage 1892: 78-9	UK	-		[alternatives to lead white]		alternatives to lead white: barium sulphate/zinc oxide, silica, zinc sulphide/oleoresinous medium, drying oil made without alkali or acid				
Vibert 1892: 106-7	UK	-		[casein best preparation for canvas, panel, board]		casein				
Vibert 1892: 107-8	UK	-		[reverse side protection of India rubber/petroleum, wax, resin, gum lac, water-colour fixative]						India rubber/petroleum, wax and resin, gum lac, water-colour fixative
Vibert 1892: 107-8	UK	-		[preparation of casein from white cheese, ammonia and glycerine]						
Vibert 1892: 107-8	UK	paste of casein or cheese		[preparation of casein from cry casein powder, water, ammonia, glycerine]						
Ludwig 1893: 105	GE	Säuberung und Entfettung des Malgrundes		[cleaning ground before painting: scraper, soap water]			sharp shaving knife		weak soap water	

<i>source</i>	<i>recipe title</i>	<i>recipe topic</i>	<i>description of support preparation</i>	<i>description sizing layer</i>	<i>ground composition</i>	<i>smoothing</i>	<i>isolation material</i>	<i>material for treating support before painting</i>	<i>type of coating for the reverse</i>
<i>Technische Mitteilungen</i> , nr 5 (1898): 3	GE Verfahren zur Sicherung des Malgrundes von Oelgemälden auf Leinwand gegen Einflüsse der Atmosphärlin etc. Albert Kreitmayr in München D.R.-P. Nr. 98108*).		[reverse side protection of tin foil pasted on with varnish]						tin foil, lac