Ingredient	Description	Where it Comes	Purpose
Name		from?	
Gum Adraganth	Also called Adraganth and Gum Tragacanth; This gum comes from a small shrub which is abundant in Levant	Levant (Middle	Varnishes
	(Middle East), Candia and Spain. <sup>3</sup>	East), Spain,	
Alkanet	Made from the root of the Anchusa tinctoria, this is a red dye that soluble in alcohols, oils and waxes.	France	Dyes
	Probably this was primarily used by textile dyers but could have had applications in other areas. <sup>4</sup>	Germany	
Alcohol	See Spirit of Wine	NA	NA
Aloes	An extract from a number of different types of aloes. The dried resin can be used as a dye and by processing it with nitric acid. This was not used very often.	West Indies	Dyes
Alum	Potassium aluminium sulphate used in conjunction with other materials to help bring out the colours and to stabilize the colour. This was spelled 'allom' in Parker, G. and Stalker, J. A Treatise of Japanning and Varnishing, <sup>5</sup>	NA	Mordant for dyes
Alkanet root	A red dye that comes from the root of an herb ( <i>Batchia canescens</i> ) Frequently used for food colouring as well as textile dyes. (It is also used by alchemists to 'purify the area of negativity and to attract prosperity")	South of France, The Levant (Middle	Dye
	Alkanet is grown in the south of France and on the shores of the Levant.	East)	

<sup>&</sup>lt;sup>3</sup> There were several sources that were used throughout this document, such as P. Tingry, *A Painters and Varnisher's Guide*, G. Kearsley, London, 1804, . E. Chambers, *Cyclopaedia or an Universal Dictionary of Arts and Sciences*, London, 1781., A. Ure, *A Dictionary of the Arts, Manufacturing and Mines*, London, 1839., J. Barrow, *New and Universal Dictionary of Arts and Sciences*, John Hinton, London, 1754., G. Gregory, *Dictionary of Arts and Sciences, In two Volumes*, Richard Phillips, London, 1806., Sheraton, T., *The Cabinet Dictionary*, W. Smith, London, UK,1803., T. Penn, Decorative and Protective Finishes: 1750-1850 Materials, Process and Craft, *Bulletin of the Association for Preservation Technology*, Vol 16, No 1, 1984, pp. 3-46, as well as on line sources such as the Encyclopedia Britanica and Wikipedia which were used to verify some pieces of information such as the locations of re-named countries or the Latin names of some plants.

<sup>&</sup>lt;sup>4</sup> This ingredient was found in T. Penn, 1984, Decorative and Protective Finishes: 1750-1850 Materials, Process and Craft, *Bulletin of the Association for Preservation Technology*, Vol 16, No 1, PP 4 however it was not found in any of the recipe books on the subject.

<sup>&</sup>lt;sup>5</sup> G. Parker and J. Stalker, *A Treatise of Japanning and Varnishing*, Alex Tiranti Limited, Reading, OX, UK, 1998.

Ingredient Name	Description	Where it Comes from?	Purpose
Amber	Generally known as yellow amber or Karabe or yellow amber, it is most similar to Copal in nature. It is a fossil resin of some type of vegetable origin comes from mines in Prussia, Ancona, Sicily, Saxony, Poland, Sweden and France (Thought to come from the <i>Pinus succinifer</i> which is a prehistoric conifer.). It is found both white and opaque. Sometimes it is exceedingly transparent and of a pale yellow colour other times it is a dark golden colour. It is used to make jewellery and other trinkets, but also in varnishes.	Much of Europe but historically, most came from Russia.	Varnishes
Ammonia	When used as a chemical stain, ammonia can be 'applied' by fuming or in liquid form to produce a range of brown tones. To do this one can fume the wood by placing it in airtight area with an open container of Ammonia. Wood will change within 24 hours. Another way is to apply with a brush or sponge, spread it evenly across the entire surface. Let it dry between applications. It can be re-applied until the desired colour is produced.  Ammonia reacts with the Tannin in the wood, by itself Ammonia can only work with woods that contain tannin – e.g. Oak, walnut and mahogany. If the wood has a low Tannin content, Tannic Acid can be applied (Brush on the tannic acid, then allow it to dry before applying the Ammonia.	NA	Dyes
Gum Anima	There are two different kinds one found in Ethiopia (from the <i>Trachylobium mossam-bicense</i> ) and the other from the Brazil and 'New Spain' (from the <i>Hymenaea courbaril</i> tree). They appear marbled with white, opaque and yellow transparent veins. However according to Tingry this gum comes primarily from the <i>Courbati</i> tree <sup>6</sup> . In A <i>Treatise of Japanning and Varnishing</i> <sup>7</sup> , this is referred to as Gum Aulmae. It further suggests that this should be the "whitest, clearest and most transparent" as possible. It is difficult to use, as it will only dissolve in oil after being heated to a very high temperature. However, it was thought to impart a lustre and durability to varnishes and therefore was a desired ingredient.	Brazil 'New Spain (Mexico and Western US)	Varnishes
Annatto (Seeds)	A reddish dye used for colouring foodstuffs, textiles, and wood. This seed (From the <i>Bixa orellana</i> ), Annatto is commonly found in Latin America and Caribbean cuisines as both a coloring agent and for flavoring. This spirit stain makes reddish yellow or brown stain crushing the seeds in a mortar with pestle and to soak them in alcohol makes it.	Central and South America and the Caribbean	Dyes
Aquafortis	This is a solution of nitric acid (HNO <sub>3</sub> ). It was used in alchemy as a solvent for dissolving most other metals	NA	Dyes

<sup>&</sup>lt;sup>6</sup> P. Tingry, A Painters and Varnisher's Guide, G. p. 21.

<sup>&</sup>lt;sup>7</sup> G. Parker and J. Stalker, A Treatise of Japanning and Varnishing, p. 3.

Ingredient Name	Description	Where it Comes from?	Purpose
	with notable exceptions of gold and platinum that can only be dissolved using aqua regia.		
Aqua regia or aqua regis	(Latin for royal water or king's water) is a highly corrosive, fuming yellow or red solution, also called nitro-hydrochloric acid. The mixture is formed by freshly mixing concentrated nitric acid and concentrated hydrochloric acid, (usually in a volumetric ratio of 1:3 respectively.)	NA	Dyes
Gum Arabic	Also known as Gum Acacia, <i>Chaar gund</i> , <i>Char goond</i> , <i>Acacia enegal</i> or <i>meska</i> . This gum is taken from the incision made in the trunk of an acacis tree in the sub Saharan Africa as well as in Oman, Pakistan and parts of India. It is usually yellowish white, but sometimes a dark amber colour brittle and brilliant. It is used to prevent the varnish from penetrating the wood on the item being varnished. The gum is extracted from trees throughout the Sahel from Central Africa, the Sudan, to Somalia; historically it has come from the middle east and West Asia. <i>A Treatise of Japanning and Varnishing</i> <sup>8</sup> suggest getting gum that is transparent.	Africa Pakistan/India	Varnishes
Armoniak, Bole	Mentioned in <i>A Treatise of Japanning and Varnishing</i> <sup>9</sup> and is described as 'fine as red Oker' suggesting that it is the material that goes by one of several names such as <i>Armenian bole</i> , <i>bolus armenus</i> or <i>bole armoniac</i> , this is a highly pigmented (usually) red clay.	Middle East	Filler, a type of paint
Archil	A dye or stain derived from lichen ( <i>rocella</i> ) that grows on rocks on the coast of the Mediterranean, in the Canary and Cape Verde Islands. The colour is an attractive purple colour, but it is not very durable. According to <sup>10</sup> Gregory's Dictionary of Arts and Sciences, it is pounded and then kept moist with stale urine.	Mediterranean	Dyes
Barberry fruit/roots	Berberis vulgaris The roots are used to produce a yellow dye. The fruit is highly acidic and can be used as a mordant in the dyeing process. The fruit is thought to have medicinal purposes. There are varieties that are grown throughout the world. It is considered native to Central and Southern Europe, Northwest Africa and West Asia; but it can also be found in the British isles, America, and New Zealand.	Central and Southern Europe Northwest Africa West Asia	Dyes
Beeswax	Made by bees this is known as a very hard wax that is used in a variety of products including candles, food coatings, modelling and in furniture polish. In addition to being hard, it has a high melting temperature	Multiple Locations	Waxes, Varnishes
Benjamin	This hard brittle gum is a resinous sap similar to badamier. It is also known as Benzoin, gum Benzoin, gum	India	Varnishes

<sup>&</sup>lt;sup>8</sup> G. Parker and J. Stalker, *A Treatise of Japanning and Varnishing*, p. 3,
<sup>9</sup> G. Parker and J. Stalker, *A Treatise of Japanning and Varnishing*, p. 3.
<sup>10</sup> G. Gregory, *Dictionary of Arts and Sciences, In two Volumes,* Richard Phillips, London, 1806.

Ingredient Name	Description	Where it Comes from?	Purpose
	Benjamin, Benzoin resin or styrax resin obtained from the <i>Styrax benzoin</i> or in North america from the <i>Laurus benzoin</i> . It is a red brown aromatic balsamic resin and is used to reduce the brittleness of varnishes. It is thought to have come from India and Sumatra; however there is some confusion in regards to this. This should be a reddish colour. <sup>11</sup> While this ingredient was thought to add some lustre to the varnish, its primary reason for being added was that it 'smelled good'.	Sumatra North America	
Brick Dust	Dust from red clay bricks. Frequently used as a grain filler for reddish coloured woods (in particular mahogany).	NA	Wood grain filler
Brazilwood	Produces both a bright red and a purplish colour. Comes from various tropical trees (genus <i>caesalpinia</i> ) The sawdust of the heartwood is used to produce a colour. It is usually extracted by boiling it in water.	South America (primarily Brazil)	Dyes
Buckthorn Berries	Also called Persian or French berries <sup>12</sup> . Family of plants named "Rhamnaceae'. The berries, if picked before they are ripe will produce a yellow dye. The bark also produces a yellow dye. When ripe and mixed with gum-arabic and lime-water they form a pigment known as "sap-green' or 'bladder green'. Also called Persian berry or Avignon berry, varieties of this plant are located throughout the world including Europe, England, as well as the Americas, Africa and Asia.	Europe England America Africa Asia	Dyes
Burgundy Pitch	This form of spruce pitch comes from France.	France	Waxes
Camphor	A transparent vegetable substance, which readily dissolves in alcohol (rectified spirit of wine). In limited quantities it gives an additional toughness to the varnish formula and it prevents cracking. It is also helpful to better enable the resins to mix together. It is found in wood of the camphor laurel ( <i>Cinnamomum camphora</i> ), a large evergreen tree found in Asia (particularly in Borneo and Taiwan)	Asia	Varnishes
Campeachy	See Logwood.	NA	NA
Caoutchouc	Obtained from the <i>Seringat</i> tree in South America. It resists alcohol and is not soluble in water. It is an elastic resin obtained from the latex sap of trees (especially trees of the genera <i>Hevea</i> and <i>Ficus</i> ) that can be	South America	Varnishes

<sup>&</sup>lt;sup>11</sup> G. Parker and J. Stalker, A Treatise of Japanning and Varnishing, P 4.

<sup>&</sup>lt;sup>12</sup> It should be pointed out that there is some confusion in the literature about these two names and whether or not they referred to the same product. It could be that the Persian berry is from the Rhamnus while the French beris is from the *Rhamnus infectorius* (which is slightly smaller than the former.) T. Penn, Decorative and Protective Finishes: 1750-1850 Materials, Process and Craft

Ingredient	Description	Where it Comes	Purpose
Name		from?	
	vulcanized and finished into a variety of products.		
Carthamus	The flower of a plant ( <i>Carthmus tinctorius</i> ), which can be used to produce two separate colours – Red or Yellow.	Spain Middle East	Dyes
Chio Turpentine	Turpentine that is made from Mediterranean pines.	Mediterranean	Varnishes & solvent
Colophony	A hard resin that comes from the sap of some conifers such as pines, firs, spruce and larch trees. It is the resin that is left after the distillation of the spirits of turpentine has been removed. Sometimes called Colophonium, Arcancon, Bria Sec, and <i>Poix Grecque</i> . This could cause problems as it could remain tacky when dried and was not very durable.	South Eastern US Mediterranean	Varnishes
Cochineal	This red spirit stain is made from the bodies of the cochineal insect ( <i>Coccus cacti</i> ). This dye is soluble in both water and alcohol. This dye was used in Mexico and in Guatemala before the Europeans visited the area. It also comes from India (the Chatechu tree) and from Indonesia and Ceylon (the plant). It is maid by killing the insect in water, placed in a heated oven or laid out in the sun. Later they were made liquid by soaking the dried bodies in water.	Mexico New Spain	Dyes
Copal	Also know as Gum Copal. This material is a resin, which comes from a tree (the Rhus copallinum) in New Spain, East Africa, Central America, and the East Indies. Copal is known to produce a hard transparent substance. Two forms have been mentioned in some texts. First is a hard copal and are fossilized and require intense heat before they can be mixted. The second is a soft copal, which are usually from Brazil and Southeast Asia and are readily soluble in alcohol and Turpentine. In A Treatise of Japanning and Varnishing 13 this is referred to as Gum Capall. Again the rule for selecting the best is to get the "whites, freest from dross and thick dark stuff." Copal had to be heated to a hight temperature to dissolve and it had to be mixed with very hot oil. However it produced a very hard and bright varnish.	South and Central America East Indies. Southeast Asia	Varnishes
Copper Acetate	Copper acetate is occasionally the primary component of verdigris the blue-green substance that forms on copper during long exposures to atmosphere.	NA	Dyes
Copperas	Known by several different names, such as Ferrous sulphate; green vitriol; iron vitriol; copperas; melanterite; and szomolnokite. Ferrous sulfate was used in the manufacture of inks, most notably iron gall ink, which was used from the middle ages until the end of the eighteenth century. It also finds use in wool	NA	Dyes

<sup>&</sup>lt;sup>13</sup> G. Parker and J. Stalker, *A Treatise of Japanning and Varnishing*, p. 4.

Ingredient Name	Description	Where it Comes from?	Purpose
	dyeing as a mordant. Woodworkers have also been known to use ferrous sulfate solutions to color maple wood a silvery hue. Below are some variations of the different types of Copperas.  • Blue: Ferrous Sulphate  Yellow: Zinc Sulphate  • Green: Iron Sulphate		
Copper Sulphate	This chemical stain produces a grey-brown colour when applied to wood. Ammonia applied after the copper sulphate will enhance the effect. Copper Sulphate is called 'bluestone', blue copperas' or 'blue vitriol' in many of the old formulas.	NA	Dyes
Copper Sulphate	Also know as Blue Vitriol or Copper Mordant, it is used as both a mordant and as a dye.	NA	Dyes
Cream of Tartar	Frequently used with other mordents, used as a levelling agent especially with cochineal and madder root.	NA	Mordant for dyes
Cutch	Also called Catechu <b>cachou</b> , <b>cashoo</b> , or <b>Japan earth</b> , this is the brown resin extracted from Acacia trees. Found in Indonesia and in India. The rich browns form a good basis for Logwood Black. Cutch is usually sold as an extract that will dissolve in alcohol.	Indonesia India	Varnishes
Cyprus Turpentine	(See Turpentine)	NA	NA
Dammar	This is another resin from various species of the Damara such as the <i>pinaceous</i> trees or the <i>dipterocarpaceous</i> trees of Southeast Asia, Australia and New Zealand. It is very clear and is soluble in Spirits of Turpentine and partially soluble in alcohol. It was its clarity that made this resin useful, however, by itself it was not very durable. The new Zealand version of this resin is sometimes called Kauri.	Southeast Asia Australia New Zealand	Varnishes
Dog Welk	Also called an Atlantic dogwinkle and the Latin name is <i>Nucella lapillus</i> . It is a type of shell of a sea snail. Used to make a red-purple dye.	Coasts of Europe and North west coast of North America	Dyes
Dragon's blood	This is a bright red to red-brown coloured resin that is obtained from different species of a number of distinct palm trees (such as the <i>Calamus drago</i> ). Over time they have come from a number of different plants and at times, it has been reported the sources are somewhat confusing In the 15 <sup>th</sup> Century it was picked up from the tree <i>Dracaena draco in</i> the Canary Islands and Morocco, later it was found on islands off the African coast and in a type of palm tree in the Indonesian islands. This substance dissolves in alcohol.	Canary Islands Jamaca Morocco South America Indonesian Islands	Dyes

Ingredient Name	Description	Where it Comes from?	Purpose
Dyer's weed	Also known as Green Weed, Green Wood, Woad, Dyer's Woad or Wood-waxen, This term is used for several different plants. Historically this plant has been used to produce a yellow dye (mignonette) It can be found in a variety of areas such as many Mediterranean countries. Canary Islands. Western Asia and Britain.	Mediterranean Canary Islands Western Asia Britain	Dyes
Gallic Acid	A substance found in nutgalls. Probably used toward the end of this period.		Dyes
Gum Elemi	There are different kinds of this gum coming from different species of <i>Canarium</i> . One from Ethiopia which is hard, greenish in colour and the other is from Brazil which is soft glutinous and yellowish in colour. The African variety is preferred for Varnish because of its consistency and colour. Elemi is added to varnishes to counter the brittleness that sometimes occurs. The qualifications for this are that it be white, hard and little or no foreign objects <sup>14</sup> .	Ethiopia (Brazil)	Varnishes
Ferrous Sulphate	Iron – sometimes known as copperas, green vitriol, iron vitriol; copperas, melanterite, and szomolnokite. Copperas was used with nutgalls to produce a black colour or with indigo to produce different shades of blue, and directly on maple to produce a silver colour.	NA	Dyes
French Berries	This is also called Avignon berries and they are the berris of a small buckthorn shrub of the <i>Rhamnus infectoria</i> , which grows along the northern Mediterranean coast. It's colour is brought out by boiling it in water.	Northern Mediterranean	Dyes
Fustic	'Young Fustic' is used to make a yellow dye. It has very high tannin content. The tree comes under a number of different names: Smoke Tree, Wig Tree, Venetian Sumac, and Hungarian Yellow-wood – its Latin name is the <i>Morus tinctoria</i> . This plant is native to a large area from southern Europe, east across central Asia and the Himalaya to northern China. It is produced by boiling the chips of wood in water.  According to Gilbert, this wood is also used as a veneer which is yellow to start but turns a 'dead' brown after exposure to light and air <sup>15</sup>	Southern Europe Northern China West Indies	Dyes
Gallipot	Also called white incense or Barras. This is a resinous substance produced by the pine and silver fir tree. It starts as the soft resin adhering to the bark but it is rectified by the air and sun. The different names denote the levels of quality with the Gallipot being the lowest quality, and 'white incense being the highest, most	Unknown	Varnishes

G. Parker and J. Stalker, A Treatise of Japanning and Varnishing, p. 4.
 C. Gilbert, The Life and Works of Thomas Chippendale, Studio Vista/Christies, London, 1978, p. 128.

#### 1. Terms Related to Making Glues, Dyes, and Varnishes

Ingredient Name	Description	Where it Comes from?	Purpose
	refined quality.		
Gamboge	Gamboge is an alcohol and water-soluble resin used to tint spirit varnishes yellow or to make a yellow spirit stain. It is a yellow resin produced by the <i>garcinia genus</i> trees that grow in India. This is mentioned in Parker and Stalker's <sup>16</sup> book, that one needs to watch out for this being "dirty, thick and full of dross."	India	Varnishes
Glauber's salt	Sodium sulphate – Used as a levelling agent.	NA	Dyes
Gum Guaicum	Also known as Guaiac, Guaiacum and Gum Guaiacum. A resin of a greenish cast derived from the lignum-vitae tree of tropical America.	Central and South America	Varnishes
Gum Guttae	Also called Gambode, Bum Gutta, Gutta Gamba, Gomboge, Bamandra or Peruvian Gum. From much of the kingdom of Siam and China, this resin is removed from the <i>Carcapulli</i> tree. The Resin is imported dray, solid hard opak and inflammable used primarily in watercolours.	South East Asia (Siam) China	Watercolours
Henna	Henna is a water stain that comes as a powder that is mixed with hot water. It is derived from a flowering plant, <i>Lawsonia inermis</i> , and this plant is grown in regions of Africa, southern Asia, and northern Australasia in semi-arid zones	Africa, Southern Asia, Northern Australasia	Dyes
Indigo	The water stain, Indigo, makes a rich blue colour. There are a number of different plants that provide this dye colour such as the genus <i>Indigofera</i> , which are located in temperate climates, indigo can be derived from woad ( <i>Isatis tinctoria</i> ) or dyer's knotweed ( <i>Polygonum tinctorum</i> ) It is thought that the plant, <i>Indigofera</i> species yields more dye. The primary source, historically as been Asia but late it was taken from Central and South America.	East and West Indies	Dyes
Iron Compounds	Again this is a chemical stain, this one produces grey to black colours. It works on gradual bases, with each coat increasing the darkness of the colour. These compounds work with the Tannin so if the wood does not have much, Tannic Acid must be added.  To mahogany, the result is greyish brown; to oak & walnut this formula will turn black, to pine & fir (after a tannic acid wash) this formula will produce a weathered grey.  Dissolve one ounce of Iron Sulphate in water and apply to the wood. Finishers sometimes made iron stains by placing scraps of iron or steal in earthenware with vinegar. These were left in solution for about 1 week – the longer the darker.	(Everywhere)	Dyes
Iron Liquor	Used to produce a grey brown to black colour. Sometimes this is made by soaking rusted iron in water with	(Everywhere)	Dyes

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<sup>&</sup>lt;sup>16</sup> G. Parker and J. Stalker, *A Treatise of Japanning and Varnishing*, p. 4.

Ingredient Name	Description	Where it Comes from?	Purpose
	the addition of acetic acid (vinegar) and tannic acid (nutgalls) this could be used with nut gal to produce the black.		
Isinglass	A type of fish glue or ichthyocolla is from the air bladder of a sturgeon from the Black Sea. Can be used to give a lustre and stiffness to ribbons and gauzes such as varnish. According to A Treatise of Japanning and Varnishing 17, this should be clear and white "Freest from yellowness".	Black Sea Area	Glues
Kermes	Another red spirit stain made from the dried bodies of another small insect (the <i>Coccus iliets</i> ). These insects were found on the twigs of the prickly oak. It was only the pregnant female that was used. Exposing them to vinegar fumes killed them; they were then dried and soaked in water to obtain the dye. This dye was used in Ancient Egypt.	North Africa	Dyes
Gum Lac	This is actually not a gum, instead it is a deposit left by a type of flying ant ( <i>Coccus lacca</i> or lac insect) found in Pegu and Siam. This has become one of the most important sprit based varnish resins.	India Siam	Varnishes
Linseed Oil	Flaxseed oil which is taken from the flax plant ( <i>Linum usitatissimum</i> , <i>Linaceae</i> ). This oil is classified as a 'drying oil' since it dries to a hard consistency. One problem with this oil is that it has a natural brown colour and it adds this colour to varnishes and to paints. As a result, it had to be bleached. One recipe was to add two ounces of litharge to a gallon of raw linseed oil and let it sit for 14 days (shaking it vigorously every day.)	NA	Mixing with varnishes and as a finish by itself.
Logwood	Logwood is a powdered extract from campeachy wood ( <i>Haematoxylum campechianum</i> ) is made which is mixed with warm water and a mordant to make a stain. Depending on the mordant, Logwood will make colours ranging from yellow to olive to brown to black. The colour is extracted by boiling the dust in water then evaporating the solution to concentrate it.	Tropical Indian Central America	Dyes
Madder	The Madder plant and its extract are water stains. The source of madder is from the roots of different types of <i>Rubia tinctorium</i> . It takes three years for the plant to mature enough for the roots to provide this orange red colour. To make this dye from the plant, one first breaks the roots into small pieces and boil them in water. This is then dried and turned into a powder. It is used by mixing it with either alcohol or water; Alum is frequently used as the mordant.	Holland Southern Europe India	Dyes
Mastic or	Also called Gum Mastic Resin obtained from the small mastic tree <i>Pistacia lentiscus</i> . When the bark of the	Greece (Chios)	Varnishes and
Mastik	tree is injured, the resin exudes in drops. It is transparent and pale yellow to green in colour. It also adds	Mediterranean	Glues

<sup>&</sup>lt;sup>17</sup> G. Parker and J. Stalker, *A Treatise of Japanning and Varnishing*, p. 4.

Ingredient Name	Description	Where it Comes from?	Purpose
	elasticity to varnishes and it is also used to add a lustre. It is soluable in Turpentine and partially soluable in Alcohol. While the plant that produces Mastic is native throughout the Mediterranean region, from Morocco and France to Iraq and Iran, it is associated with the Greek island of Chios. This material is mixed with varnishes, and glues, or used as a varnish itself.		
Matrass	A glass vessel with a round or oval body and a long narrow neck, used in chemistry as a digester or distiller.	NA	Mixing products
Mutiatic Acid	Mutiatic Acid is a chemical stain that turns woods with high Tannin content greyish brown. Those with low tannin content turn grey. This is the industrial form of hydrochloric acid; it is highly corrosive and can cause serious injury if improperly used.	NA	Dyes
Nitric Acid	Nitric Acid is a chemical stain that produces a yellow colour that ranges from reddish to brownish. Called 'aquafortis' in some old formulas	NA	Dyes
Nutgalls	Nutgalls are growth on plants in reaction to certain insects. High in Tannin and used to make Gallic acid. Coarsely powdered galls are boiled for ½ hour with 4 parts diluted Sulphuric Acid and then strained through a cloth while hot. Crystals are deposited when cool then they are treated with animal charcoal and repeatedly crystallized. The extracts from Nutgalls are frequently mixed with other ingredients to produce different colours.	NA	Dyes
Nut Oils	Oils made from various kinds of nuts such as walnut and poppy seed oil.	NA	Varnishes and oil finishes.
Oak apple	Another name for an Oak Gall, which is found on the leaves of oak trees. Different insects that lay their eggs on the base of a leaf bud cause these. The tree forming a protective structure around the eggs forms the gall.	NA	Dyes
Oil of Lavender (oil of Aspect)	An extract of the tops of lavender plants.	Mediterranean	Varnishes and oil finishes
Oil of Spike	Another type of distillation from the Lavender plant, but thought of as a lower quality than the distillation of the Oil of Lavender.	Mediterranean	Varnishes
Oil of Turpentine	A product usually made from the Turpentine of Strasburgh or Alsace that has been mixed with water and distilled to produce an oil.	NA	Varnishes
Oil of Vitriol	Sulfuric acid was known by a number of different names such as oil of vitriol, spirit of vitriol, or simply vitriol, among others.	NA	Dye

Ingredient Name	Description	Where it Comes from?	Purpose
Pearl ash	Made from wood ash, an impure carbonate of potash which is obtained by "claiming potashes up a reverberating hearth'. This was later replaced in cooking by potassium bicarbonate then by bicarbonate of soda.	NA	
Phial	A small glass bottle used for ointments, medicines, and perfumes.	NA	To mix glues, varnishes and dyes
Poppy Seed Oil	Also called the oil of pinks this was made by squeezing the seeds of a poppy plant ( <i>Papaver somniferum</i> ), in a press. It, like Linseed Oil could be treated with a drier and it would dry to a hard surface.	Middle and Far East via France and Germany	Varnishes
Potassium Carbonate (Potash)	This is another chemical stain. When mixed with water and applied to the wood, Potash produces a brown tone similar to the one produced by Ammonia.	NA	Dyes
Potassium Dichromate (Bichromate of Potash)	This chemical stain is similar to Potassium Permanganate in effect but the colour tends to be more yellowish. For a yellowish brown on Oak, mahogany, cherry, walnut and chestnut do the following: Mix 1 oz of Potassium Dichromate in 1 qt of hot water (130 degrees Fahrenheit) Apply to wood and let dry. Apply more if a darker colour is desired. After reaching your goal, wash the wood with water then vinegar. The formula given was used in France to treat Cuban mahogany during the Empire Period. It produces warm browns in woods with high Tannin content.	NA	Dyes
Potassium Dichromate	Frequently called Potash, Usually brings out the brown or greenish shades of a dye.	NA	Dyes
Potassium Hydroxide	This is also a chemical stain. This one produces a darker brown colour than Ammonia or Potash. As with Potash it is mixed with water before applying it to wood. Also like Ammonia, woods with low Tannin should be coated with Tannic Acid. It makes a honey pine on birch, maple, pine, & fir.	NA	Dyes
Potassium Permanganate (Permanganate of Potash)	This chemical stain produces a wide range of brown tones to high Tannin woods or woods that have been washed with Tannic Acid. For a medium brown colour dissolve ½ ounce of crystals into one quart of water. The colour change will begin as a purplish shade, and then it turns brown as it dries.	NA	Dyes
Pyroligneous acid	An acid that is obtained by the dry distillation of wood. It developed out of the process of charcoal burning by which the burning of wood in an airless condition so that is reduced to charcoal rather than carbon	NA	Dyes

Ingredient Name	Description	Where it Comes from?	Purpose
	dioxide, water vapour and ash. The principal constituent of the acid is acetic acid. Used in the dyeing of cloth. Acetic Acid can also be obtained from malt vinegar.		
Querctron Bark	The bark from a tree growing in North America is used to produce a yellow stain. 18	North America	Dyes
Red or yellow oxide of iron	Red or yellow oxide of iron is used as both a colouring agent and as a mordant. There are two ways in which these come: as sulphate of iron or copperas which is dissolved in water or as acetate of iron which is prepared by dissolving the oxide in vinegar, sour beer or pyroligneous acid.	NA	Dyes
Rocou	Like Saffron, this is a plant extract that is normally used as an ingredient in food. Again, it is used as both a flavouring and colouring agent. As it is used to colour varnishes and to produce yellow dyes.	Caribbean Central and South America	Dyes Varnishes
Rosine	Like the term 'White Rosine' (discussed later) this is not clearly defined in the book by Parker and Starker <sup>19</sup> only that it be clear and transparent.	Unknown	Varnishes
Saffron	This yellow dye comes from the <i>Crocus sativus</i> . One can mix it in either alcohol or water.	Europe	Dyes or tints for varnishes
Sal armonac	Sal Ammoniac is Ammonium Chloride, which is a water-soluble crystalline salt of ammonia. It is frequently used to create rust and to seal small cracks in metal.	NA	Mixed with dyes as a mordant.
Sandarac or	A resin obtained from the small coniferous tree know as either Tetraclinis articulata or Callitris quadrivalvis,	Italy	Varnishes and
Sandrac	a type of Juniper native to the northwest of Africa, and especially characteristic of the Atlas mountains. It	Spain	Glues
	also grows in other warm countries (such as Italy and Spain). The resin, which is procured as a natural exudation on the stems, and also obtained by making incisions in the bark of the trees, comes into	North West Africa	
	commerce in the form of small round balls or elongated tears, transparent, and having a delicate yellow		
	tinge. It is a little harder than mastic, for which it is sometimes substituted but it is still too soft to be used		
	by itself as a varnish. It is soluble in alcohol. It produces a clear varnish but it is soft and needs to be mixed with gum elemi or gum amina. Other names that this is referred to as include Gum Sandarac and Vernix.		
	According to A Treatise of Japanning and Varnishing <sup>20</sup> , this should be free from impurities (dust and dirt)		

<sup>&</sup>lt;sup>18</sup> This was listed in G. Gregory, *Dictionary of Arts and Sciences, in two Volumes*, however no other reference to this bark has been located. <sup>19</sup> G. Parker and J. Stalker, A *Treatise of Japanning and Varnishing*, p. 4.

<sup>&</sup>lt;sup>20</sup> G. Parker and J. Stalker, A *Treatise of Japanning and Varnishing*, p. 3.

Ingredient Name	Description	Where it Comes from?	Purpose
	and be as white as possible (not yellow.). used for making a clear varnish or sometimes as an additional ingredients in glues.		
Sandalwood	This spirit stain comes from the Sandalwood tree; while it dissolves in alcohol, it also can be water soluble. The dye produced can be red or yellow. Sandalwood can be used as a water-soluble dye.	India	Dyes
Saffron	This us a yellow red coloured substance that is usually used as a cooking spice, however it is also used in varnishes and in dyes.	Middle East (Iran) India Mediterranean (Europe and Africa)	Dyes Varnishes
Sap green	A kind of olive green colour taken from the ripe Buckthorn berry.	Europe England America Africa Asia	Dyes
Sarcocolla	A gum resin obtained from certain small shrubs growing at the Cape of Good Hope, in Ethiopia, Arabia, etc. Sarcocolla occurs in the form of small, roundish, irregular grains (Penaea Sarcocolla L. (now P. fulcata L.), and P. mucronata L. (Fam. Penaeaceae)).	Ethiopia Middle East	Varnishes
Shell Lac	Partially processed Shellac. After the dirt (leaves, stems, etc) has been removed and it has been melted and poured out on a marble slab. Also called Gum Lac. According to A <i>Treatise of Japanning and Varnishing</i> <sup>21</sup> , the best is "large grained, bright, and clear, freest from dust, sticks and dross."	India Siam	Varnish
Sodium Hydroxide Lye or Caustic Soda	This is a Lye (a chemical stain) that produces a brown tone similar to Potash and Potassium Hydroxide.	NA	Dye
Spirit of Wine	Ethyl alcohol. According to A Treatise of Japanning and Varnishing <sup>22</sup> , this must be 'strong' and warns of spirits that have been mixed with water or improperly made.	This is pretty much available in most areas. Different types and qualities come from different	Solvent for dyes and varnishes (England and France)

<sup>&</sup>lt;sup>21</sup> G. Parker and J. Stalker, *A Treatise of Japanning and Varnishing*, p. 3.

Ingredient Name	Description	Where it Comes from?	Purpose
		areas.	
Sulphuric Acid	When applied full strength to pine this chemical stain produces a green colour, when diluted it will produce a weathered grey effect. On woods containing Tannin, it produces a yellow colour when diluted and a deep brown when used full-strength. Called 'oil of vitriol' (full strength) or 'sour water' (diluted) in old formulas.	NA	Dyes
Tannic Acid	This is a chemical stain, which produces a light brown colour on birch, maple, pine, and fir. It naturally occurs in large quantities in some woods (most notably oak) causing the wood to react to certain chemicals (e.g. Ammonia causes oak to turn dark brown.). In the case where the wood does not contain much tannin, mix 3 teaspoons of Tannic Acid powder with 8 ounces of water. Apply the solution and let it dry before applying other chemicals.	NA	Dyes
Tin Chloride	This mordant is also known as Stannous chloride it brightens colours especially reds, oranges and yellows.	NA	Mordant for dyes
Gum Tragacanth	This gum is taken from different types of <i>Astragalus</i> in the countries along the eastern part of the Mediterranean.	Eastern Mediterranean	Varnishes
Turmeric	This is another yellow dye; this one is extracted from the roots of two different but related plants: the <i>Curcuma longa</i> and the <i>Curcuma rotunda</i> . Tumeric can be mixed in water nd alcohol, but alcohol usually produces a better colour.	East Indies	Dyes and to tint varnishes
Turpentine	There are different names associated with turpentine in the 18 <sup>th</sup> century literature. Of the highest quality is that of Turpentine of Chio or Cyprus turpentine, which is followed by Venice Turpentine (note some texts suggest that these two were essential different names for the same product), then came varieties that were made in Germany or Strasburge and the reportedly lower quality product called French or Common Turpentine. The Chio was described as being transported from the Middle East or the Mediterranean and was thicker than other varieties. It was not used the most because of its costs. Venice Turpentine comes from Northern Italy (from Larch trees). This was probably the most frequently used variety Strasburgh or Alsace comes form (German) fir trees. This variety was thought to have been the best for making Varnishes. The last is the so-called French or Common turpentine, is produced from wild pines (pinus) in Southern France and Switzerland and is thought to be bad for varnishes.	This is pretty much available in most areas. Different types and qualities come from different areas.	Varnishes

<sup>&</sup>lt;sup>22</sup> G. Parker and J. Stalker, *A Treatise of Japanning and Varnishing*, p. 2.

Ingredient Name	Description	Where it Comes from?	Purpose
	It is the distilled resin of several different kinds of trees, but predominately Pine trees.		
Tripoli	A type of polishing compound made from a powdered stone (limestone). Also known as Rottenstone. Like Pumice, it is mixed with oil and rubbed on varnished surfaces to produce a glossier surface.	NA	Polishing compound or grain filler
Verdigrise	Also known as Acetate of copper. This is a kind of rust usually prepared from copper, by corroding it with vinegar. It is used for striking a black colour, when combined with a decoction of logwood	NA	Dyes
Vermilion	This is an orange-red pigment. Chemically this is mercuric sulfide, traditionally it is found in cinnabar. It is used as a dye and as a colouring agent in varnishes.	Multiple locations including: North America, China, Spain, Middle East	Dyes, Varnishes
Walnut Crystals	Water stain – The dried Walnut Crystal powder is mixed with warm water to create the dye.	Europe	Dyes
Walnut Husks	This water stain is made from the cut or crushed husks of walnut shells into small pieces and soaks the pieces in water to create dye liquor. Most recipes say 3 days. Then boil the husks for an hour or two and remove from the head and soak them overnight.  Strain any solids that are left in the mixture.	Europe	Dyes
Walnut Oil	Another drying oil that was extracted by squeezing the pulpy part of the walnut. One advantage to walnut oil is that it could dry fairly rapidly without the use of any added driers. It was also very clear which made it better than even Linseed oil for creating clear varnishes. The problem was that Walnut oil was hard to come by and therefore probably expensive.	Europe	Dyes
Weld	The leaves and seeds from the weld plant ( <i>reseda luteola</i> ) are used to produces a yellow water stain or dye. This plant is harvested in the Mediterranean Sea.	Mediterranean	Dyes
White oxide of tin	White Oxide of tin is either dissolved in nitro-muriatic acid, in acetous acid or in a mixture of sulphuric and muriatic acid. The most common use of tin is with mitro-muriate of tin, which is prepared by dissolving tin in dilute nitric acid, to which sal ammoniac is added. When used it is dissolved in a large quantity of water with tartar.	NA	Dyes

Appendix B: Technical Notes and Definitions/Translations					
1. Terms	Related to Making Glues, Dyes, and Varnishes				
Ingredient	Description	Where it Comes	Purpose		
Name		from?			
White Rosin	Mentioned in <i>A Treatise of Japanning and Varnishing</i> , <sup>23</sup> this is probably standard rosin or colophony however it is not specifically identified as such. Parker and Starker do specify that it be "white and clear."	Unknown	Varnishes		
Woad	A plant that is cultivated in England and much of Europe, which is used for making a blue dye. The leaves are fermented, dried out, re-fermented, and then rinsed in limewater (See Dyer's Weed).	Europe	Dyes		
Yellowwood	Spirit stain – Yellowwood is an alcohol soluble to make a yellow dye or to put a yellow tent in varnishes.  A tree in the <i>Caldrastic Lutea</i> family	North America	Dyes		

<sup>&</sup>lt;sup>23</sup> G. Parker and J. Stalker, *A Treatise of Japanning and Varnishing*, p. 3.

2. Units of	Measurements	
Measure	Definition /Equivalence	Use (Country)
Weights (Dry	Ingredients)	
Once	The French equivalent to the English ounce. Approximately 30.59 grams.	
Drachm or dram	• A unit of apothecary weight equal to an eighth of an ounce or to 60 grains also is equivalent to 60 grains, or 3 scruples.	(England)
Gros	• 1/8 th of an once or approximately 3.824 grams.	(France)
Denier	• 1/24 of an once or approximately 1.275 grams	(France)
grain	• 1/60 dram; equals an avoirdupois grain or 64.799 milligrams.	(England)
Grain	• 1/576 once or 53.11 milligrams	(France)
scruples	• A weight of twenty grains; the third part of a dram; Hence, a very small quantity; a particle.	(England)
Liquid Measui	res English	
Fluid ounce	• 8 drams - so a "wee dram" is truly small about a teaspoon	English
Pint	• 4 gills = 20 fluid ounces	English
Quart	• 2 pints	English
Gallon	• 4 quarts = 8 pints = 4.546 litres	English
Peck	• 2 gallons	English
Bushel	• 4 pecks = 8 gallons	English
Liquid Measui	res French	
Roquille	Approximately 29.75 ml	French
Posson	Approximately 119 ml	French
Demiard	• Approximately 238 ml or ½ pint	French
Chopine	Approximately 476.1 ml or 1 pint	French
Pinte	Approximately 952.1 ml or 2.01 pint	French
Quade	• Approximately 1.904 liter or ½ gallon	French

Appendix B: Technical Notes and Definitions/Translations					
2. Units of Measurements					
Measure	Definition /Equivalence	Use (Country)			
Distance					
Point	• In England this is called the <i>Truche point</i> , it is equivalent to approximately .188 mm.	French with English equivalent			
Ligne	• In England this unit of measure is called a <i>line</i> . It is approximately equal to 2.256 mm	French with English equivalent			
Pounce	• This corresponds to what was known in England at the time as an <i>inch</i> . This unite is equal to about 27.07 mm and about 1.066 to the current English inch.	French with English equivalent			
Pied du roi or Pied	• This was close to what the people in England called a <i>foot</i> . The Pied is equivalent to 32.48 cm or 1.066 foot.	French with English equivalent			
Toise	• This aligns up to the traditional English measurement of the fathom. It is equal to approximately 1.949 meter or 6.394 feet.	French with English equivalent			

Appendix B: Technical Notes and Definitions/Translations					
2. Units of I	Measurements				
Measure	Definition /Equivalence		Country		
Financial Meas	ures				
English Monetary Instruments	<ul> <li>1 pound = 20 shillings(s)</li> <li>1 Crown = 5 shillings (s)</li> <li>1 shilling (s) = 12 pence (d)</li> </ul>		England		
French Monetary Instruments	<ul> <li>Louis d'or (gold coin) = 24 livres</li> <li>écu (silver coin) = 6 livres,</li> <li>copper coins of 1 and 2 sols and 6 and 3 deniers (the latter also called a liard) were also issued</li> </ul>	<ul> <li>Through most of this period the French livre did not actually exist. Instead it was a unit of measure based on a volume of gold not a physical entity (e.g., it was not a coin or paper). It was briefly used as paper money in the early 18<sup>th</sup> Century, but soon fell to disuse. In 1776, it was introduced again, but the 'franc' replaced it after the revolution even during its period of use livre was not widely circulated.</li> <li>Two different sources, one from the 18<sup>th</sup> century and one modern example indicated that the relationship between the pound and the livre was approximately 24 to 1 (24 livre to one pound).<sup>25</sup> This was loosely based on the value of gold. Later is a graph showing the trend in the exchange rate over the 18<sup>th</sup> Century showing that during most the exchange rate was very stable at about a 22 to 1 to a 24 to 1 ratio <sup>26</sup>.<sup>27</sup></li> </ul>	France		

No Author Given, Political geography. Introduction to the statistical tables of the principal empires, kingdoms and states in Europe, W. Lowndes and J. Debrett, London,

1789, p. 18

<sup>&</sup>lt;sup>24</sup> F. Braudel, *Civilization and Capitalism*, 15th-18th Century: The structure of Everyday Life, University of California Press, Los Angeles, 1992, PP 465.

Lady Dysart had reported that in the latter part of the 17<sup>th</sup> century that the Livre had a much higher exchange rate, that is a Parisian Livre being equivalent to half a crown (2.5 shillings) that is quite high vs 24 to one ratio mentioned here. However, during this time, the exchange rate was described as volatile and these swings in value. See J. Yorke French Furniture at Ham House, *Journal of The Furniture History Society*, Vol XXVI, 1990, pp. 235-238.

R. Bonney and J. Smith, *European State Finance Database: French Economic Indicators, 1308-1817* (computer file), Colchester, Essex, UK Data Archive (distributor) October 1993, SN: 3098 from web site http://www.data-archive.ac.uk/findingData/snDescription.asp?sn=3128, accessed 06/09.

<sup>&</sup>lt;sup>27</sup> There was substantial difficulty in relating the two systems, as there was no standard system for doing so. Sir Isaac Newton once wrote a paper that illuminated this problem as the differences in how the different countries assigned values to gold and silver.

#### 3. Surface Covering Formulas - Varnishes

Formula	<b>Key Ingredients</b>	Comments (country)	Source
• 2 gallons rectified Spirits of Wine	Rectified spirits of	Described as the best	Weber, P., The Cabinet
• 5 pounds Gum Sandarac	wine	white hard varnish.	Maker's Guide.
• 1 pound Gum Mastic	Gum Sandarac		
• 4 ounces Gum Anime	Gum Mastic		
<ul> <li>Put all ingredients in a clean can or bottle, and place in a warm place to</li> </ul>	Gum Anime		
dissolve shaking it frequently. Once dissolved, strain it though a lawn sieve			
• 1 gallon of Spirits of Turpentine	Spirit of Turpentine	Described as a	Weber, P., The Cabinet
<ul> <li>5 pounds of Rosin pounded and put in a tin can on a stove.</li> </ul>	Rosin	turpentine varnish	Maker's Guide.
<ul> <li>Let it boil half an hour when cool it is ready to use</li> </ul>			
• 32 ounces Alcohol	Alcohol		Tingry, P., A Painters
• 6 ounces purified Mastic	Mastic		and Varnisher's Guide
• 3 ounces Gum Sandarac	Gum Sandarac		
• 3 ounces very clear Venice turpentine	Venice Turpentine		
<ul> <li>4 ounces coarsely pounded glass<sup>28</sup></li> </ul>	Pounded glass		
<ul> <li>Reduce the Mastic and Sandarac to a fine power then mix the two with</li> </ul>			
white glass and strain through a hair sieve.			
<ul> <li>Put them all with the Alcohol in a matrass and mix. Put the matrass in a</li> </ul>			
pot filled with water and boil for 1 to 2 hours.			

"The author of a 17th-century oil painting manual noted that "the whitest glass" ground to an impalpable powder would "dry all Colours without drying Oyle, and not in the least Tinge the purest Colours, as White, Ultramarine, &c. and is much us'd in Italy"

<sup>&</sup>lt;sup>28</sup> The use of pounded or powdered glass raised several questions, however several recipes have mentioned it and in researching other uses of 'powdered glass' has been identified in Leslie Carlyle's work on paint driers (See L. Carlyle, Paint Driers Discussed in 19th-Century British Oil Painting Manuals, *Journal of the American Institute for Conservation*, Vol 38, No 1., 1999, pp. 76 – 77). It was possibly used as a drier in these varnish formulas. To quote the article:

### 3. Surface Covering Formulas - Varnishes

Formula	<b>Key Ingredients</b>	Comments (country)	Source
Pound 3 ounces of Amber coloured Copal	Copal	Described as a durable	P. Tingry, A Painters
• 6 ounces of Gum Sandarac	Gum Sandarac	version of varnish.	and Varnisher's Guide
• 3 ounces cleaned Mastic	Mastic	• Can add more copal, but	
• 2 ½ ounces Turpentine	Turpentine	at the same time 3 gros	
• 4 ounces Pounded glass	Pounded Glass	of camphor must be	
• 32 ounces Alcohol	Alcohol	added.	
<ul> <li>Reduce the Mastic and Sandarac to a fine power then mix the two with</li> </ul>			
white glass and strain through a hair sieve.			
• Put them all with the Alcohol in a matrass and mix. Put the matrass in a			
pot filled with water and boil for 1 to 2 hours			
8 ounces Gum Sandarac	Gum Sandarac	Taken from J. Watin's	P. Tingry, A Painters
• 2 ounces pounded Mastic	Mastic	work (J. Watin's, A	and Varnisher's Guide.
• 4 ounces clear Turpentine	Turpentine	Practical Treatise on	
<ul> <li>4 ounces pounded glass</li> </ul>	Pounded Glass	Painting, 1795).	
• 32 ounces Alcohol	Alcohol		
<ul> <li>Use the same instructions for mixing as the prior versions</li> </ul>			
6 ounces Gum Sandarac	Gum Sandarac	Taken from J. Watin's	P. Tingry, A Painters
• 4 ounces Gum Elemi	Gum Elemi	work (J. Watin's, A	and Varnisher's Guide.
• 1 ounce Gum Anima	Gum Anima	Practical Treatise on	
• Camphor ½ ounce	Camphor	Painting, 1795).	
<ul> <li>4 ounces pounded glass</li> </ul>	Pounded Glass		
• 32 ounces pure Alcohol	Alcohol		
<ul> <li>Use the same instructions for mixing as the prior versions</li> </ul>			
6 ounces Gum Sandarac	Gum Sandarac	Taken from J. Watin's	P. Tingry., A Painters
• 4 ounces Gum Elemi	Gum Elemi	work (J. Watin's, A	and Varnisher's Guide.

Carlyle was quoting from M. Smith, *The Art of Painting*. Printed by M.B. for the author, London, 1693. It has also been suggested that powdered glass could also act as a filling agent.

Formula	<b>Key Ingredients</b>	Comments (country)	Source
<ul> <li>1 ounce Gum Anima</li> <li>½ ounces Camphor</li> <li>4 ounces Pounded glass</li> <li>32 ounces pure Alcohol.</li> <li>Use the same instructions for mixing as the prior versions</li> </ul>	Gum Anima Camphor Pounded Glass Alcohol	Practical Treatise on Painting, 1795).	
<ul> <li>6 ounces Gallipot or White Incense or Barras<sup>29</sup> (White incense is preferred.)</li> <li>2 ounces each of Gum Anima and Gum Elemi</li> <li>4 ounces Pounded glass</li> <li>32 ounces Alcohol</li> </ul>	Gallipot/White Incense/Barras Gum Anima Gum Elemi Pounded Glass Alcohol	Described as better for ceilings and wainstscotin.	P. Tingry, A Painters and Varnisher's Guide.
<ul> <li>6 ounces Gum Sandarac</li> <li>2 ounces Shell Lac</li> <li>4 ounces each of Colophonium or Resin and White glass pounded</li> <li>Turpentine</li> <li>32 ounces Alcohol.</li> </ul>	Gum Sandarac Shell lac Colophonium or resin and white glass Turpentine Alcohol	<ul> <li>Taken from J. Watin's, A         <i>Practical Treatise on Painting</i>, 1795, except         that J. Watin prescribes         8 ounces of Sandarac         and 6 of Turpentine.         Tingry states this is 'too         strong'.</li> <li>This is suitable for items         that are used daily.</li> <li>J. Watin did not mention         pounded glass.</li> </ul>	P. Tingry, A Painters and Varnisher's Guide.  J. Watin, L'art du peintre, doreur, vernisseur 3rd Ed.
<ul> <li>4 ounces Gum Sandarac</li> <li>2 ounces Seed Lac</li> <li>1 ounce each Mastic and Benjamin in tears, 4 ounces pounded glass</li> </ul>	Gum Sandarac Seed lac Mastic	<ul><li>Very durable.</li><li>This formula may be coloured with a little</li></ul>	P. Tingry, A Painters and Varnisher's Guide.

<sup>&</sup>lt;sup>29</sup> It is unclear what Barras is defined as.

Formula	<b>Key Ingredients</b>	Comments (country)	Source
• 2 ounces Venice Turpentine	Benjamin	saffron or dragon's	
• 32 ounces Alcohol	Venice turpentine	blood.	
	Alcohol		
• 5 ounces Seed Lac	Seed Lac	This formula is employed	P. Tingry, A Painters
• 2 ounces Gum Sandarac	Sandarac	for boxes made of	and Varnisher's Guide
• 1 ½ ounces Gum Elemi	Gum elemi	boxwood.	
• 2 ounces Venice Turpentine	Venice turpentine		
• 5 ounces Pounded glass	Pounded glass		
• 24 ounces Pure Alcohol	Alcohol		
•			
• ¾ ounce of Gum Guttae	Gum Guttae	This will add a tint to	P. Tingry, A Painters
• 2 ounces each of Gum Sandarac and Gum Elemi	Gum Sandarac	decorative aspects of	and Varnisher's Guide
• 1 ounces Dragon's blood	Gum Elemi	furniture.	
• 1 ounce of Seed Lac	Dragon's blood		
• Terra Merita - ¾ of an ounces	Seed lac		
• 12 grains of Oriental Saffron	Terra Merita		
• 3 ounces Pounded glass	Saffron		
• 20 ounces pure Alcohol	Pounded glass		
	Alcohol		
• 3 ounces Copal	Copal		P. Tingry, A Painters
• 20 ounces Essence of Turpentine	Essence of		and Varnisher's Guide
• Heat the Turpentine in a glass container, once warm add the pulverized	Turpentine		
copal in small doses, continue to mix the ingredients.	Pulverized Copal		
8 ounces of Amber or Karabe	Karabe or Amber	It is not clear what	No Author Given,
• 2 ounces of Gum Lac	Gum Lac	Karabe is however it is	Valuable Secrets Concerning Arts and

<sup>&</sup>lt;sup>30</sup> The linseed oil with hepatica-aloe is made by mixing 4 ounces of powdered aloe in 1 pound of linseed oil and put over a fire till it becomes a thick syrup. Once mixed, and to the right consistency, strain the solution through a cloth.

Formula	<b>Key Ingredients</b>	Comments (country)	Source
<ul> <li>Melt the Amber/Karabe in an earthen pot, then add the gum-lac and let this melt.</li> </ul>	Turpentine oil Linseed oil	indicated that this is a form of amber.	Trades
<ul> <li>Once cool mix it with 8 ounces of turpentine oil, stirring until well incorporated</li> </ul>	Rocou		
<ul> <li>Add a spoonful of Linseed Oil (prepared with hepatica – aloe (aloe))<sup>30</sup> add a sufficient quantity of Oil of Turpentine tinged with Rocou (a yellow colouring)</li> </ul>			
• Mix Turpentine with water and white Wine or Brandy. Once concocted,	Turpentine	<ul> <li>Described as a varnish</li> </ul>	No Author Given,
dissolve it in Wine and Oil of Turpentine	White wine or	for icing	Valuable Secrets
	brandy		Concerning Arts and Trades
	Oil of Turpentine		
• Take a quantity of Verdigrease ground and in Vinegar. Put this in a piece	Verdigrease	This is described as an	No Author Given,
of dough and bake this in an oven as you would an apple dumpling. Cut	Vinegar	excellent varnish.	Valuable Secrets
open the dumpling and get the Verdigrease out. Mix this with Wine apply	Wine		Concerning Arts and Trades
this to the wood then lay over this four ounces of Gum Arabic.	Gum Arabic		
• 3 ounces of Gum Lac	Gum Lac	A red varnish	No Author Given,
• ½ ounce Sandarac,	Sandarac		Valuable Secrets
• ½ ounce Mastic	Mastic		Concerning Arts and Trades
• 1 pint of French Spirit of Wine	French Spirit of wine		Traues
<ul> <li>Place in a matrass with a paper stopper, and place that in a large sand</li> </ul>	Vermillion		
filled iron kettle. Place the kettle over coals and get the composition to boil. For 3 ours.	Oil of Aspic		
<ul> <li>Strain it through a cloth, bottle and stop it well.</li> </ul>			
• To turn red put one ounce of vermilion mixed with oil of aspic and six			
ounces of varnish and mix (this will take a ¼ of an hour.)			
<ul> <li>Varnish the wood with clear varnish first then coat it with this, red</li> </ul>			
coloured varnish.)			
• 4 ounces of Gum Lac	Gum Lac	A black varnish	No Author Given,

Formula	<b>Key Ingredients</b>	Comments (country)	Source
<ul> <li>1 ounce each of Sandarac and black Rosin</li> <li>Pulverize all separately, mixing first the Rosin over a fire in a sufficient quantity of Spirit of Wine, the add Sandarac. When this is melted together add the Gum Lac and stir well again. Strain it while warm</li> <li>Add two drachms of ivory black to every two ounces.</li> </ul>	Sandarac Black Rosin Ivory black		Valuable Secrets Concerning Arts and Trades
Ethereal Oil of Turpentine and Venice Turpentine (equal parts) Mix them over a moderate fir and use this while boiling.	Ethereal oil of turpentine Venice turpentine	Described as a 'varnish from Flanders'	No Author Given, Valuable Secrets Concerning Arts and Trades
<ul> <li>Take 2 ounces pulverized and sifted sealing wax</li> <li>Put in matrass along with 4 ounces of Turpentine Oil, put over a gentle fire so that it may melt. Us this to make the first coat</li> <li>Add 2 ounces each of Karabe and Aloe and dissolve this in a pipkin along with 12 ounces of Linseed Oil. Let the solid matter fall to the bottom and use the top to make the second coat.</li> </ul>	Sealing wax Turpentine oil Karabe Aloe Linseed oil	If you want red or black colour add when melting the turpentine oil and sealing wax.	No Author Given, Valuable Secrets Concerning Arts and Trades
<ul> <li>Melt 4 ounces of yellow Amber in an earthen pan stirring constantly with a deal stick.</li> <li>Add 1 ounce of Sealing Wax, when melted add ½ ounce Linseed Oil which had been thickened with gold Litharge. When mixed take it off the fire and stir, when cool, add the quantity of Turpentine oil to desired consistency.</li> </ul>	Yellow Amber Sealing Wax Linseed oil Turpentine oil	Described as a fast drying varnish	No Author Given, Valuable Secrets Concerning Arts and Trades
<ul> <li>Take white Mastic and Linseed Oil (what 'quantity you please') a little Turpentine, pounded glass, burnt Verdigrease and pounded Amber.</li> <li>Boil and melt all together in a new earthen pot.</li> </ul>	White mastic Linseed oil Turpentine Verdigrease Amber	<ul> <li>Described as an 'admirable varnish'.</li> <li>Although the wording is for pounded glass, it is unclear if this is correct</li> </ul>	No Author Given, Valuable Secrets Concerning Arts and Trades
• 1 ounce of White Amber, ½ ounce of Spirit of Turpentine, 4 ounces of rectified Spirit of Wine.	White Amber Spirit of Turpentine	Described as a varnish     'fit to lay on all sorts of	No Author Given, Valuable Secrets Concerning Arts and

Formula	Key Ingredients	Comments (country)	Source
• 1 dachm of Mastic and 1 of Juniper gum.	Spirit of wine	colours.'	Trades
Put all together to infuse for 8 days.	Juniper gum		
<ul> <li>Evaporate 2 parts of it over a gentle fire. What remains is a varnish that is appropriate for all colours.</li> </ul>	Mastic		
<ul> <li>Take 4 ounces Spirit of Wine, ½ ounce of Gum Lac, 2 dachms Sandarac, 1 dachms Mastic.</li> <li>Pulverize each of the ingredients and put them in the Spirit of Wine in a bottle large enough to hold twice the volume.</li> </ul>	Spirit of wine Gum Lac Sandrac Mastic		No Author Given, Valuable Secrets Concerning Arts and Trades
<ul> <li>Heat over a slow fire making sure the top is stopped</li> <li>Take 4 ounces of Amber and put in to a crucible and melt it on a low heat then pour it on an iron plate. When cold reduce it to a power and add it to 2 ounces of drying oil and 1 pint of Turpentine.</li> </ul>	Amber Drying oil Turpentine	Called an 'Amber varnish'.	R. Dossie, <i>The Handmaid to the Arts</i> , J.  Nourse, London, 1758.
<ul> <li>Take 8 ounces of Chio Turpentine and pour it, melted, over a pound of fine powdered Amber and stirring it. Set it on a fire for half an hour. Take it off, stir well and add 2 ounces of white Colophony</li> <li>Again, put it on a brisk fire and stir until it is well mixed, add a quart of hot Turpentine and mix well, let it cook and strain it off.</li> </ul>	Chio Turpentine Amber White Colophony		R. Dossie, The Handmaid to the Arts.
<ul> <li>Start with a glazed earthen pot that is large enough to hold about 1 gallon of liquid.</li> <li>Take 4 ounces of Chio or Cyprus Turpentine and dissolve 8 ounces of powdered Amber and mix them together over the fire for ¼ of an hour.</li> <li>Take it off the heat and add into it and add 1 pound of Copal that has been finely bruised (but NOT powdered). Stir this and add Chio Turpentine and a gill of warm Turpentine Oil.</li> <li>Set on a 'brisk' fire for about an hour. Take it off and stir the mixture and add 2 ounces of the whitest Colophony. Place it on t heat and stir until it is thoroughly mixed.</li> <li>Remove it from the fire and add 24 ounces of either Poppy, Nut or Linseed</li> </ul>	Chio or Cyprus Turpentine Amber Copal Turpentine oil Colophony Either Poppy, Nut or Linseed oil	<ul> <li>This is what is called in France Vernis martin.</li> <li>Note if it is too thick thin it with the addition of oil of turpentine.</li> </ul>	R. Dossie, The Handmaid to the Arts.

Formula	Key Ingredients	Comments (country)	Source
Oil made drying and boiling hot and stir it with a deal stick. When			
thoroughly mixed bring it back to a boil.			
• Take it off and add 1 quart of hot turpentine, stir it and boil it. Repeat this			
last step.			
• Let it cool, strain it though a close cloth two times			
• Take 8 ounces of Gum Sandarac, ½ ounce of Gum Mastic, ¾ of an ounce of	Gum Sandarac	<ul> <li>This is called White or</li> </ul>	J. Barrow, New and
Sarcocolla, 1 ½ ounce of Venice Turpentine, ¼ ounce of Benzoin, ¼ ounce	Gum mastic	Venetian varnish.	Universal Dictionary of
white Rosin, ¾ of an ounce of Gum Animae and ¼ ounce of Gum Elemi.	Sarcocolla		Arts and Sciences
• Put the Sarcocolla and rosin in to a container and cover with spirits (add as	Venice Turpentine		
much of the spirits as needed in order to dissolve the gum and rosin	Benzoin		
completely). Once dissolved, add the Benzoin, Gum Animae and Venice	White Rosin		
Turpentine into either a glass or glazed earthen vessel. Add enough	Gum Animae		
spirits as to cover them by an inch.	Gum Elemi		
<ul> <li>In a separate container put the gum mastic and pour strong spirits on it</li> </ul>			
covering it by about an inch. In still another container do the same with			
the gum elemi. Note the Gum Animae, Sarcocolla and Benzoin all needed			
to have been powdered, the Rosin needed to have been broken up a little.			
• Let this stand 3 to 4 days, shaking periodically. Put them all in the same			
container, then mix, and strain through a linen cloth.			
<ul> <li>4 dachms of White Varnish and melt it over a fire in a clan glazed</li> </ul>	White Varnish (see	<ul> <li>Barrow refers to this as</li> </ul>	J. Barrow, New and
container. Add to this, 2 ounces of White Amber that has been finely	previous recipe)	Amber Varnish.	Universal Dictionary of
powdered. Gradually add this in gently stirring with a pine stick. Add Oil	Amber		Arts and Sciences
of Turpentine if you find it growing stiff.	Oil of Turpentine		
<ul> <li>Put the varnish in a coarse linen bag and press it between two hot oak</li> </ul>			
boards or pieces of iron			
<ul> <li>Start with 1 ounce of Colophony and set it over a fire in a well-glazed</li> </ul>	Colophony	<ul> <li>This formula is called a</li> </ul>	J. Barrow, New and
earthen vessel until it is melted. Gradually add to this, stirring constantly, 2	Amber	'hard varnish'.	Universal Dictionary of
ounces of Amber powder. If it starts to harden, add Turpentine oil to	Turpentine Oil		Arts and Sciences

Formula	<b>Key Ingredients</b>	Comments (country)	Source
soften it. Next add 2 ounces of Gum Copal, which has been finely powdered. Again, add this last ingredient gradually. Once mixed in, strain it as described for the amber varnish.	Gum Copal		
• Using a well glazed earthen pot with a tight fitting cover. Warm the pot and pour into it 4 ounces of Chio or Cypress Turpentine, once fluid, add 8 ounces of finely powdered Amber and stir it into the Turpentine. Take the pot off of the heat and add 1 pound of bruised, but not powdered Copal. Stir this into the mixture and add 4 ounces of additional Chio Turpentine and a gill of warm Turpentine Oil. Set it on a brisk fire for ½ an hour. Once it become fluid like water, remove it from the heat and let it cool. Next, add 24 ounces of either Poppy, Nut or Linseed oil that has been 'made drying' and mix them with a deal stick; placing it back on the fire and keep stirring until it is well mixed. Add in a pint more Turpentine if needed.	Chio or cypress Turpentine Amber Copal Poppy, Nut or Linseed Oil ('made dry')	It is obvious from the reading that the author had a strong preference for this varnish referring it as clear, hard, smooth and even.	No Author Given, Genuine Receipt for making the famous VERNIS MARTIN; or as it is called by the English, MARTIN'S COPAL VARNISH, No Publisher Given, Paris, 1773.
<ul> <li>Melt 8 ounces of Chio Turpentine and when fluid pour in a pound of fine Amber – stirring it constantly. When mixed set it on the fire for ½ hours, stir it well. Take it off and add 2 ounces of white Colophony and place it on a brisk fire. When melted and mixed well, take it off and let it cool. Once cool, pour into it a pound of Linseed or Poppy Oil made dry and boil the mixture and stir until it is well incorporated.</li> </ul>	Chio turpentine Amber White Colophony Linseed or Poppy Oil (made 'dry')		No Author Given, Genuine Receipt for making the famous VERNIS MARTIN; or as it is called by the English, MARTIN'S COPAL VARNISH.
Dissolve 2 ounces of Gum Sandarac in 1 quart of rectified Spirits of Wine then add 4 ounces of Venice Turpentine.	Gum Sandarac Rectified spirits of wine Venice turpentine	For small boxes	T. Sheraton, <i>The</i> Cabinet Dictionary, W.  Smith, King Street,  Seven Dials, London,  UK, 1803.
• 1 quart of Spirits of Wine, 8 ounces of Gum Sandarac, 2 ounces of Seed	Spirits of Wine	For larger works	T. Sheraton, The Cabinet Dictionary.

Formula	Key Ingredients	Comments (country)	Source
Lac, 4 ounces of Rosin.	Gum Sandarac	If you want the end	
<ul> <li>Add 6 ounces of Venice Turpentine.</li> </ul>	Seed Lac	effect to be redder, like	
<ul> <li>Shake the mixture vigorously until the materials are well mixed. Then</li> </ul>	Rosin	mahogany, then add	
strain the resulting liquid.	Venice Turpentine	more seed lac. For	
		more colour you can add	
		dragon's blood and	
		alkanet root	
<ul> <li>16 ounces of Gum Copal and dissolve this over a slow fire.</li> </ul>	Gum Copal	Described as a Copal	T. Sheraton, <i>The</i>
<ul> <li>Add 8 ounces of Bleached Linseed Oil and stir this with a wooden spatula.</li> </ul>	Bleached Linseed Oil	Varnish.	Cabinet Dictionary.
<ul> <li>Taking this off the fire, letting it cool and add to it 16 ounces of Spirits of</li> </ul>	Spirits of Turpentine		
Turpentine (add more if it remains too thick.)			
<ul> <li>12 ounces of Gum Mastic that is in the form of 'tears' and add to 1 quart</li> </ul>	Gum Mastic	Described as a Mastic	T. Sheraton, <i>The</i>
of Spirits of Turpentine. Continuously heat them until the Mastic is	Spirits of Turpentine	Varnish.	Cabinet Dictionary.
incorporated into the Turpentine.		You can add to this Copal	
		Varnish in order to use	
		this on pictures.	
• 1 pound of common turpentine, 1 pound of black rosin, a 'small quantity	Common Turpentine	Described as a	T. Sheraton, The
'of drying oil. Dissolve them in a gentle fire. Once mixed, let it cool, then	Black Rosin	Turpentine Varnish.	Cabinet Dictionary.
add a few 'drops' of Spirits of Turpentine. If it does not mix, you can place	Drying Oil		
the container in boiling water and heat until it mixes completely	Spirits of Turpentine		
• 8 ounces of Gum Sandarach, ½ ounce of Gum Mastic, ¾ ounce Sarcocollia,	Gum Sandarach		(No Author Given), <i>The</i>
1 1/2 ounce Venice Turpentine, ¼ ounce Benzoin, ¾ ounce Gum Animae	Gum Mastic		Golden Cabinet: Being
<ul> <li>Put the Sarcocolia and Rosin into 'little more spirits than will cover them</li> </ul>	Sarcocollia		the Laboratory or Handmaid to the Arts
by an inch'. Put the Gum Mastic in a glass container and pour strong spirits	Venice Turpentine		(Second Edition).
to cover it by an inch. Put the Gum Animae in another vessel ad cover it	Benzoin		(Second Landon).
wit spirits. Let all stand for 3 or 4 days.	Gum Animae		
<ul> <li>After they have dissolved, mix them together in a glazed vessel stir them,</li> </ul>			
strain the liquor through a linen cloth. Stir the mixture, let it stand for a			

Formula	<b>Key Ingredients</b>	Comments (country)	Source
week and pour off the clear part, as you need it.			
<ul> <li>1 ounce of Colophony set over a fire in a glazed earthen vessel until melted. Add to this 2 ounces of powder of Amber stirring it until it starts to thicken then add a little Turpentine Oil. Add 2 ounces of Gum Copal finely powdered and added slowly. Strain it before use.</li> </ul>	Colophony Powdered Amber Turpentine Oil Gum Copal		(No Author Given), The Golden Cabinet: Being the Laboratory or Handmaid to the Arts (Second Edition).
<ul> <li>Melt 4 drachms of White Rosin over a fire in a glazed pipkin. Add to it 2 ounces of finely powdered White Amber which is added gradually stirring constantly with a wooden stick.</li> <li>Add to this a 'little' Oil of Turpentine.</li> <li>Pour the finished mixture into a linen bag and squeeze it between two hot oak boards or iron plates.</li> </ul>	White Rosin White Amber Oil of Turpentine	Called a White Amber Varnish and is described as being good for paintings but not for covering gold.	(No Author Given), The Golden Cabinet: Being the Laboratory or Handmaid to the Arts (Second Edition).
• 1 pound of Copal combined with 4,6 or 8 ounces of cooked Linseed Oil and thinned with 1 pound of Venice Turpentine	Copal Linseed Oil Venice Turpentine	To make this dry faster, reduce the Linseed Oil and increase the Venice Turpentine	Lost Reference
• 1 pound of pulverized Amber melted in an earthen vessel over a charcoal fire. When runny, pour this out onto an iron plat then re-pulverize it and dissolve it in Linseed Oil as stated above. Litharge may be added as a drier and Turpentine may be added as a thinner.	Amber Linseed Oil (Possibly Litharge <sup>31</sup> and or Turpentine)		Lost Reference
<ul> <li>Apply Seed Lack Varnish to Olive wood that has been kept in a warm room ten or twelve times. Let it dry between every wash. Rush the final surface then rub it down with powdered Tripoli and a cloth dipped in water. Wipe this off with water then rub the surface with lampblack and oil all over</li> </ul>	Seed lack varnish Tripoli Lampblack	<ul> <li>Parker and Stalker do not go into the formula for what it calls 'Seed lack varnish' it is assumed that it is nothing more than Seed Lack mixed</li> </ul>	G. Parker and J. Stalker, A Treatise of Japanning and Varnishing.

<sup>&</sup>lt;sup>31</sup> The author does not define what they mean by Litharge. It could be a number of things such as a lead oxide such as white lead or red lead, or it could be litharge of bismuth, which is an oxidized form of bismuth.

Formula	<b>Key Ingredients</b>	Comments (country)	Source
		with Spirit of Turpentine.	
<ul> <li>4 ounces of Amber in a container and melted over low heat. Pour it on an iron plate. When cool, break it up and convert it into a powder.</li> <li>Add 2 ounces of drying oil (Linseed oil with Litharge) and 1 pint of Oil of Turpentine.</li> </ul>	Amber Linseed Oil (with Litharge) Turpentine	Author suggests that other oils can be used but they may impart a colour to the varnish. Different amounts of turpentine may be added if it is not thin enough. For example: Rapeseed oil and oil of almonds produce a yellowish colour, Linseed oil - a golden colour, Oil of Poppy seeds - a reddish yellow colour, Olive Oil – red and Oil of Bays - purple.	E. Chambers, Cyclopaedia or an Universal Dictionary of Arts and Sciences.
<ul> <li>Another Amber varnish is made by boiling Colophony or turpentine until it becomes black and friable. Sprinkle slowly into this hot liquid powdered Amber and a little Spirit of Oil of Turpentine. Mix this until the Amber is melted and add the same quantity of Sarcocolla, continuing to mix and adding more Spirit of Turpentine until it becomes fluid.</li> <li>Strain this though a course hair bag pressing it gently between hot boards.</li> </ul>	Colophony or Turpentine Amber Spirit of Turpentine Sarcocolla	<ul> <li>This varnish can be mixed with ivory black and applied to dried paper paste to make papier mache.</li> </ul>	E. Chambers, Cyclopaedia or an Universal Dictionary of Arts and Sciences.
<ul> <li>In a well-glazed earthen vessel (at least 1 gallon in size) add 4 ounces of Chio or Cyprus Turpentine. When this is dissolved, add to 8 ounces of finely powdered Amber and set it on a fire for ¼ of an hour.</li> <li>Take off the heat and add to it 1 pound of bruised Copal, stir in and add 4 more ounces of Chio turpentine and a gill of warm Turpentine Oil. Set this</li> </ul>	Chio or Cyprus Turpentine Amber Copal Turpentine Oil	<ul> <li>This has multiple uses for coaches, cabinets etc.</li> <li>Up to 12 coats may need to be added and</li> </ul>	E. Chambers, Cyclopaedia or a Universal Dictionary of Arts and Sciences.

Formula	Key Ingredients	Comments (country)	Source
on a fire for ½ of an hour.	Colophony	the object or varnish	
<ul> <li>Add 2 ounces of the whitest Colophony and put on a brisk fire. When</li> </ul>	Drying Oil	should be kept warm	
liquid take off the heat and let it cool for a short period of time.	Turpentine	throughout the process	
<ul> <li>Add 24 ounces of drying oil (either Linseed, Poppy seed or Nut Oil) stir</li> </ul>			
again. When thoroughly mixed, place back on the heat and boil it up once.			
<ul> <li>Take it off the heat and add to it warmed Turpentine, while stirring, until it</li> </ul>			
becomes the consistency of Linseed Oil.			
<ul> <li>Strain this through a cloth and into another vessel, add more turpentine if</li> </ul>			
it is too thick, strain it again and let it sit for a month before using it.			
• 4 to 6 ounces of a drying oil to about 16 ounces of melted copal, which is	Drying oil		G. Gregory, Dictionary
added gradually while constantly stirring. When well mixed you should	Copal		of Arts and Sciences, In
take it off the fire and when cool pour in 16 ounces of essence of Venice	Venice Turpentine.		two Volumes, Richard
Turpentine.			Phillips, London, 1806.
Press this through a linen cloth			
• 4 – 6 ounces of drying oil is mixed with 16 ounces of melted copal which is	Drying oil		G. Gregory, Dictionary
added little by little to the former (both need to be heated).	Copal		of Arts and Sciences, In
<ul> <li>When well mixed take off the fire and let cool then pour in 16 ounces of</li> </ul>	Venice Turpentine		two Volumes, Richard
the essence of Venice Turpentine. Press this through a linen cloth.			Phillips, London, 1806.
<ul> <li>Add ½ of a pound of amber and keep it over a gentle fire, covered in an</li> </ul>	Amber	Nicholson does not	W. Nicholson, The
iron pot until it has melted into a mass. Let this cool before added 1	'Painter's varnish	describe what 'Painter's	British Encyclopedia or
pound of 'painters varnish mix' and boil it up while constantly stirring.	mix'	varnish mix' is.	Dictionary of Arts and
<ul> <li>When mixed and cooled add it to a pound of oil of turpentine and</li> </ul>			Sciences.
gradually mix it in.			
Mix Mastic with oil of turpentine by exposing it to a gentle heat while in a	Mastic	No volumes were	W. Nicholson, The
closed glass vessel.	Oil of turpentine	provided.	British Encyclopedia or
			Dictionary of Arts and
			Sciences.
Dissolve Copal in 'genuine' Chio Turpentine by adding it in a powdered	Copal	One can add Gum Elemi,	W. Nicholson, The
			British Encyclopedia or

Formula	<b>Key Ingredients</b>	Comments (country)	Source
form gradually. Oil of turpentine may be added to help. Another variation is to add powdered copal to 12 parts oil of turpentine and allow it to be digested in the mixture for several days.	Chio Turpentine	turpentine or Balsam of Capaiva to reduce the brittleness.	Dictionary of Arts and Sciences.
<ul> <li>8 ounces of Gum Sandarac, 2 ounces of Venice Turpentine in 32 ounces of alcohol placed on a gentle heat. To this Copal can be added by triturating an ounce of powder of gum Copal which has been dried with a drachm of Camphor</li> </ul>	Sandarac Venice Turpentine Alcohol Copal Camphor		W. Nicholson, The British Encyclopedia or Dictionary of Arts and Sciences.
<ul> <li>½ ounce Litharge</li> <li>½ ounce Red Lead</li> <li>½ ounce Umber</li> <li>½ ounce Talic</li> <li>2 ounce of Dryers</li> <li>1 lb of Linseed Oil</li> </ul>	Litharge Red Lead Umber Talic Linseed Oil	• Called 'huille grasse'	J. Watin, Le Art du Peintre.
Colophane or Rosin	Colophane or Rosin	No Precise formula was given for this options	A. Roubo, L'Art Du Menuisier Ébéniste.
<ul> <li>2 ounces White Lead</li> <li>2 ounces Umber</li> <li>1 ounces Amber varnish</li> <li>1 pint of Spirit of Wine</li> <li>5 ounces of Sandarac</li> <li>2 ounces of Mastic</li> <li>1 ounce of Gum Elemi</li> <li>1 ounce of Aspic oil</li> <li>All melted without boiling then mixed, let the mixture cool and filter through cotton.</li> </ul>	White lead Umber Amber Varnish Spirit of Wine Sandarac Mastic Gum Elemi Aspic Oil		J. Watin, L'art du peintre, doreur, vernisseur. A. Roubo, L'Art Du Menuisier Ébéniste.
Wax     Powdered Gum Lacquer	Wax (Beeswax?) Powdered Gum	The wax is applied then the powdered gum	A. Roubo, L'Art Du Menuisier Ébéniste.

3. Surface Covering Formulas - Varni	shes		
Formula	Key Ingredients	Comments (country)	Source
	Lacquer	lacquer is sprinkled on the surface the polished. Roubo says the purpose is to enhance the colour. Rosin can be used for dark woods.	
Olive or linen Oil	Olive or Linen Oil	<ul> <li>Sometimes these are rubbed in along with various powders such as Tripoli, Pumice, Coal or White of Spain</li> </ul>	A. Roubo, L'Art Du Menuisier Ébéniste.

### **3. Surface Covering Formulas - Waxes**

Formula	Key Ingredients	Comments	Source
Yellow wax (beeswax) and candle grease or Tallow	Yellow Wax Candle grease or Tallow	✓ No specific receipe was provided.	A. Roubo, L'Art Du Menuisier Ébéniste.
<ul> <li>2 ounces of bees-wax, melted and mixed with ½ ounce of Burgundy pitch, belt them together and add 1 ½ ounce of ivory black ground fine.</li> </ul>	Bees-wax Burgundy pitch Ivory Black	✓ A Black Wax	P. Weber, The Cabinet Maker's Guide.
<ul> <li>4 ounces of bees-wax into a pot or basin,</li> <li>Add as much spirits of turpentine as will moisten it through.</li> <li>Powder ¼ of and ounce of rosin and add it when it is dissolved to the consistence of past.</li> <li>Add as much Indian red as will bring to a deep mahogany colour and stir.</li> </ul>	Beeswax Spirit of turpentine Rosin Indian Red	✓ Described as being a 'Furniture paste'.	P. Weber, The Cabinet Maker's Guide.
<ul> <li>4 ounces of bees wax added to 1 pint of spirits of turpentine.</li> <li>Add 1 ounce of Alkanet root. Cover and close and put over a fire.</li> <li>Once the colour has been extracted from the root, add a quarter of an ounce of powdered rosin cover it and let it stand for 6 hours.</li> </ul>	Bees wax Spirit of turpentine Alkanet root Rosin		P. Weber, The Cabinet Maker's Guide.
Gum Lacca, melted and prepared with resins and coloured with pigment	Gum Lacca (shellac) Resins Pigment	✓ Called Sealing or Spanish wax	E. Chambers, Cyclopaedia or an Universal Dictionary of Arts and Sciences

4. Dyes Formulas				
Colour Produced	Formula	Key Ingredients	Comments	Source of Formula
Black	<ul> <li>1 ounce (28.3 gr.) of Logwood extract.</li> <li>1 quart (960ml) of water.</li> <li>1 ounce (28.3 gr.) of Ferrous Sulphates with 1 more quart (960 ml) of water.</li> <li>Dissolve Logwood extract in 1 quart (960 ml) of hot water - let it sit overnight. Then strain the liquid.</li> <li>For mordant, mix the Ferrous Sulphate with 1 quart (960 ml) of room temperature water.</li> <li>Apply 2 or 3 coats until wood is a deep brown. After the last coat, apply mordant. This will turn the stain black. If this is not black enough, repeat procedure.</li> </ul>	Logwood extract Ferrous Sulphates	When the wood dries, it will turn a dark grey. It will turn black again once the surface covering (wax, shellac, varnish, etc.) is applied.	S. Allen, Classic Finishing Techniques
	<ul> <li>6 lbs of chipped logwood placed in a 'chairmakers's copper fixed'. Put in as many veneers as possible, fill with water. Boil it for about three hours.</li> <li>Add ½ pound of powdered verdigris, half a pound of copperas and four ounces of bruised nutgalls.</li> <li>Fill the copper up with vinegar as the water evaporates. Let it boil for 2 hours each day till you find the wood to be dyed through.</li> </ul>	Logwood Verdigris Copperas Bruised Nut Galls Vinegar	•	P. Weber, The Cabinet Maker's Guide.
	<ul> <li>Oak-apples, Iron or Copper sulphate, Roman vitriol (sulphuric Acid).</li> <li>Pear wood soaked in oak-apple liquor. When dry polish off with a fine 'wild boar hare and warm wax.</li> </ul>	Oak-apples Iron or copper sulphate Roman vitriol	No specific formula was given.	M. Sturmer, Veneer and colours Used by the Cabinet Makers of t 18 <sup>th</sup> Century

4. Dy	es Formulas			
Colour Produced	Formula	Key Ingredients	Comments	Source of Formula
	<ul> <li>Steep wood for 2 to 3 days in luke warm water with a little Alum added.</li> <li>Put a handful of Logwood, cut small, into a pint (480 ml) of water. Boil it to ½ of a pint (240 ml).</li> <li>Adding Indigo will improve the colour.</li> <li>Spread on the wood while hot (leaving it violet). When dry spread another layer, let it dry - re-apply.</li> <li>Boil Verdigris in its own Vinegar and spread a layer on the wood. When dry, rub it with a brush then with oiled chamois skin.</li> </ul>	Alum Logwood Indigo Verdigris	<ul> <li>Use fresh wood if possible.         Colours are stronger if the wood has been boiled for 1 hour then cooled.     </li> <li>When drying the wood after applying the stain, do not use heat.</li> <li>Works best on pear, holly or beach.</li> </ul>	No Author Given, <i>The Household Cyclopedia of General Information</i> (wood dyes) <sup>32</sup>
	<ul> <li>Rub the finished wood with diluted Aquafortis.         After drying removed the raised grain with pumice-stone. Repeat a second time.     </li> <li>Mix together (in a glazed earthen vessel) 1 pt (480 ml) of Vinegar; 2 ounces (56.6 gr.) of fine iron filings, ½ pound (226.4 gr.) of pounded galls. Allow them to infuse for 3-4 hours on hot cinders.</li> </ul>	Aquafortis\Vinegar Iron fillings Pounded galls		No Author Given, The Household Cyclopedia of General Information (wood dyes)
	<ul> <li>Pour 2 quarts (1,920 ml) of boiling water over 1 ounce (28.3 gr.) of commercial extract of logwood, when dissolved add 1 dr. (dram) of yellow chromate of potash and stir well.</li> </ul>	Logwood extract Yellow Chromate of potash	This stain is cheap, keeps well and can be applied cold with a brush without any preparation.	No Author Given, The Household Cyclopedia of General Information (wood dyes)
	<ul> <li>Rub wood with Aquafortis that has been diluted slightly. Remove the raised grain with pumice.</li> <li>Repeat this process until the colour is achieved – allowing the wood to dry between applications.</li> <li>Finish by polishing with Tripoli on a leather rubber.</li> </ul>	Aquafortis Tripoli		J. Kramer, Tradition Way – The Colorization of Wood
	<ul> <li>Cover the bottom of the pan<sup>33</sup> with logwood chips.</li> </ul>	Logwood chips	Described as 'Fine Black'	R. Higgins, Dyeing Timber -

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From Web site, a summary of 18<sup>th</sup> Century dying techniques, recommended by Jack Metcalfe. According to Mr. Metcalfe, this is an excerpt from "The Cabinet-makers guild to the Whole Art of Dying, Staining, Varnishing and Beautifying of Wood" by Peter Weber – a U.S. publication from 1809.

4. Dy	es Formulas			
Colour	Formula	Key Ingredients		Source of Formula
Produced			Comments	
	Add veneers and let them simmer for 3 hours.	Powdered		Harewood
	<ul> <li>Add a few ounces (About 56.6. gr.) of powdered</li> </ul>	Verdigris		
	Verdigris (Copper Acetate), a few ounces (About	Copperas		
	56.6. gr.) of Copperas (Iron Sulphate) & one ounce	Nut Galls		
	(28.3 gr.) of crushed Nut Galls (the knurled growth			
	from oak trees)			
	<ul> <li>Simmer for a couple of hours each day and let cool.</li> </ul>			
	<ul> <li>Repeat this until the depth of colour is achieved.</li> </ul>			
	<ul> <li>Mix together (in a glazed earthen vessel) 1 pint</li> </ul>	Vinegar		J. Kramer, <i>Tradition Way – The</i>
	(480 ml) of Vinegar; 2 ounces (56.6 gr.) of fine Iron	Iron Fillings		Colorization of Wood
	filings, ½ pound (226.4 gr) of pounded Galls. Allow	Nut Gallls		
	them to infuse for 3-4 hours on hot cinders.			
	<ul> <li>Boil Logwood in either water or vinegar.</li> </ul>	Logwood	Repeat as often as possible, the	J. Stalker and G. Parker .A Treatis
	<ul> <li>While hot brush stain over the wood 2 or 3 times.</li> </ul>	Galls	more the better the colour.	of Japanning and Varnishing.
	<ul> <li>Take the Galls and the Copperas, well beaten and</li> </ul>	Copperas	If the item is small enough, it	
	boil them well in water.		can be immersed in the item.	G. Gregory, Dictionary of Arts and
				Sciences, In two Volumes.
	Brush the wood with a mixture of copper in	Copper		R. Dossie, The Handmaid to the
	Aquafortis followed by the same mixture of	Aquafortis		Arts.
	logwood as given in the prior formula. Keep	Logwood		
	repeating the application of logwood until the			
	correct colour appears.			
	Boil a mixture of 1 pound of logwood with 1 gallon	Logwood	This is described as the	R. Dossie, The Handmaid to the
	of water and brush the hot mixture on the wood.	Galls	cheapest method of producing	Arts.
	• Mix ¼ pound of galls in 2 quarts of water and	Water	a black colour.	
	letting it sit in the sun for 3 or 4 days.	Green Vitriol		
	Brush it over the wood 3 or 4 times.			
	<ul> <li>While still wet, brush the wood over with green</li> </ul>			

 $<sup>^{\</sup>rm 33}$  A copper pan is recommended for this and all dyeing.

4. Dy	es Formulas			
Colour Produced	Formula	Key Ingredients	Comments	Source of Formula
	Vitriol (2 ounces) in water (1 quart).			
	<ul> <li>Grind Lampblack with gum water. Coat the wood with this and polish the wood.</li> </ul>	Lampblack Gum water	Does not define 'gum water.'	No Author Given, Valuable Secrets Concerning Arts and Trades
	<ul> <li>Soak bits of rusty iron in black ink. Rub the wood with this mixture. Repeat until the desired colour is obtained. Polish when dry.</li> </ul>	Rusty Iron Black Ink		No Author Given, Valuable Secrets Concerning Arts and Trades
	Soak rusty nails in Vinegar then add Gall Nuts. Rub the wood with this mixture. Polish when dry.	Vinegar Gall Nuts	Can boil the wood in this mixture. The author recommends that the wood be holly, apple or another light wood with little grain. You can also follow this procedure with a black wax that is rubbed on to the surface.	No Author Given, Valuable Secrets Concerning Arts and Trades
	<ul> <li>Take Black Ink and place it in a stone or glass container and let the liquid dry to a powder.</li> <li>Scrape this powder out and mix it with a Varnish and apply it to the wood.</li> </ul>	Black ink Varnish		No Author Given, Valuable Secrets Concerning Arts and Trades
	<ul> <li>Brushing the wood with logwood boiled in Vinegar.</li> <li>Then washing the wood over with a mixture of Gals and copperas until it turns to the colour desired.</li> </ul>	Logwood Vinegar Gal Copperas		J. Barrow, A Supplement to the New and Universal Dictionary of Arts and Sciences,
	<ul> <li>Brush over the wood 4 or 5 times with a warm mixture of Logwood (made 1 pound of Logwood to 1 gallon of water)</li> <li>Follow this with a decoction of ¼ of powdered Galls</li> </ul>	Logwood Galls Vitriol Water	This is thought to produce a 'deep' black	E. Chambers, Cyclopaedia or an Universal Dictionary of Arts and Sciences
	<ul> <li>to 2 quarts of water and allow it to dry between the applications.</li> <li>Wash this over with a mixture of 2 ounces of Vitriol with 1 quart of water.</li> </ul>			(No Author Given), The Golden Cabinet: Being the Laboratory or Handmaid to the Arts (Second Edition).
	<ul> <li>Bush the wood with a solution of Copper in</li> </ul>	Copper	This is described as a very 'fine'	Chambers, E., Cyclopaedia or an

4. Dy	es Formulas			
Colour	Formula	Key Ingredients		Source of Formula
Produced			Comments	
	Aquafortis and afterward with a decoction of Logwood. Repeat the applications as needed.	Aquafortis Logwood	black.	Universal Dictionary of Arts and Sciences
				(No Author Given), The Golden Cabinet: Being the Laboratory or Handmaid to the Arts (Second Edition).
	<ul> <li>In an earthen glazed vessel put a pint of Vinegar add to this 2 ounces of Iron fillings, ½ pound of Galls and allow this to 'infuse for 3 or 4 hours while place on mild heat.</li> <li>Increase the heat, add to this 4 ounces of Copperas, a small amount of water, ½ ounce of Borax and ½ ounce of Indigo. Bring this mixture to a boil.</li> <li>Brush the selected wood over with Aquafortis diluted with water, then rub several coats of the prepared mixture on to the wood.</li> </ul>	Vinegar Iron fillings Galls Copperas Borax Indigo Aquafortis	A variation is to wash the wood with 2 or 3 coats of logwood boiled in water.	T. Sheraton, The Cabinet Dictionary.
	<ul> <li>Dissolve alum in water by a moderate heat and soak the wood in this mixture.</li> <li>Take Logwood chips and boil them in water in an earthen vessel until the water is reduced to half the quantity.</li> <li>Pound or grind a little Indigo and add to the mixture and bring it to a boil. Wash the wood over with the mixture several times while it is still hot (this will produce a violet colour)</li> <li>Once dry wash the work over with a mixture of Verdigrease which has been boiled in its own Vinegar.</li> </ul>	Alum Logwood Chips Indigo Verdigrease	Produces what is called a 'good black'	T. Sheraton, The Cabinet Dictionary.

4. Dy	es Formulas			
Colour	Formula	Key Ingredients		Source of Formula
Produced			Comments	
	<ul> <li>Soak the wood in Alum water set in a lukewarm</li> </ul>	Alum		T. Sheraton, The Cabinet
	temperature. After this take the wood to be	Logwood chips		Dictionary
	stained and put it a 'strong' boiling liquor of	Gall Nuts		
	Logwood chips and boil this for a few days.	Madder		
	<ul> <li>Combine the following ingredients Gall Nuts,</li> </ul>	Sumack		
	Madder, Sumack, Alder bark, and Iron filings and	Alder Bark		
	bring this mixture to a boil. After it has cooled, add	Iron filings		
	to this some Vitriol and place the veneer in it until	Vitriol		
	it is dyed through.			
	Pear or box may be dyed black by doing the	Alum	This can only be used for small	T. Sheraton, The Cabinet
	following: place the wood in alum water for 3 or 4	Common	pieces.	Dictionary
	days, then boil it in common Linseed oil with a little	Linseed Oil		
	Roman Vitriol and Sulphur.	Roman Vitriol		
		Sulphur		
	Boil logwood in water or vinegar and brush this on	Logwood		J. Crease, Varnishing on Paper and
	to the wood once it is boiling hot. Take Nutgalls	Water or		wood with Every improvement.
	and Copperas and bruise them and boil them in	Vinegar		
	water. Wash the wood until it is a perfect black.	Nutgalls		
		Copperas		
	Brush over the wood with Logwood that has been	Logwood		
	boiled in vinegar. While still hot brush it over with	Vinegar		
	a decoction of galls and copperas until the desired	Galls		
	colour is achieved.	Copperas		
	Wild Cashew	Wild Cashew		CL. Berthollet, Éléments de l'art
				de la teinture, Vol 1 & 2, F. Didot,
				Paris, 1791.
Yellow	2 ounces (56.6 gr.) of Gamboge resin	Gamboge	This produces a bright yellow stain	S. Allen, Classic Finishing
Tellow	1 quart (960 ml) of Ethyl Alcohol.	Ethyl alcohol	in light woods; it also enhances the	Techniques.
	Mix the two and allow it to dissolve for several	,	colour in dark woods. It a golden	
	days. Then strain the liquid.		colour to oak.	

4. Dy	es Formulas			
Colour Produced	Formula	Key Ingredients	Comments	Source of Formula
	<ul> <li>Crush Annatto Seeds in a mortar with a pestle and soak them in alcohol to make a spirit stain. The liquid must be strained before applying it to the wood.</li> </ul>	Annatto seeds Alcohol	This makes a reddish yellow or brown stain.	S. Allen, Classic Finishing Techniques.
	Mix Yellowwood with Alcohol.	Yellowwood Alcohol	Can be used to put a yellow tent in varnishes.	S. Allen, Classic Finishing Techniques.
	Fustic is available in an extract that dissolves in water.	Fustic Water		S. Allen, Classic Finishing Techniques.
	<ul> <li>Crush the Buckthorn berries then boil them in water and strain the resulting liquid.</li> </ul>	Buckthorn berries Water	This is a yellow dye produced from the berries of the Buckthorn shrub	S. Allen, Classic Finishing Techniques.
	<ul> <li>Produced by a mixture of Barberry fruits (roots?),</li> <li>Saffron, and Ochre or more easily from Dyer's weed (Dutch Pink, Reseda Luteola)</li> </ul>	Barberry fruits Saffron Ochre Or Dyer's weed	No specific recipe is given.	M. Sturmer, Veneer and colours Used by the Cabinet Makers of the 18 <sup>th</sup> Century
	Put small amount of Aloes into the Varnish.	Aloes Varnish	Described as 'bright yellow'.	No Author Given, The Household Cyclopedia of General Information (wood dyes)
	<ul> <li>Reduce 4 pounds (905.6 gr) of roots of Barberry by sawing into dust. Put this in a copper or brass pan. Add 4 ounces (113.2 gr.) of Turmeric and 4 gallons (3,840 ml) of water.</li> <li>Put the veneers in the liquor (make sure they are all covered) boil them together for 3 hours after turning them. When cool add 2 ounces (56.6 gr.) of Aquafortis.</li> </ul>	Barberry Turmeric Water Aquafortis		No Author Given, The Household Cyclopedia of General Information (wood dyes)
	Reduce 4 pounds (905.6 gr.) of roots of Barberry into dust by sawing, put into a copper pan with 4 ounces (113.2 gr.) of Turmeric and 4 gallons (3,840 ml) of water. Boil the wood in the solution for 3	Barberry Tumeric Water Aquafortis		J. Kramer, Tradition Way – The Colorization of Wood.

4. Dy	es Formulas			
Colour Produced	Formula	Key Ingredients	Community	Source of Formula
Produced	hours – turning often. When cool add two ounces		Comments	
	<ul> <li>(56.6 gr.) of Aquafortis.</li> <li>Warm the wood and brush it with Aquafortis. Hold the wood over the fire until it is 'smoking' when dry, sand it again.</li> </ul>	Aquafortis	The recommend that the wood be a burr or knotty ask or other white curled and knotty wood.	J. Stalker and G. Parker, A Treatise of Japanning and Varnishing.
	<ul> <li>A pound (226.4 gr.) of Barberry root that has been ground to dust and placed in a copper vessel.</li> <li>Add 1 ounce of Turmeric (28.3 gr.) and a gallon (3,840 ml) of water.</li> <li>Boil the veneer in the liquid for 3 hours turning them regularly.</li> <li>When cool add ½ a fluid ounce (15 ml) of Aquafortis (Nitric Acid) to fix the colours and leave them in overnight. Remove the veneers and rinse the before slowly drying them.</li> </ul>	Barberry rood Tumeric Water Aquafortis		R. Higgins, Dyeing Timber – Harewood.
	<ul> <li>To a gallon (3,840 ml) of water add 1 pound (226.4 gr.) of French berries and boil for a couple of hours until the colour has penetrated. The colour is brightened by adding the brightening mixture to the existing liquid.</li> </ul>	French Berries Water	The recipe for the brightening mixture: to 1 pint of 30% nitric acid add 1 ounce of Grain tin and a walnut sized piece of Sal-Ammoniac (ammonium chloride) let this soak for 3 days shaking periodically. Pour a few ounces into any of the mixtures given as this will help brighten and fix the colours.	R. Higgins, <i>Dyeing Timber – Harewood</i> .
	<ul> <li>4 pounds of roots of barberry, reduced to dust by sawing placed in a copper or brass trough.</li> <li>Add 4 ounces of turmeric, and four gallons of water.</li> <li>Place in as many white holly veneers as the liquor</li> </ul>	Root of barberry Turmeric Aquafortis		P. Weber, The Cabinet Maker's Guide.

4. Dy	es Formulas			
Colour Produced	Formula	Key Ingredients	Comments	Source of Formula
	<ul><li>will cover, boil them for 3 hours, turning often.</li><li>When cool add 2 ounces of Aquafortis.</li></ul>			
	<ul> <li>Brush white wood with tincture of turmeric (ground to a powder) to a pint of spirit. Leave for 'some' days. If the colour needs a reddish cast dragon's blood can be added.</li> <li>The turmeric wash is made from gum of turmeric root dissolved in water.</li> </ul>	Turmeric Spirit (Dragon's Blood)	This will not be as strong as the formula made with French berries.	R. Dossie, The Handmaid to the Arts.  E. Chambers, Cyclopaedia or an Universal Dictionary of Arts and Sciences.
	<ul> <li>Make a tincture of French berries by combining a pound of French berries with a gallon of water and 1 1/2 ounce of alum, and boil together in a pewter vessel. Strain the result. Rub wood several times with tincture.</li> <li>Let the wood dry then brush it over with a weak alum water solution. If needed, you can soak the wood in the tinctures</li> </ul>	French berries Alum	This version is described as cheaper and less strong than the turmeric formula. You can boil the French berry formula stronger by boiling off the liquid more. The berries should be large, plump and heavy and dark.	R. Dossie, The Handmaid to the Arts.
	<ul> <li>Aquafortis applied to warm wood and 'held to the fire right after.</li> </ul>	Aqua fortis	May produce a browner version of yellow if the solution is too strong. The instructions for this are a bit vague.	R. Dossie, The Handmaid to the Arts.
	<ul> <li>Dissolve Trunsol in 2 quarts of water. To this add ground indigo and set it in a vessel on a weak fire, stir until it dissolves. Coat this mixture on to the wood.</li> </ul>	Trunsol Water Indigo		No Author Given, Valuable Secrets Concerning Arts and Trades
	<ul> <li>Take 4 ounces of French berries and boil them for about ¼ of an hour in a quart of water with a Filbert (?) of alum.</li> <li>Soak the wood in this solution.</li> </ul>	French berries Water Filbert of Alum		No Author Given, Valuable Secrets Concerning Arts and Trades
	<ul> <li>Boil in water Terra Merita (Turmeric) and soak the</li> </ul>	Turmeric		No Author Given, Valuable Secrets

4. Dy	es Formulas			
Colour Produced	Formula	Key Ingredients	Comments	Source of Formula
	wood in this solution.			Concerning Arts and Trades
	<ul> <li>Brush the wood over several times with tincture of Turmeric root (1 ounce) in a pint of spirit. Let this sit for a few days then strain it.</li> </ul>	Tumeric Root Spirit	May be made redder by adding dragon's blood.	E. Chambers, Cyclopaedia or an Universal Dictionary of Arts and Sciences.
				(None Given), The Golden Cabinet: Being the Laboratory or Handmaid to the Arts (Second Edition),
	Rub the wood several times with a tincture of French berries that has been boiled. When dry, brush over it with a weak, cold alum water solution	French Berries Alum	This is described as less expensive and weaker than the turmeric root formula.	E. Chambers, Cyclopaedia or an Universal Dictionary of Arts and Sciences.
				No Author Given, The Golden Cabinet: Being the Laboratory or Handmaid to the Arts (Second Edition).
Blue	<ul> <li>In a glass bottle add 1 pound (452.8 gr.) of Oil of Vitriol. Add to this 4 ounces (113.2 gr.) of indigo.</li> </ul>	Oil of vitriol Indigo		G. Frank, Classic Wood Finishing.
	<ul> <li>To dye veneers, place them in a container (glazed or wooden) with the mixture then add water to cover the veneers. Leave it until the dye has 'struck'.</li> </ul>	muigo		P. Weber, The Cabinet Maker's Guide.
	<ul> <li>Woad leaves are dried and ground into a powder then mixed with water to form a paste.</li> </ul>	Woad Leaves		S. Allen, Classic Finishing Techniques.
	<ul> <li>A solution of Indigo mixed with Oil of Vitriol. It is thinned with water to make the desired consistency and colour.</li> </ul>	Oil of Vitriol Indigo	The Indigo is 'practically water insoluble'	M. Sturmer, Veneer and colours Used by the Cabinet Makers of the 18 <sup>th</sup> Century
	<ul> <li>Mix 4 ounces (113.2 gr.) of Indigo in a glass container with one pound (226.4 gr.) of Oil of</li> </ul>	Oil of vitriol Indigo		J. Kramer, Tradition Way – The Colorization of Wood.

4. Dy	es Formulas			
Colour Produced	Formula	Key Ingredients	Comments	Source of Formula
	Vitriol (Sulphuric Acid).			
	<ul> <li>Into a gallon (3,840 ml) of water add half dozen small lumps of quick Lime and stir it well and let it settle.</li> <li>Strain off the clear liquid. To this clear liquid add 10 ounces (283 gr.) of Turnsole and simmer the veneers until the colour is penetrated. Note: you should not boil the wood, as this will weaken the colour.</li> </ul>	Quick lime Turnsole		R. Higgins, Dyeing Timber – Harewood.
	<ul> <li>Make a solution of Copper by dissolving copper shavings in Spirit of Nitre or Aquafortis. Add the copper gradually until it effervesces. Add to this finely powdered starch (the proportion is 1/5 th of the weight of the copper). Gradually add to this a solution of pearl ashes until the fluid becomes clear and colourless. Extract the power that is produced, grind it finely and let it dry.</li> <li>Take the solution of Copper heat it and brush it over the wood several times. Make a solution of Pearl Ashes in the proportion of 2 ounces to 1 pint of water and brush it, hot, over the wood until the wood is the colour wanted.</li> </ul>	Copper shavings Spirit of nitre or Aquafortis Starch Pearl ashes	Dossie was unclear on one point is how the powder should it be mixed together to produce the solution. This version is, according to this author a brighter blue than the version made from indigo (see next formula)	R. Dossie, The Handmaid to the Arts.
	<ul> <li>Dye the wood green with Verdigrise then brush it with a boiling solution of Pearl Ashes until it turns blue.</li> </ul>	Verdigrise Pearl Ashes	Dossie does not specify exactly how to dye the wood green.	R. Dossie, The Handmaid to the Arts.
	<ul> <li>Brush a boiling hot solution of Indigo on the wood.</li> <li>Then prepare a solution of white tartar (Cream of tartar) by boiling 3 ounces of Tartar with a quart of water and brushing it over the still wet wood.</li> </ul>	Indigo White Tartar (Cream of Tartar)	Dossie does not specify exactly how the solution of indigo is produced.	R. Dossie, The Handmaid to the Arts.

4. Dy	es Formulas			
Colour Produced	Formula	Key Ingredients	Comments	Source of Formula
	dissolve 4 ounces of Turnsol and boil it for 1 hour.  • Apply several coats to the wood.	Turnsol	water should be 'decanted out of the ground' before adding the turnsol. It is unclear what this means.	Concerning Arts and Trades
	<ul> <li>Brush over the wood a Solution of Copper several times while the solution is hot. Follow this by brushing the wood with a solution of Pearl Ashes in the proportions of 2 ounces to 1 pint of hot water.</li> </ul>	Solution of Copper Pearl Ashes	This formula is described by Chambers as the brighter formula.	E. Chambers, Cyclopaedia or an Universal Dictionary of Arts and Sciences.  No Author Given, The Golden Cabinet: Being the Laboratory or Handmaid to the Arts (Second Edition).
	<ul> <li>Brush over the indigo prepared with sope-lees as when used by dyersboiling hot.</li> <li>Follow this by brushing it over with a solution of white Tartar or Cream of Tartar before the wood has dried. This later solution is made by boiling 3 ounces of the Tartar in 1 quart of water.</li> </ul>	Indigo Sope-lees Cream of Tartar		E. Chambers, Cyclopaedia or an Universal Dictionary of Arts and Sciences.  No Author Given, The Golden Cabinet: Being the Laboratory or Handmaid to the Arts (Second Edition).
Red	<ul> <li>Brazilwood</li> <li>2 ounces (56.6 gr.) of Dragon's Blood</li> <li>1 quart (960 ml) of Ethyl Acohol.</li> <li>Break the Dragon's Blood into small pieces with a mortar and pestle. Place the Dragon's Blood in the Alcohol and shake it.</li> <li>Place the bottle in a sunlit area and shake it occasionally until it is dissolved. Strain the mixture.</li> </ul>	Brazilwood Dragon's blood Ethyl Alcohol	No specific recipe is given.	G. Frank, Classic Wood Finishing. S. Allen, Classic Finishing Techniques.
	Brazilwood and Alum (the Alum will intensify the colour of the dye)	Brazilwood Alum	The Alum will intensify the colour of the dye.	M. Sturmer, Veneer and colours Used by the Cabinet Makers of th

4. Dy	es Formulas			
Colour	Formula	Key Ingredients	C	Source of Formula
Produced			Comments	th
			No specific recipe is given.	18 <sup>th</sup> Century.
	<ul> <li>Cochineal powder: Soak the powder in hot water and finally combine this brew with Alum mordant.</li> </ul>		Cochineal is made from the crushed bodies of female cochineal insects. This was used to produce the red in British army uniforms in the mid to late 1700's.	G. Frank, Classic Wood Finishing
	<ul> <li>2 ounces (56.6 gr.) of red Sandalwood powder</li> <li>1 quart (960 ml) of Ethyl Alcohol.</li> <li>Mix the 2 ingredients together and place in a warm place for several days. Strain to remove wood fibres.</li> </ul>		This produces a red that is brighter than Dragon's Blood stain.	S. Allen, Classic Finishing Techniques.
	Brazilwood and Alum.		This author recommended obtaining liquor from 'old red woollen cloth. The more Alum the more intense the colouration.	M. Sturmer, Veneer and colours Used by the Cabinet Makers of the 18 <sup>th</sup> Century
	<ul> <li>Sandalwood is available as a powder. Put the powder in a jar with alcohol and let the dye dissolve for several days. After it has dissolved, strain the liquid.</li> </ul>	Sandalwood Alcohol	Sandalwood can also be used to produce a yellow dye (the text did not describe how this could be done).	M. Sturmer, Veneer and colours Used by the Cabinet Makers of the 18 <sup>th</sup> Century
	<ul> <li>Brazilwood (1 ounce/23.3 gr.) and 1 quart (960 ml) water.</li> <li>1 ounce (23.3 gr.) Tin Chloride and 1 quart (960 ml) water</li> <li>Mix Brazilwood extract in hot water and let it sit overnight, then strain the liquid through cloth or filter paper. Mix the mordant using room temperature water and let the tin chloride dissolve overnight.</li> </ul>	Brazilwood Tin Chloride	Apply two or three coats with a brush rag or damp sponge after applying the last coat of stain, apply the mordant.	M. Sturmer, Veneer and colours Used by the Cabinet Makers of the 18 <sup>th</sup> Century
	The Madder extract can be substituted for the	Madder	Madder produces an orange –red	S. Allen, Classic Finishing

4. Dy	es Formulas			
Colour Produced	Formula	Key Ingredients	Comments	Source of Formula
	plant itself.  • Break the roots into small pieces and boil them in water.		colour. Alum is frequently used as the mordant.	Techniques.
	<ul> <li>Boil 1 pound (226.4 gr.) of ground Brazilwood in 3 quarts (2,880 ml) of water for an hour, strain, add ½ ounce (28.3 gr) of Cochineal and boil gently for half an hour.</li> </ul>	Brazilwood Cochineal	Described as 'crimson' not "red'.	J. Kramer, Tradition Way – The Colorization of Wood.
	<ul> <li>Boil a kettle of water with a handful of Alum.         Place the wood into this mixture and allow it to boil for a short time.     </li> <li>Take the wood out and add two handfuls of Brazilwood to the mixture.</li> <li>Return the wood to the mixture and bring it to a boil for 15 minutes.</li> </ul>	Brazilwood Alum	Works best on woods that are white. When finished remove the raised grain.	J. Stalker and G. Parker, A Treatise of Japanning and Varnishing.
	Boil the wood for 3 hours in 2 pounds (452.8 gr.) of Brazilwood dust to 4 gallons of water. Let cool then add 2 ounces (56.6 gr.) of alum and 2 ounces (56.6 gr.) of Aquafortis. Keep this lukewarm until the colour has struck through	Brazilwood Alum Aquafortis		J. Kramer, Tradition Way – The Colorization of Wood.
	<ul> <li>To a gallon (3,840 ml) of water add ½ pound (113.2 gr.) of Brazil dust and boil veneers in it for 3 hours. Add to this ½ ounce (14.15 gr.) of Alum and ½ ounces (14.15 gr.) of Aquafortis. Keep this solution warm until the colour has struck.</li> </ul>	Brazilwood Alum Aquafortis		R. Higgins, Dyeing Timber – Harewood.
	<ul> <li>2 pounds of Brazil dust, added to 4 gallons of water.</li> <li>Put as many veneers as the liquor will cover.</li> <li>Boil them for 3 hours and let cool</li> <li>Add 2 ounces of alum and 2 ounces of Aquafortis</li> </ul>	Brazilwood Aquafortis Alum		P. Weber, The Cabinet Maker's Guide.

4. Dy	es Formulas			
Colour Produced	Formula	Key Ingredients	Comments	Source of Formula
	and keep lukewarm until the colour has struck through			
	<ul> <li>A strong infusion (1 pound to a gallon) of Brazilwood in stale urine or water impregnated with pearl ashes (1 ounce to a gallon). Let this mixture stand for 2 or 3 days.</li> <li>Bring the mixture to a boil, and then brush over the wood until it is strongly coloured.</li> <li>Brush over wit alum water made with 2 ounces of alum to 1 quart of water.</li> </ul>	Brazilwood Urine Alum	Produces a bright red colour.	R. Dossie, The Handmaid to the Arts.
	<ul> <li>Dissolve 1 ounce of dragon's blood in a pint of spirit of wine and brush over the wood till the colour is a strong as you want.</li> </ul>	Dragon's blood Spirit of wine	For a weaker red colour	R. Dossie, The Handmaid to the Arts.
	Mix 1 pound of Brazilwood in stale urine and add 2 additional ounces of pearl ashes. Let it sit for a few days, boil then brush over the wood until it is the colour desired.  Once finished brush ever the wood with slum.	Brazilwood Urine Pearl ashes Alum	The more pearl ashes the paler the colour.	R. Dossie, The Handmaid to the Arts.
	<ul> <li>Once finished brush over the wood with alum.</li> <li>Give the wood a coat of yellow made from saffron diluted in water. Let the wood dry then apply a coat of Brazilwood that has been chopped fine, boiled in water. Repeat the application of Brazilwood until the desired colour is obtained.</li> <li>Apply a solution of alum or quick lime to make the colour brighter.</li> </ul>	Saffron Brazilwood Alum or quick lime		No Author Given, Valuable Secrets Concerning Arts and Trades
	Give the wood a coat of yellow made from saffron diluted in water. Let the wood dry then apply a coat of Brazilwood that has been chopped fine, and mixed in oil of tartar. Repeat the application of Brazilwood until the desired colour is obtained.	Saffron Brazilwood Oil of Tartar Alum or quick lime		No Author Given, Valuable Secrets Concerning Arts and Trades

4. Dy	es Formulas			
Colour Produced	Formula	Key Ingredients	Comments	Source of Formula
	<ul> <li>Apply a solution of alum or quick lime to make the colour brighter.</li> </ul>			
	<ul> <li>Boil the wood in water and alum. Take the wood out add Brazilwood to the liquor and boiling it again.</li> </ul>	Alum Brazilwood		J. Barrow, A Supplement to the New and Universal Dictionary of Arts and Sciences
	<ul> <li>Make a strong infusion of Brazilwood (1 pound) in stale Urine (1 gallon) or water impregnated with Pearl Ashes (the ratio of Pearl Ashes to water is 1 ounce to 1 gallon).</li> <li>Stir this mixture frequently over 2 or 3 days.</li> </ul>	Brazilwood Stale urine (or water + pearl ashes) Alum	Described as a bright red stain.	E. Chambers, Cyclopaedia or an Universal Dictionary of Arts and Sciences.  No Author Given, The Golden
	<ul> <li>Boil the solution and brush the solution with the hot formula. Before it has dried brush over Alum water made of 2 ounces alum to 1 quart of water.</li> </ul>			Cabinet: Being the Laboratory or Handmaid to the Arts (Second Edition).
	<ul> <li>Bush over the wood with a tincture made by dissolving 1 ounce of Dragon's blood with 1 pint of Spirit of wine.</li> </ul>	Dragon's Blood Spirit of wine	This formula is described as less red. To make this a pink or red add 2 ounces of pearl-ashes and use it as	E. Chambers, Cyclopaedia or an Universal Dictionary of Arts and Sciences.
			before.	No Author Given, The Golden Cabinet: Being the Laboratory or Handmaid to the Arts (Second Edition).
	<ul> <li>Take quick lime 'slaked' in urine and cover the wood with this mixture while it is still hot.</li> <li>Add to this 'that which is extracted from brazilwood'. Let the wood soak for half a day.</li> </ul>	Quick lime Urine Brazilwood	If needed repeat the application	T. Sheraton, The Cabinet Dictionary.
	<ul> <li>Boil the wood in alum water, then put them in a tincture of Brazilwood and alum water for 2 or 3 weeks</li> </ul>	Alum water Brazilwood		T. Sheraton, The Cabinet Dictionary.
	<ul> <li>Using a white wood, place it in a kettle of water with a 'handful of allom' and leave it until it is well</li> </ul>	Alum water Brazilwood		J. Crease, Varnishing on Paper and wood with Every

4. Dy	es Formulas			
Colour Produced	Formula	Key Ingredients	Comments	Source of Formula
	soaked. Put in two handfulls of 'rasped brasil wood' and boil it for ¼ of an hour			improvement?
	<ul> <li>Boil the wood in Alum and Water. Take it out and add Brazil(wood) to the liquor and bringing it to a boil once again.</li> </ul>	Alum Brazilwood		E. Chambers, Cyclopaedia or an Universal Dictionary of Arts and Sciences.
				J. Barrow, New and Universal Dictionary of Arts and Sciences,
Orange	<ul> <li>2 ounces (56.3 gr.) of Annatto seeds and 1 quart (960 ml) of Ethyl Alcohol.</li> <li>Crush the seeds and let them soak in the alcohol for several days. Strain the liquid.</li> </ul>	Annatto seeds Ethyl Alcohol	This produces a bright orange colour.	S. Allen, Classic Finishing Techniques.
	<ul> <li>Dye the wood yellow then transfer it to bright red dye.</li> </ul>	NA		R. Higgins, Dyeing Timber – Harewood.
Red- Browns/ Mahogany	Madder root (Alizarin) (no specific recipe is given)	Madder root	Produces a wide range of colours from beige to dark chocolate by combining with various mordents.	G. Frank, Classic Wood Finishing
	<ul> <li>1 ounce (28.3 gr.) of Brazilwood extract.</li> <li>1 quart (960 ml) of water.</li> <li>1 ounce (28.3 gr.) Alum mixed with 1 quart (960 ml) of water.</li> <li>Heat water then add Brazilwood extract. Let the extract dissolve overnight then strain the liquid.</li> <li>Add the Alum to room temperature water and let it dissolve overnight.</li> <li>Apply coats as needed. After applying the last coat of stain, apply the mordant.</li> </ul>	Brazilwood extract Alum	Described as 'mahogany red' dye. The more coats you apply, the more intense the colour. You can make this more intense by replacing the Alum with Tin Chloride as the mordant.	S. Allen, Classic Finishing Techniques.
	Henna comes as a powder that is mixed with hot water.	Henna		S. Allen, Classic Finishing Techniques

4. Dy	es Formulas			
Colour Produced	Formula	Key Ingredients	Comments	Source of Formula
	<ul> <li>Boil together Brazilwood and Alum and before it is applied to the wood add a small amount of Potash.</li> </ul>	Brazilwood Alum Potash	This will stain oak to a mahogany colour	No Author Given, The Household Cyclopedia of General Information (wood dyes)
	<ul> <li>Break 2 ounces (56.6 gr.) of Dragon's Blood into pieces, and put them in a quart (960 ml) of rectified Spirit of Wine. Let the bottle stand in a warm place and shake it frequently. It is ready when the Dragon's Blood has dissolved.</li> </ul>	Dragon's blood Rectified spirit of wine	This will work on Beech to change it into a mahogany colour	No Author Given, The Household Cyclopedia of General Information (wood dyes)
	Boil together Brazilwood and Alum with a little Potash	Brazilwood Alum Potash		J. Kramer, Tradition Way – The Colorization of Wood.
	<ul> <li>Dissolve 2 ounces (56.6 gr.) of Dragon's Blood in 1 quart (960 ml) of rectified spirits of wind in a warm location for several days (shake frequently).</li> </ul>	Dragon's blood Rectified spirits		J. Kramer, Tradition Way – The Colorization of Wood.
	Iron filings in a 45% Nitric Acid solution.	Iron filings 45% Nitric Acid	For Maple.	Baumeister, Boonstra, Blanchette, Fischer, Schorsch, Stained Burl Veneer On Historic Furniture
	Boil 1 pound (226.4 gr.) of Logwood in 4 quarts (3840 ml) of water. Add a double handful of walnut peelings and boil again. Remove the chips and add a pint of Vinegar.	Logwood Walnut peelings Vinegar		J. Kramer, Tradition Way – The Colorization of Wood
	<ul> <li>Make a decoction of madder (1/2 pound), and fustic wood (1/4 pound) or yellow berries (1 ounce) ground in water.</li> <li>While it is boiling hot brush it over the wood until the colour is obtained.</li> </ul>	Madder Fustic wood (or yellow berries)	For a light red brown	R. Dossie, The Handmaid to the Arts.
	Mix a tincture of dragon's blood and turmeric root in spirit of wine.	Dragon's blood Turmeric Spirit of wine	By varying the ratio of the two ingredients, one can vary the colour from a stronger red or yellow.	R. Dossie, The Handmaid to the Arts.

4. Dy	es Formulas			
Colour Produced	Formula	Key Ingredients	Comments	Source of Formula
			This works better for woods that start at brown.	
	<ul> <li>Mix ½ pound of madder and 2 ounces of logwood in water. Bring this concoction to a boil and brush on to wood several times.</li> <li>Once the wood has dried, brush it over with a boiling mixture of pearl ashes (1/4 ounce) in quart of water.</li> </ul>	Madder Logwood Pearl ashes	For a dark mahogany	R. Dossie, The Handmaid to the Arts.
	<ul> <li>Make a mixture of madder (1/2 pound) and fustic wood (¼ pound) ground and mixed with water.</li> <li>Bring this to a boil, and while still hot, brush it over the wood.</li> </ul>	Madder Fustic Wood	Instead of the fustic, a 1-ounce of yellow berries may be sued. This produces a light mahogany colour.	E. Chambers, Cyclopaedia or an Universal Dictionary of Arts and Sciences.  No Author Given, The Golden Cabinet: Being the Laboratory or Handmaid to the Arts (Second Edition).
	Brush over the wood with a tincture of dragon's blood and turmeric rood in spirit of wine	Dragon's Blood Turmeric Spirit of wine	This is also a light brown mahogany colour.	E. Chambers, Cyclopaedia or an Universal Dictionary of Arts and Sciences.  No Author Given, The Golden Cabinet: Being the Laboratory or Handmaid to the Arts (Second Edition).
	<ul> <li>Make a mixture of Madder (1/2 pound) and Log wood (¼ pound) ground and mixed with water</li> <li>After it dries brush it over lightly with Pearl Ashes (1/4 ounce) dissolved in Water (1 quart).</li> </ul>	Madder Logwood Pearl ashes	This is reported to produce a dark mahogany formula	Chambers, E., Cyclopaedia or an Universal Dictionary of Arts and Sciences  No Author Given, The Golden Cabinet: Being the Laboratory or

4. Dy	es Formulas			
Colour Produced	Formula	Key Ingredients	Comments	Source of Formula
				Handmaid to the Arts (Second Edition).
Walnut Brown	<ul> <li>Fill an earthen crock with blackened hulls of Walnuts and cover with water.</li> <li>Brew on slow heat for 3 or 4 days. Add a spoon full of Lye or Soda Ash.</li> <li>Filter the mixture with a cloth – bottle and cork the mixture.</li> </ul>	Hulls of Walnuts Lye or Soda Ash	Current replacement is walnut crystals or Cassel extract	Frank, G., Classic Wood Finishing
	<ul> <li>1 quart (960 ml) of household Ammonia</li> <li>1 cup (240 ml) of Walnut Husks.</li> <li>Place the husks in the Ammonia and let it sit for several days.</li> <li>Strain the liquid.</li> <li>Brush it evenly on the wood and allow to dry.</li> </ul>	Ammonia Walnut Husks	The longer the husks sit in Ammonia, the stronger the colour. You can change the intensity by adding husks or water.	S. Allen, Classic Finishing Techniques.
	A decoction of Walnut shells	Deconction of walnut shells	No specific recipe is given	M. Sturmer, Veneer and colours Used by the Cabinet Makers of the 18 <sup>th</sup> Century.
	<ul> <li>Mix 1 ounce (28.3 gr.) of Walnut Crystals with 1 quart (960 ml) of water and ½ cup (113.2 gr.) of Ammonia.</li> <li>Bring the water to a boil and remove it from heat.</li> <li>Add Crystals and stir. Let the Crystals dissolve overnight the strain it to removed any sediment. Add the Ammonia to deepen the colour and make it more permanent.</li> </ul>	Walnut Crystals Water Amonia		S. Allen, Classic Finishing Techniques.
	<ul> <li>Cutch is usually sold as an extract that will dissolve in alcohol or in warm water.</li> </ul>	Cutch	This produces a brown colour. The shade of brown depends upon the Mordant.	S. Allen, Classic Finishing Techniques.
Brown	<ul> <li>Hold the sanded work to the fire until it receives a 'gentle warmth'. Take Aquafortis and with a</li> </ul>	Aquafortis	This works to stain boxwood brown.	No Author Given, The Household Cyclopedia of General Information

4. Dy	es Formulas			
Colour	Formula	Key Ingredients		Source of Formula
Produced			Comments	
	feather pass it over the work till it changes to a "fine brown."			(wood dyes)
	<ul> <li>Iron filings in 8% acetic acid, copper shot and kitchen salt</li> </ul>	Iron filings Acetic acid Copper shot Salt	For Maple	Baumeister, Boonstra, Blanchette, Fischer, Schorsch, Stained Burl Veneer On Historic Furniture
Purple	<ul> <li>Boil one pound (226.4 gr.) of chipped Logwood in 3 quarts (2,880 ml) of water for an hour; add 4 ounces (113.2 gr.) of Pearl-ash and two ounces (56.6 gr.) of well pounded Indigo.</li> </ul>	Logwood Pearl Ash Indigo		J. Kramer, Tradition Way – The Colorization of Wood.
	<ul> <li>Boil the veneers in 1 gallon of water with ½ pound (113.2 gr.) of Logwood chips or powder. When the colour is well struck add some of the Vitrilated Indigo solution until the shade required.</li> </ul>	Logwood Vitrilated Indigo solution		R. Higgins, Dyeing Timber – Harewood.
	<ul> <li>2 pounds of Chipped Logwood, half a pound of Brazil dust. Add this to 4 gallons of water, put in the veneers and boil.</li> <li>Add 6 ounces of Pearl Ash and 2 of Alum. Let them boil 2 or 3 hours per day until the colour is correct.</li> </ul>	Logwood Brazilwood Pearl ash Alum		P. Weber, The Cabinet Maker's Guide.
	<ul> <li>Bush the wood with a mixture of logwood (1 pound) and Brazilwood (1/4 pound) to a gallon of water and boiled for an hour or more.</li> <li>Brush over the wood until the colour is correct, let the wood dry then brushed over by a dram of Pearl ash mixed in 1 quart of Water.</li> </ul>	Logwood Brazilwood Pearl ash	The application of the pearl ash solution controls the colour. As more of the pearl ash is applied the colour will change from a brown red toward a dark blue purple.	R. Dossie, The Handmaid to the Arts.
	Soak Dutch Turnsol in water and add a tincture of Brazilwood made in Lime Water.	Dutch Turnsol Brazilwood	This produces a reddish purple	No Author Given, Valuable Secrets Concerning Arts and Trades
	<ul> <li>Soak German Turnsol in water. Dissolve the turnsol and strain the solution through a linen cloth. Give the wood a coating of this. If it is too</li> </ul>	German Turnsol	This produces a bluish purple.	No Author Given, Valuable Secrets Concerning Arts and Trades

Append	Appendix B: Technical Notes and Definitions/Translations				
	es Formulas	T	T	T	
Colour Produced	Formula	Key Ingredients	Comments	Source of Formula	
	<ul> <li>strong, apply a coating of clear water.</li> <li>Add 4 ounces of Brazilwood and ½ a pound of India woods and boil them together in 2 quarts of water with 1 ounce of Alum.</li> </ul>	Brazilwood India woods Alum	This book does not detail what 'india' wood is.	No Author Given, Valuable Secrets Concerning Arts and Trades	
	<ul> <li>Bush over the wood with a strong mixture of Log (1 pound) and Brazil (1/4 pound) wood that has been boiled in 1 gallon of Water for 1 hour or more.</li> <li>Once it is the colour desired, brush it over with a solution of 1 dram Pearl Ashes in a quart of Water.</li> </ul>	Brazilwood Log wood Pearl ashes	Chambers recommends following this application with a solution of gold in spirit of salt or aqua regia to make the colour more durable.	E. Chambers, Cyclopaedia or an Universal Dictionary of Arts and Sciences.  No Author Given, The Golden Cabinet: Being the Laboratory or Handmaid to the Arts (Second Edition).	
	Dog-whelk (colorant du buccin)	Dog-whelk	No specific recipe is given. Dog- whelk is a type of spiralled sea shell.	C. – L. Berthollet, Éléments de l'art de la teinture, Vol 1 & 2,	
Green	Liquor made from Green Ebony <sup>34</sup> .	Green Ebony	No specific recipe is given.	M. Sturmer, Veneer and colours Used by the Cabinet Makers of the 18 <sup>th</sup> Century	
	<ul> <li>Ferrous Sulphate with several dyes produces a green colour. Specific dyes include Cutch, Fustic, Henna and Logwood (blue-green).</li> </ul>	Ferrous Sulphate plus: Cutch, Fustic, Henna or Logwood	No specific recipe is given.	S. Allen, Classic Finishing Techniques.	
	Mixing blue and yellow dyes	NA	No specific recipe is given	M. Sturmer, Veneer and colours Used by the Cabinet Makers of the 18 <sup>th</sup> Century	
	Verdigris	Verdigris	No specific recipe is given	M. Sturmer, Veneer and colours Used by the Cabinet Makers of the 18 <sup>th</sup> Century	

 $<sup>^{34}</sup>$  This is the heartwood of the ebony tree. This produces an olive green or olive brown coloured dye.

4. Dy	es Formulas			
Colour Produced	Formula	Key Ingredients	Comments	Source of Formula
	<ul> <li>To 3 pints (1,440 ml) of Vinegar add 4 ounces (113.2 gr.) of Verdigris.</li> <li>Add to this ½ ounce (14.15 gr.) of Sap-green and ½ ounce (14.15 gr.) of Indigo. Strain the resulting liquid.</li> </ul>	Vinegar Verdigris Sap-green		No Author Given, The Household Cyclopedia of General Information (wood dyes)
	<ul> <li>Start as to produce yellow, but instead of Aquafortis, add Vitriolated Indigo as needed to produce the desired colour.</li> </ul>	Yellow dye Aquafortis Vitriolated indigo		No Author Given, The Household Cyclopedia of General Information (wood dyes)
	<ul> <li>Boil a mixture of water with Alum &amp; add the material to the boiling mixture.</li> <li>Add to this a grind of 'Spanish-green' or Verdigris with half as much Sal-armonack.</li> <li>Put them in 'wine-Vinegar' &amp; keep the contents hot until the wood is green enough.</li> </ul>	Alum Verdigris Sal-armonac Wine vinegar	For wood, ivory, horn or bone.	J. Stalker and G. Parker, A Treatise of Japanning and Varnishing.
	Brass or Copper filings in 7% Nitric Acid solution.	Brass or copper filings Nitric acid	For Ash This produces a greyish green colour	Baumeister, Boonstra, Blanchette, Fischer, Schorsch, Stained Burl Veneer On Historic Furniture.
	<ul> <li>Proceed as with the yellow, but instead of Aquafortis add as much of Vitriolated Indigo as to produce the desired colour.</li> </ul>	Yellow Aquafortis Vitriolated Indigo		J. Kramer, Tradition Way – The Colorization of Wood.
	<ul> <li>Follow instructions for a yellow dye:         <ul> <li>4 pounds of roots of Barberry, reduced to dust by sawing placed in a copper or brass trough.</li> <li>Add 4 ounces of Turmeric, and four gallons of Water.</li> <li>Place in as many white holly veneers as the liquor</li> </ul> </li> </ul>	Root of barberry Turmeric Vitriolated indigo		P. Weber, The Cabinet Maker's Guide.
	will cover, boil them for 3 hours, turning often.  Then do the following  • Add 2 ounces of Vitriolated Indigo - as much as needed to produce the colour that you want.			

	ix B: Technical Notes and Definitions/ es Formulas			
Colour Produced	Formula	Key Ingredients	Comments	Source of Formula
rioduceu	• To 3 pints (1,440 ml) of Vinegar add 4 ounces (113.2 gr.) of ground Verdigris. Add ½ ounce (14.15 gr.) of Sap-green & ½ ounce (14.15 gr.) of Indigo. Strain the resulting liquid.	Vinegar Verdigris Sap – green Indigo	Comments	J. Kramer, Tradition Way – The Colorization of Wood.
	Saturated solution of Copper Nitrate in distilled water.	Copper Nitrate Distilled water	For maple	Baumeister, Boonstra, Blanchette, Fischer, Schorsch, Stained Burl Veneer On Historic Furniture.
	Commercially prepared metal salts in aqueous solution and saturated solution of Iron Acetate.	Metal salts Iron acetate	For maple	Baumeister, Boonstra, Blanchette, Fischer, Schorsch, Stained Burl Veneer On Historic Furniture.
	<ul> <li>Start the process as with either yellow recipe, but instead of Nitric Acid add Vitrilated Indigo until the right shade is achieved.</li> </ul>	Yellow dye Vitrilated Indigo		R. Higgins, Dyeing Timber – Harewood.
	<ul> <li>Grind Spanish Verdigrise into a fine powder with strong Vinegar. Add to this 2 ounces of Green Vitriol.</li> <li>Boil this for a1/4 of an hour and put the wood into it and soak till the colour is correct.</li> </ul>	Verdigrise, Spanish		No Author Given, Valuable Secrets Concerning Arts and Trades
	<ul> <li>Dissolve Verdigrise in Vinegar or the crystals of Verdigrise in water. Brush over this mixture on the wood while the mixture is still hot.</li> </ul>	Veridigrise Vinegar		E. Chambers, Cyclopaedia or an Universal Dictionary of Arts and Sciences.
				No Author Given, The Golden Cabinet: Being the Laboratory or Handmaid to the Arts (Second Edition).
	Gallic acid	Gallic acid		CL. Berthollet, Éléments de l'art de la teinture, Vol 1 & 2.
Grey /	Put the veneer in a copper container then pour in		The veneers should not be too	No Author Given, The Household

4. Dy	es Formulas			
Colour Produced	Formula	Key Ingredients	Comments	Source of Formula
Silver Grey	hot iron liquor (Acetate of Iron).  • Add 1 pound ((226.4 gr.) of chip Logwood with 2 ounces (56.6 gr.) of bruised Nutgalls. Boil up another pot of Iron liquor to supply the copper, keeping the veneers covered and boiling 2 hours a day until thoroughly penetrated.		dry before starting this process.	Cyclopedia of General Information (wood dyes)
	<ul> <li>In a cast iron pot of 6 to 8 gallons, collect old iron (nails, hoops etc.) and expose them to weather until they are covered with rust.</li> <li>Add 1 gallon of vinegar and 2 of water, boil for an hour.</li> <li>Put air-dried veneer into the copper used for black dye and pour the iron liquor over them. Add one pound of chipped Logwood, 2 ounces of bruised Nutgalls.</li> <li>Boil 2 hours a day keeping the veneers covered.</li> </ul>	Iron Vinegar Logwood Nut galls		P. Weber, The Cabinet Maker's Guide.
	Iron filings in a 7% Nitric Acid solution.	Iron fillings Nitric Acid (7% solution)	For Ash	Baumeister, Boonstra, Blanchette, Fischer, Schorsch, Stained Burl Veneer On Historic Furniture
	Iron & Copper fillings in 7% solution of Nitric Acid.	Iron and Copper fillings Nitric Acid (7% solution)	• For Alder	Baumeister, Boonstra, Blanchette, Fischer, Schorsch, Stained Burl Veneer On Historic Furniture
	Iron & Brass filings in a 7% Nitric Acid solution.	Iron and Brass fillings Nitric Acid (7% solution)	• For Birch	Baumeister, Boonstra, Blanchette, Fischer, Schorsch, Stained Burl Veneer On Historic Furniture
	<ul> <li>In an old cast iron potboil a gallon (3,840 ml) of Water and half a gallon of Vinegar with a pile of rusty nails or other old iron. In the copper vessel</li> </ul>	Water Vinegar Rusty nails (iron)		R. Higgins, Dyeing Timber - Harewood

4. Dyes Formulas						
Colour	Formula	Key Ingredients		Source of Formula		
Produced			Comments			
	pour this over ½ pound (113.2 gr.) of Logwood chips & 1 ounce (28.3 gr.) of bruised Nutgalls. Boil veneers for 2 hours a day, topping up with more rusty water until the colour has struck through.	Logwood Nutgalls				
	Keep a tin full of old iron and occasionally sprinkle it with Spirits of Salt (Hydrochloric Acid) until they are very corroded. On top of about 6 pounds (1,358.4 gr.) of corroded iron, pour 1 gallon (3,840 ml) of Water in which has been dissolved 2 ounces (56.6 gr.) of Salt of Tartar. Pour the liquid into the copper vessel and add the veneers. Boil for 3 hours then add 4 ounces (113.2 gr.) of Green Copperas (Iron Sulphate) and keep warm until it was penetrated.	Old Iron Spirits of Salt Salt of Tartar Water Green copperas		R. Higgins, Dyeing Timber – Harewood.		
No Particular Colour	<ul> <li>Obtain fresh Horse Dung and Squeeze the moisture through a cloth and put it in vessels. Dissolve Gum Arabic and rock Alum (each with about the quantity of a Walnut). Mix with these any of the colours needed and stir them for 3 or 4 days.</li> <li>Boil the liquid and place into the solution the thinly sliced pieces of wood (about the thickness of a half a crown.)</li> </ul>	Horse Dung Gum Arabic Alum Walnut	This is described as a method for dying wood specifically for the use in marquetry. It recommends that the wood be pear.	J. Stalker and G. Parker, A Treatist of Japanning and Varnishing.		

# **Appendix B: Technical Notes and Definitions/Translations**5. Glue Formulas<sup>35</sup>

Formula	Key	Comments	Reason for	Source of formula
	Ingredients		Making	
<ul> <li>1 handful of quick Lime and 4 ounces of Linseed oil. Boil the two and spread it on tin plates in a shade. When needed heat and apply while hot.</li> </ul>	Quick lime Linseed Oil	Described as an alternative to regular glue.	Alternative	T. Sheraton, The Cabinet Dictionary.
<ul> <li>Steep the parings from different animals in Water for 2 or 3 days. Wash them out well, and then boil them to the consistence of a thick jelly. While still hot filter it through an ozier basket to remove any impurities.</li> <li>Let it rest until cool. Once cool, the foreign matter should have precipitated to the bottom of the container. At this time it needs to be boiled again then poured into flat frames or moulds.</li> </ul>	Parings from different animals Water	This author suggests that to test the quality of the glue: Let it steep for 3 or 4 days in water. If it swells 'considerably without melting and when removed and allowed to dry it returns to its former size and shape – it is good glue. This author also suggests that the older animals are the best, but that any animal can work (listed are Oxen, Cows, calves, sheep) This is described as 'strong glue.'	This is a strong colourless glue.	E. Chambers, Cyclopaedia or an Universal Dictionary of Arts and Sciences.
<ul> <li>Make the strong glue and take the final, hard product and mix it with Isinglass then cover the both with Spirit of Wine and let it sit for 24 hours.</li> <li>Melt them together and add as much powdered chalk as to make it opaque white.</li> </ul>	"Strong Glue" Isinglass Spirit of Wine		This is just described as another formula.	E. Chambers, Cyclopaedia or an Universal Dictionary of Arts and Sciences.

<sup>&</sup>lt;sup>35</sup> Most cases, the formula given was a formula too add specific characteristics to the basic glue and was not a formula for making glue. For example, some authors reported that they wanted to make the glue waterproof. To do this they would add a few ingredients.

#### 5. Glue Formulas<sup>35</sup>

Formula	Key Ingredients	Comments	Reason for Making	Source of formula
<ul> <li>Steep Isinglass for 24 hours in Spirit of Wine or common brandy.</li> <li>Gently boil them together stirring them until well mixed.</li> <li>Before it has a chance to cool, stain it through a linen cloth.</li> </ul>			Described as a strong glue.	E. Chambers, Cyclopaedia or an Universal Dictionary of Arts and Sciences.
<ul> <li>Dissolve 2 ounces (each) of Gum Sandarac and Mastic in a pint of Spirit of Wine.</li> <li>Add to this 1-ounce of turpentine, equal parts of isinglass and parchment glue, pounded.</li> <li>Melt the mixture over heat just short of boiling, strain the resulting mixture then add one ounce of powdered glass.</li> </ul>	Gum Sandarac Gum Mastic Spirit of Wine Turpentine Isinglass Parchment Glue		This is a 'strong' glue that resists moisture	E. Chambers, Cyclopaedia or an Universal Dictionary of Arts and Sciences.
Dissolve beaten isinglass in water by boiling and straining it through a course linen cloth. Allow it to evaporate so that when dried it is hard.	Isinglass	Adding spirit of wine or brandy to soften the glue.		No Author Given, The Golden Cabinet: Being the Laboratory or Handmaid to the Arts (Second Edition).
<ul> <li>Take one pound of parchment and boil it in 6 quarts of water until the quantity is reduced to 1 quart. Strain the fluid from the dregs then boil it again</li> </ul>	Parchment Water	Could be made with glovers cuttings of leather, which is colourless but can be burnt by the evaporation of water.		No Author Given, The Golden Cabinet: Being the Laboratory or Handmaid to the Arts (Second Edition).
<ul> <li>Take 'common glue' <sup>36</sup> in very small pieces and Isinglass and cover it in Spirit</li> </ul>	Common Glue Isinglass	Can use water instead of spirit of wine, This will make what is described as'		No Author Given, The Golden Cabinet: Being the Laboratory

This is usually referring to animal hide glue. It is assumed that this is the case here however; the text did not specifically state this.

# Appendix B: Technical Notes and Definitions/Translations 5. Glue Formulas<sup>35</sup>

Formula	Key	Comments	Reason for	Source of formula
	Ingredients		Making	
of wine for at least 24 hours. Put over heat and add to this powdered chalk until it is turned an opaque white.	Calk	strong' glue.		or Handmaid to the Arts (Second Edition).
<ul> <li>Dissolve 2 ounces each of Gum Sandarac and Mastic in a pint of Spirit of Wine. To this add 1 ounce of clear Turpentine.</li> <li>Take equal parts of isinglass and parchment glue made as described in the prior section (for the 'strong' glue).</li> <li>Mix the gum mixture into the hot glue mixture, strain through a linen cloth and add to it powdered glass.</li> </ul>	Gum sandarac Gum Mastic Spirit of Wine Clear Turpentine Common glue Isinglass Powdered Glass	Described as a strong glue that will resist moisture.		No Author Given, The Golden Cabinet: Being the Laboratory or Handmaid to the Arts (Second Edition).
<ul> <li>Add ½ pound of Common glue or Isinglass to 2 quarts of Skimmed Milk and evaporating the mixture to the consistency of 'glue'</li> </ul>	Common Glue or Isinglass Skimmed Milk	Described as a strong glue that will resist moisture.		No Author Given, The Golden Cabinet: Being the Laboratory or Handmaid to the Arts (Second Edition).
To every pint of common glue (hide glue?) take about the quantity of two table spoonfuls of finely powdered Rosin and the like quantity of finely powdered brick dust and incorporate the whole well together	Common glue Powdered Rosin Brick dust		Good for inlaying brass or silver stringing to furniture.	G. Siddons, The Cabinet Maker's Guide: or Rules and Instructions in the art of Varnishing, Dying, Staining, Japanning, Polishing, Lackering and Beautifying Wood, Ivory, Tortoiseshell and Metal, Fifth Editon, Sherwood, Gilbert and Piper, London, 1830.
<ul> <li>To every pint of the best wheaten flower add Rosin, very finely powdered about</li> </ul>	Wheaten flower		Good for attaching	G. Siddons, The Cabinet Maker's Guide: or Rules and Instructions in the art of Varnishing, Dying,

# Appendix B: Technical Notes and Definitions/Translations 5. Glue Formulas<sup>35</sup>

Formula	Key	Comments	Reason for	Source of formula
	Ingredients		Making	
two large spoonfuls of Alum, on spoonful in powder mix them all together well put them in a pan and add by degrees soft or rain water carefully stirring it till it is of the consistence of thinnish cream. Put it into a saucer pan over a clear fire. Keeping it constantly stirred that it may not get lumpy when it is of a stiff consistence so that the spoon will stand upright	Rosin Alum Water		leather or cloth to furniture.	Staining, Japanning, Polishing, Lackering and Beautifying Wood, Ivory, Tortoiseshell and Metal.
Animal glue and beer	Animal (Hide) Glue Beer	The addition of beer to glue is more of an 'old wives tale' than a printed formula. Recent research has shown that the factors affecting the glues adhesiveness are the sugars and the alcohol content. Accordingly to recent research this addition did help the optimum level was 25% alcohol and 25g/litre of dextrin.	Considered a substituted for a more flexible glue such as fish glue- used for gluing different materials together (e.g. Brass and wood)	M. Triboulot, Improving The Adhesion Between Wood and Brass, Conservation News, No 69, July 1999, pp. 30-32.
Animal glue and urea	Animal (hide) Glue Urea	Again, this is based on an 'old wives tale' Recent research has shown that the addition of this ingredient does not improve the adhesiveness of the glue.	(same as above)	M. Triboulot, Improving The Adhesion Between Wood and Brass, Conservation News, No 69, July 1999, pp. 30-32.

#### 6. Primary Furniture Woods<sup>37</sup>

English Name/nom	French	Latin	Description (Most often used in)	From
anglais	Name/nom	Name/nom		
_	Français	Latin		
Amarante/Purpleheart	Amarante	Peltogyne Fabaceae	A purple wood primarily used for veneers in marquetry.	South and Central America
Amarillo/Canarywood	Arariba	Leguminosae	Heartwood yellow or orange, texture fine to rather coarse; grain straight to irregular. Used as a decorative veneer wood.	South America
Beech	Hêtre	Fagus sylvatica	Good for framing such as chairs	Europe and England
Bird's eye maple	érable moucheté	Acer saccharum	Light coloured wood for decorative veneers	North America
Boxwood	Buis	Buxus	Yellow coloured, very hard wood used for making decorative veneers.	Spain, North Africa, China, Southeast Asia,
Brazilwood	Permanbouc	Caesalpinia echinata	Dark coloured hard wood used to make decorative veneer.	South America
Campechy or Logwood	Campéche	Haematoxylum campechianum	Used to produce a reddish dye that is frequently used in marquetry.	Southern Mexico and Central America
Cedar	Cèdre	Pinaceae (family)_	Generally a light reddish coloured wood that was not used too often in furniture during the C18th.	Cedar of Lebonon comes from the Middle East.
Cherry	Cerisier	Prunus	Light smooth grained wood. This family of trees	Very widely dispersed.

The primary references used for this section were the following. Other sources included file notes, furniture catalogues and personal experience. L. Hinckley, *Directory of the Historic Cabinet Woods*, Bonanza Books, New York, 1960, H. Zinnkann, *Furniture Woods*, Prestel, London, 2003, P. Détienne, 2002, Les Bois Exotiques Décrits par Roubo en 1774, *Bois et Forets de Tropiques*, No 274, (4), pp. 89-96, A. Roubo, *L'Art Du Menuisier Ébéniste*, Delatour, Paris, 1772, US Forest Service Database located at 'http://www.fs.fed.us/, Accessed June 2009.

#### 6. Primary Furniture Woods<sup>37</sup>

English Name/nom	French	Latin	Description (Most often used in)	From
anglais	Name/nom	Name/nom		
	Français	Latin		
			includes a number of related fruit trees. These were often used to produce decorative veneers for furniture.	
Deal: Larch Scots pine Norway spruce	Mélèze Pin syvestre Épicéa	Larix deciduas Pinus sylvestris Picea abies	In England these woods were frequently grouped together and called deal. They are conifers, usually white to yellow in colour, they were used for structural components, more so in Chippendale pieces than in Riesener. In all cases their use was limited to areas that had very little or no visibility.	Northern Europe Scotland Eastern Europe
Ebony	Ébène	Diospyros	Dark heavy wood that is frequently used for decorative elements (moldings and carved elements) and for decorative veneers.	India, Sri Lanka and Western Africa
Holly	Houx	Ilex aquifolium	A very light coloured wood that was frequently used as a decorative veneer in marquetry (it was easy to dye different colours). Chippendale used it very extensively on the Harewood Library Table <sup>38</sup> .	Western and Southern Europe, Northwest Africa, Southeast Asia
Indian Rosewood	Palissandre des Indes	Dalbergia latifolia	While used some in France, because of the result of the Seven-year war, its availability there was limited. Chippendale, considered this to be amongst his favorite woods for veneers <sup>39</sup> .	Southern India
Kingwood	Bois de violet	Dalbergia cearensis,	A stripped (dark and light wood) used to make	Brazil

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<sup>&</sup>lt;sup>38</sup> The marquetry designs were executed almost entirely in Holly then dyed to display the bright colours that were present in the piece originally.

<sup>&</sup>lt;sup>39</sup> From observation and internal document in Nostell Priory files. Note entitled 'Cabinet Woods Employed in the Harewood Library Table, No author or date was provided.

# Appendix B: Technical Notes and Definitions/Translations 6. Primary Furniture Woods<sup>37</sup>

English Name/nom anglais	French Name/nom Français	Latin Name/nom Latin	Description (Most often used in)	From
			decorative veneers.	
Letterwood/Snakewood	Amourette	Brosimum guianense	Light coloured wood used to make decorative veneers.	South America
Lime wood	Bois de tilleu	Tilia	Light almost white wood that is frequently used in woodcarving.	Europe and North America
Mahogany	Acajou	Swietenia mahagoni, Swietenia macrophylla	A brown to reddish brown, fine-grained wood, used for both visible constructional elements (drawer fronts, chairs, doors, etc) and in making decorative veneers.	Central American, South America and the Caribbean Islands
Oak	Chêne	Quercus robur Quercus Sessiflora	During the C18th, this light brown wood was frequently used in the construction of furniture frames and key elements such as drawers. The version in England probably was from central Germany, Poland or Prussia and was called Wainscot.	Northern Europe.
Pear	Poirier	Pyrus communis	This light coloured wood was frequently used to make decorative veneers.	Europe
Scots Pine	Pin syvestre	Pyrus communis	This wood was frequently used in the construction of furniture frames, but usually it was not readily visible. However, it was also a source of turpentine.	Northern Europe, England and Asia
Plum	Prunier	Prunus	This light coloured wood was frequently used to make	There are varieties throughout

#### 6. Primary Furniture Woods<sup>37</sup>

English Name/nom	French	Latin	Description (Most often used in)	From
anglais Name/nom Name/nom				
	Français	Latin		
			decorative veneers.	the world.
Satinwood or West	Satine/Bois de	Chloroxylon	This light coloured wood was frequently used to make	Southeast Asia, India
Indian Satinwood	citronnier	swietenia or Fagara	decorative veneers. The west Indian variety is	
		flava	thought to be the version used by Chippendale. <sup>40</sup>	
Silver fir	Sapin	Abies alba	This wood was frequently used in the construction of	Europe
			furniture frames, but usually it was not readily visible.	
Spruce	Épicéa	Picea abies	This wood was frequently used in the construction of	Northern Europe
			furniture frames, but usually it was not readily visible.	
Tulipwood	Bois de rose	Dalbergia frutescens	A pink/red/yellow/orange and white-stripped wood	The Northern part of South
			that is frequently used to make decorative veneers.	America
			Due to a strong reaction to the sunlight, this wood	
			turns to brown and white very quickly. Also, because	
			the plant from which this wood comes from is quite	
			small, it is usually limited to banding and boarders.	
Walnut	Noyer	Juglans regia	This heavy and slightly dark wood that had, in prior	Europe as well as Asia
			years been used for constructing much cabinet	
			furniture. However, during the C18th century, this	
			wood tended to be used in the form of a veneer.	

<sup>&</sup>lt;sup>40</sup> From observation and internal document in Nostell Priory files. Note entitled 'Cabinet Woods Employed in the Harewood Library Table, No author or date was provided.

French to English Tran by French Phrase)	slation of Key Phrases (Ordered	English to French Translation of Key Phrases (Ordered by English Phrase)		
French	English	English	French	
À la grecque	Classical Style - Literally it means to the Greeks, but it refers to the Greek style.	Acanthus leaf	Feuille d'acanthe	
Acéré	Sharp	Animal glue	Colle animal	
Acier	Steel	Aristocrat (closest single term): Administrative noble man. Unlike the Noblesse d'épée these noblemen acquired their title by excelling in an administrative capacity.	Noblesse de robe	
Adhésif	Tape	Aristocrats (closest single term): The literal translation is Nobles of the sword. These were French Noblemen whose title was based on military experiences – either by them or their ancestors.	Noblesse d'épée	
Affûter	Sharpen, to	Art object	Objet d'art	
Alaise	Banding	Auctioneer	Commissaire-Priseur	
Ane de mtearqueteur	Marquetry donkey	Balsamo	Oeil de vermeil	
Arête	Edge	Baluster	Palmette	
Armoire	Wardrobe	Banding	Alaise	

<sup>&</sup>lt;sup>41</sup> Most Initial translations were obtained from Notes from *Ecole Boulle*, Translations of key furniture making related words, obtained from *Ecole Boulle*, Paris France, January, 2007, these were verified via a number of dictionaries (e.g., Oxford) as well as on line translation services.

French to English Tran by French Phrase)	slation of Key Phrases (Ordered	English to French Translation of Key Phrases (Ordered by English Phrase)		
French	English	English	French	
Artisan	Craftsman or craftsmen	Banding, marquetry band, inlay, border, strip	Filet composé	
Ateliers	Workshops	Bench or workbench	Etabli	
Aubier	Sapwood	Bevel, Chamfer	Biseau	
Bande de chant	Edge strip	Beveling	Biseautage	
Bâti, Carcasse, Ossature, Fût	Frame, framework, main body	Bolt	Boulon	
Biseau	Bevel, Chamfer	Bone	Os	
Biseautage	Beveling	Bone glue	Colle d'os	
Bocfil	Fretsaw, Piercing saw	Brass	Laiton or Cuivres	
Bois apparent	Show wood	Brass	Laiton	
Bois madré, bois ronceux	Burled wood, burr figured wood	Bronze casters and chasers	fondeurs-ciseleurs	
Bois resineux	Soft woods resinous	Burled wood, burr figured wood	Bois madré, bois ronceux	
Bombé	Domed or rounded	Burr, Burl	Broussin, loupe	
Bonheur-du-jour	Writing Desk: A small desk, usually associated as feminine, usually with a small writing surface, usually has few drawers and locked cabinets above the writing surface.	Burr, burl	Loupe /Ronce	
Bordure	Edging border	Burr, burl, crotch or curl in a grain	Ronce	
Boulon	Bolt	Button lac	Lac en plate	
Bréche d'Alep	Chipped pattern in marble	Cabinet Maker	Ébéniste	

French to English Transby French Phrase)	slation of Key Phrases (Ordered	English to French Translation of Key Phrases (Ordered by English Phrase)		
French	English	English	French	
Broussin, loupe	Burr, Burl	Cabinetmaker	Ebéneiste	
Bureau	The Desk	Cabinetmaking	Ebéneisterie	
Bureau á cylindre	Roll top desk	Carve, to	Sculpter	
Bureau double faces à caissons	Knee hole desk or partners desk	Case Furniture	Meuble de rangement	
Bureau plat	Writing Table: A large (masculine) table used for writing	Case furniture	Meuble de rangement	
Carcasse, Bâti, Ossature, Fût	Frame, framework, main body	Case, small box	Etui	
Chant	Edge	Catch	Loqueteau	
Chant biseauté, Chanfrein	Chamfer	Century	Siècle	
Charnière	Hinge	Chamfer	Chant biseauté, Chanfrein	
Charnière (invisible, longue)	Hinge, ring, joint, articulation (hidden, long)	Chamfered leg	Pied Chantourne	
Charnière pour abattant	Flap hinge	Chest of drawers	Commode	
Chataignier	Chestnut	Chestnut	Chataignier	
Chêne blanc	White oak	Chipped pattern in marble	Bréche d'Alep	
Chêne rouge	Red oak	Chisel mortiser	Mortaiseuse à bédane	
Chênerouvre	Sessil oak	Classical Style - Literally it means to the Greeks, but it refers to the Greek style.	À la grecque	
Chevalet de marqueterier	Marquetry horse or donkey	Colouring matter, pigment, dyestuff	Colorant, pigment	
Cheville en bois	Wooden nail	Common elm	Orme champêtre	
Cire	Wax	Concealed dovetail joint	Queue d' aronde cachée	

French to English Translation of Key Phrases (Ordered by French Phrase)		English to French Translation of Key Phrases (Ordered by English Phrase)	
French	English	English	French
			assemblage à
Ciseau à bois	Wood Chisel	Conifer	Conifére
Clef	Key	Corner cupboard, corner furniture	Encoignure, meuble d'angle
Clou, pointe	Nail	Craftsman or craftsmen	Artisan
Clouer	Nail, to	Cross banding, frieze	Frise
Clover or Clu	Nail	Curved Leg	Pied galbé
Coffre-fort	Safe	Depth	Profondeur
Coiffeuse	Dressing table, dressing commode	Domed or rounded	Bombé
Coin	Wedge	Door	Porte
Collage	Glueing	Double tenon	Tenon double assemblage á
Colle á bois	Wood Glue	Double tenon joint	Double tenons et mortaises
Colle animal	Animal glue	Dove tail	Queue d'aronde
Colle d'os	Bone glue	Dovetail joint	Queue d' aronde assemblage à
Colle de nerfs	Nerves glue or tendon glue	Dowel	Tourillon
Colle de peau	Hide Glue	Drawer Front	Devanture, façade de tiroir
Colle de peau	Hide glue	Drawer Front	Façade de tiroit
Colle de poisson	Fish glue	Drawer side, bottom	Fond de Tiroir
Colorant	Dye	Drawing desk	Scriban
Colorant, pigment	Colouring matter, pigment, dyestuff	Dresser, china cabinet	Dressoir, vaisselier
Commissaire-Priseur	Auctioneer	Dressing table, dressing commode	Coiffeuse
Commode	Chest of drawers	Dye	Colorant
Compagnon	Literally translates to mean companion,	Dye	Teinture

French to English Translation of Key Phrases (Ordered by French Phrase)		English to French Translation of Key Phrases (Ordered by English Phrase)	
French	English	English	French
	but in this context it refers to a type of apprentice.		
Conifére	Conifer	Edge	Arête
Console	Pier table, console table	Edge	Chant
Cuir	Leather	Edge strip	Bande de chant
Devanture, façade de tiroir	Drawer Front	Edging border	Bordure
Dévisser	Screw off (to) unscrew	Escutcheon	Entrée de surreure
Doreur	Gilder	False appearance	Trompe-l'æil
Dorure	Gilding	Finger joint	Entures multiples assemblage à
Double tenons et mortaises	Double tenon joint	Finishing	Finissage
Dressoir, vaisselier	Dresser, china cabinet	Fish glue	Colle de poisson
Ebéneiste	Cabinetmaker	Flap hinge	Charnière pour abattant
Ebéneisterie	Cabinetmaking	Frame, framework, main body	Bâti, Carcasse, Ossature, Fût
Ébéniste	Cabinet Maker	Frame, framework, main body	Carcasse, Bâti, Ossature, Fût
Ecaille de tortue	Tortoise shell	Frame, framework, main body	Fût, Carcasse, Bâti, Ossature
Ecritoire	Stationary box	Frame, framework, main body	Ossature, Fût, Carcasse, Bâti,
Encoignure, meuble d'angle	Corner cupboard, corner furniture	French Polishing	Vernis au tampon
Enfourchement	Slip joint	French polishing	Vernir au tampon
Enfourchement assemblage	Open mortise joint	Fret saw	Scie sauteuse

French to English Translation of Key Phrases (Ordered by French Phrase)		English to French Translation of Key Phrases (Ordered by English Phrase)	
French	English	English	French
à			
Enfourchement assemblage à	Slot joint	Fretsaw, Piercing saw	Bocfil
Entaille à mi bois	Half lap joint	Front	Façade
Entrée de surreure	Escutcheon	Furniture	Meubles
Entretoise	Stretchers	Furniture Hardware	La quincaillerie d'ameublement
Entures multiples assemblage à	Finger joint	Furniture inventory (French Royal households)	Journal du Garde-Meuble
Etabli	Bench or workbench	Games table or card table	Table á jeu
Etui	Case, small box	Gilder	Doreur
Façade	Front	Gilding	Dorure
Façade de tiroit	Drawer Front	Glazing	Glacis
Feuille d'acanthe	Acanthus leaf	Glueing	Collage
Feuillure	Rebate	Gold	Or
Feuillure à mi bois assemblage à	Half lap joint	Greased paper or tallowed paper	Papier suiffé
Fiche à entailer	Inset type hinge	Gummed paper or veneer tape	Papier gommé
Filet	Inlay	Half lap joint	Entaille à mi bois
Filet composé	Banding, marquetry band, inlay, border, strip	Half lap joint	Feuillure à mi bois assemblage à
Filet jonc	Inlay line	Hammer	Marteau
Filet simple	Simple or single strip	Hardware for furniture	Quincaillerie d'ameublement

French to English Translation of Key Phrases (Ordered by French Phrase)		English to French Translation of Key Phrases (Ordered by English Phrase)	
French	English	English	French
Fileté	Threaded	Heavy sapele or Omu	Kosipo
Finissage	Finishing	Hide Glue	Colle de peau
Fond de Tiroir	Drawer side, bottom	Hide glue	Colle de peau
Fond dessous	Lower side bottom	Hinge	Charnière
Fondeurs-ciseleurs	Bronze casters and chasers	Hinge, ring, joint, articulation (hidden, long)	Charnière (invisible, longue)
Friese de rinceaux	Ornemental frieze	Inlaid	Marqueté
Frise	Cross banding, frieze	Inlay	Filet
Friseur	Parqueter	Inlay line	Filet jonc
Fût, Carcasse, Bâti, Ossature	Frame, framework, main body	Inlays	Incrustation
Gaiac	Lignumn vitae	Inset type hinge	Fiche à entailer
Galuchat	Sharkskin	Jigsaw	Scie à chantourner
Glacis	Glazing	Joint	Joint de placage
Gomme laque	Shellack	Key	Clef
Guéridon	Pedestial table or tripod table	Knee hole desk or partners desk	Bureau double faces à caissons
Huile de lin	Linseed oil	Knot in wood	Noeud
Incrustation	Inlays	Knotty	Noueux
Joint de placage	Joint	Kraft brown paper	Papier kraft
Journal du Garde-Meuble	Furniture inventory (French Royal households)	Lacquer	Laque
Kosipo	Heavy sapele or Omu	Ladies Secrétaire	Secrétaire á abattant or secrétaire en armoire

French to English Translation of Key Phrases (Ordered by French Phrase)		English to French Translation of Key Phrases (Ordered by English Phrase)	
French	English	English	French
L'offrande à l'Amour	Offering of Love	Latch lock	Serrure à pêne demi-tour
La quincaillerie d'ameublement	Furniture Hardware	Leather	Cuir
Lac en branche	Stick lac	Left hand lock	Serrure à Gauche
Lac en graine	Seed Lac	Leg	Pied
Lac en plate	Button lac	Length	Longuer
Laine de verre	Steel wool	Lid pivot hinge	Pivot pour abattant
Laiton	Brass	Lignumn vitae	Gaiac
Laiton or Cuivres	Brass	Linseed oil	Huile de lin
Laquage vernissage	Varnishing	Literally 'Dog fish' but is thought to be referring to a type of shark.	Poisson chien
laque	Lacquer	Literally it means in the Greek taste, but it actually refers to the style inspired by the Greeks.	Le goût Grec
Laque	Lacquer	Literally translates to mean companion, but in this context it refers to a type of apprentice.	Compagnon
Largeur	Width	Lock	Serrure
Le goût Grec	Literally it means in the Greek taste, but it actually refers to the style inspired by the Greeks.	Lock	Serrure
Longuer	Length	Louis the XVI's style	Louis Seize
Loqueteau	Catch	Lower side bottom	Fond dessous
Louis Seize	Louis the XVI's style	Mallet	Maillet
Loupe /Ronce	Burr, burl	Marble	Marbre

French to English Translation of Key Phrases (Ordered by French Phrase)		English to French Translation of Key Phrases (Ordered by English Phrase)	
French	English	English	French
Maillet	Mallet	Marqueter	Marqueteur
Marbre	Marble	Marquetry	Marqueterie
Marchands Mercier	Shop owner	Marquetry donkey	Ane de mtearqueteur
Marqueté	Inlaid	Marquetry horse or donkey	Chevalet de marqueterier
Marqueterie	Marquetry	Mortise	Mortaise
Marqueteur	Marqueter	Mortise	Mortaise
Marteau	Hammer	Mortise lock	Serrure à mortaiser
Marteau à placages	Veneer hammer	Mother of pearl	Nacre
Massicot à placages	Veneer guillotine or cutter	Nail	Clover or Clu
Meuble de rangement	Case Furniture	Nail	Clou, pointe
Meuble de rangement	Case furniture	Nail, to	Clouer
Meubles	Furniture	Nerves glue or tendon glue	Colle de nerfs
Mise en teinte	Staining	Offering of Love	L'offrande à l'Amour
Mise en teinte	Staining	Open mortise joint	Enfourchement assemblage à
Mortaise	Mortise	Ornemental frieze	Friese de rinceaux
Mortaise	Mortise	Painter	Peintre
Mortaiseuse à bédane	Chisel mortiser	Pao rosa	Pao Rosa
Moucheté	Speckled or bird's eye	Parqueter	Friseur
Nacre	Mother of pearl	Pedestial table or tripod table	Guéridon
Noblesse d'épée	Aristocrats (closest single term): The literal translation is Nobles of the sword. These were French Noblemen whose title was based on military	Pier table, console table	Console

French to English Translation of Key Phrases (Ordered by French Phrase)		English to French Translation of Key Phrases (Ordered by English Phrase)	
French	English	English	French
	experiences – either by them or their		
	ancestors.		
Noblesse de robe	Aristocrats (closest single term):	Pin	Pointe
	Administrative noble man. Unlike the		
	Noblesse d'épée these noblemen		
	acquired their title by excelling in an		
	administrative capacity.		
Noeud	Knot in wood	Plane	Rabot
Noueux	Knotty	Plinth	Plinthe
Nuance	Shade	Polish	Polir
Objet d'art	Art object	Polisher	Polisseur
Oeil de vermeil	Balsamo	Pull handle	Poignée
Ombrage	Shading	Rail	Traverse
Ombre	Shade or shadow	Rebate	Feuillure
Or	Gold	Red oak	Chêne rouge
Orme champêtre	Common elm	Resin or Gum	Résine
Os	Bone	Resin or gum	Résine
Ossature, Fût, Carcasse,	Frame, framework, main body	Resinous	Résineux
Bâti,			
Outil	Tool	Right hand lock	Serrure à droite
Palmette	Baluster	Roll top desk	Bureau á cylindre
Papier abrasif	Sanding paper	Roll-top secretary	Secrétaire á cylinder
Papier gemmé or Placage	Veneer tape	Rosette	Rosace
de bande			

French to English Translation of Key Phrases (Ordered by French Phrase)		English to French Translation of Key Phrases (Ordered by English Phrase)	
Papier gommé	Gummed paper or veneer tape	Safe	coffre-fort
Papier kraft	Kraft brown paper	Sand	Sable
Papier parafiné	Waxed paper	Sanding	Poncage, sablage
Papier suiffé	Greased paper or tallowed paper	Sanding	Sablage
Peau de Requin	Sharkskin	Sanding paper	Papier abrasif
Peintre	Painter	Sap	Séve
Peinture sur bois	Tinted veneer	Sapwood	Aubier
Pied	Leg	Saw	Scie/Scier
Pied carré	Square Leg	Saw	Scie
Pied Chantourne	Chamfered leg	Sawn veneer	Placage scié
Pied galbé	Curved Leg	Scraper	Racloir
Pied tourné	Turned leg	Scraping	Raclage
Pivot pour abattant	Lid pivot hinge	Screw	Vis
Placage	Veneer	Screw off (to) unscrew	Dévisser
Placage	Veneer	Screw on lock	Serrure en appliqué
Placage scie	Veneer saw	Screws	Vis
Placage scié	Sawn veneer	Seed Lac	Lac en graine
Plinthe	Plinth	Sessil oak	Chênerouvre
Poignée	Pull handle	Shade	Nuance
Pointe	Pin	Shade or shadow	Ombre
Pointe à placage	Veneer pin	Shading	Ombrage
Poisson chien	Literally 'Dog fish' but is thought to be referring to a type of shark.	Sharkskin	Galuchat
Polir	Polish	Sharkskin	Peau de Requin

French to English Translation of Key Phrases (Ordered by French Phrase)		English to French Translation of Key Phrases (Ordered by English Phrase)	
French	English	English	French
Polisseur	Polisher	Sharp	Acéré
Poncage, sablage	Sanding	Sharpen, to	Affûter
Porte	Door	Shellac	Shellac
Profondeur	Depth	Shellack	Gomme laque
Queue d'aronde	Dove tail	Shop owner	Marchands Mercier
Queue d' aronde assemblage à	Dovetail joint	Show wood	Bois apparent
Queue d' aronde cachée assemblage à	Concealed dovetail joint	Simple or single strip	Filet simple
Quincaillerie d'ameublement	Hardware for furniture	Slip joint	Enfourchement
Rabot	Plane	Slot joint	Enfourchement assemblage à
Rabot à dents	Toothing plane	Soft woods resinous	Bois resineux
Raclage	Scraping	Speckled or bird's eye	Moucheté
Racloir	Scraper	Square Leg	Pied carré
Rainure et languette assemblage à	Tongue and groove joint	Stain	Teinture
Résine	Resin or Gum	Stain or colour, to	Teindre
Résine	Resin or gum	Staining	Mise en teinte
Résineux	Resinous	Staining	Mise en teinte
Ronce	Burr, burl, crotch or curl in a grain	Stationary box	Ecritoire
Rosace	Rosette	Steel	Acier
Sablage	Sanding	Steel wool	Laine de verre

French to English Translation of Key Phrases (Ordered by French Phrase)		English to French Translation of Key Phrases (Ordered by English Phrase)	
French	English	English	French
Sable	Sand	Stick lac	Lac en branche
Scie	Saw	Stretchers	Entretoise
Scie à chantourner	Jigsaw	Таре	Adhésif
Scie à eraser	Tenon saw	Teak	Teck
Scie à placages	Veneer saw	Tenon	Tenon
Scie sauteuse	Fret saw	Tenon saw	Scie à eraser
Scie/Scier	Saw	The Desk	Bureau
Scriban	Drawing desk	Threaded	Fileté
Sculpter	Carve, to	Tinted veneer	Peinture sur bois
Secrétaire	Writing desk	Tongue and groove joint	Rainure et languette assemblage à
Secrétaire á abattant or secrétaire en armoire	Ladies Secrétaire	Tool	Outil
Secrétaire á cylinder	Roll-top secretary	Toothing plane	Rabot à dents
Serrure	Lock	Tortoise shell	Ecaille de tortue
Serrure	Lock	Turned leg	Pied tourné
Serrure à droite	Right hand lock	Turpentine	Terebenthine
Serrure à Gauche	Left hand lock	Varnish	Vernis
Serrure à mortaiser	Mortise lock	Varnisher	Vernisseur
Serrure à pêne demi-tour	Latch lock	Varnishing	Laquage vernissage
Serrure en appliqué	Screw on lock	Varnishing	Vernissage
Séve	Sap	Veneer	Placage
Shellac	Shellac	Veneer	Placage

French to English Translation of Key Phrases (Ordered by French Phrase)		English to French Translation of Key Phrases (Ordered by English Phrase)	
French	English	English	French
Siècle	Century	Veneer guillotine or cutter	Massicot à placages
Table á jeu	Games table or card table	Veneer hammer	Marteau à placages
Tables à écrire	Writing table	Veneer pin	Pointe à placage
Teck	Teak	Veneer saw	Placage scie
Teindre	Stain or colour, to	Veneer saw	Scie à placages
Teinture	Dye	Veneer tape	Papier gemmé or Placage de bande
Teinture	Stain	Wardrobe	Armoire
Tenon	Tenon	Wax	Cire
Tenon double assemblage á	Double tenon	Waxed paper	Papier parafiné
Terebenthine	Turpentine	Wedge	Coin
Tourillon	Dowel	White oak	Chêne blanc
Traverse	Rail	Width	Largeur
Trompe-l'œil	False appearance	Wood Chisel	Ciseau à bois
Vernir au tampon	French polishing	Wood Glue	Colle á bois
Vernis	Varnish	Wooden nail	Cheville en bois
Vernis au tampon	French Polishing	Workshops	Ateliers
Vernissage	Varnishing	Writing desk	Secrétaire
Vernisseur	Varnisher	Writing Desk: A small desk, usually considered feminine, with a small writing surface, with a few drawers and locked cabinets on top.	Bonheur-du-jour
Vis	Screw	Writing table	Tables à Écrire
Pao Rosa	Pao rosa	Writing Table: A large table used for writing	Bureau plat