

Brazilwood Rosette, Lake & Ink Recipes

293. *A good rose colour for linen cloth, sindone, parchment, or paper, and primed panels, is made in this way.* – Take brasilium rasped or scraped with a knife, or with glass, pounded in a mortar; but it is much better to have it scraped; then let it be put with a little raw alum in powder into a ley, or into urine. Then make it boil for a long time over a charcoal fire, not a wood fire, lest by chance the smoke, which the wood makes, should spoil the colour. Afterwards let it be strained through a linen cloth, retaining in the cloth the substance of the wood brasilium, lest it should be mixed with the colour that is to be made, and then let it be put into a glazed jar with white chalk or gersa [gesso], in powder, or with powdered bracha [biacha-biacca], which is otherwise called white lead, otherwise ceruse, otherwise Spanish white; and let it be allowed to incorporate with the said chalk or ceruse. Next let it be ground altogether upon a hard stone without adding water or urine, on the contrary, keeping it as little liquid, i.e., as thick as it can be ground; and although it should be less liquid than it was at the beginning before it was ground, and yet not sufficiently thickened in the grinding, because the water of the ley or the urine had not been sufficiently poured off or dried; let the colour be put to dry upon a hollow stone of chalk or gersa, or upon a concave brick made of clay, and baked in the furnace, which will immediately absorb the moisture of the ley, so that the colour remains suddenly almost dry, i.e., inspissated. Afterwards let the colour be put away; and when it is necessary to use it, take whatever is wanted of it and temper it with white of egg, or with gum water made of gum arabic, in the way cinnabar is used. But if it is used with white of egg, it shines where it is used, and is more beautiful. And write and draw and paint with this colour whatever is wanted on parchment, and primed panels, as well with the pen as with the paintbrush. And the less ceruse or chalk there is in it the darker will be the colour; and so, on the other hand, the more there is of it the lighter the colour will be.



304. *To make a rose colour from Brazil wood.* – Take a mixture of equal quantities of water from a cistern, and wine, and boil in it shavings of the said bresillium; and, having extracted and pressed out the colour, and strained the red liquid through a linen cloth, and removed the substance of the wood, add to the water a little roche alum in powder; and when it is dissolved, put in some white gypsum, which has been ground upon a stone with pure water and dried, or some bracha prepared and ground in the same way as the gypsum is directed to be done, in sufficient quantity, and mix and incorporate them all well together, and keep for use. This water can also be used without putting in gypsum or bracha, but only for shading, and not as a body colour, for it has no body or substance; and when the bracha or gypsum is added, then it can be used as a body colour as well as for shading, because the gypsum or bracha, which have body, give their body to the colour.



309. *To make a very good lake.* – Take an ounce of lake³, sand rasp finely a little Brazil wood, put it into a clean vessel, then add to the Brazil wood some clean and clear beaten white of egg, and a little alum water. Grind the lake with that water and dry it in the sun, and when you wish to use it, distemper it with this water, especially on parchment; and the more you grind it up with this Brazil wood water, the better it will be.

3. The lac lake.

334. *To make the colour of red roses.* – Put some Brazil wood raspings into an earthen vessel glazed with lead, adding urine and powdered alum; let it stand for a night, and in the morning place it over the coals without flame and boil it well for a little; then take it off the fire, add a little powdered quick lime, and mix it well with the other ingredients; then pour off the clear part, and dry that which is thick so that you may use it when necessary.

From the 15th century manuscript “Manuscripts of Archerius. Manuscripts of Jehan Le Begue” in Merrifield, Mary P. *Original Treatises, Dating from the XIIIth to XVIIIth Centuries on the Arts of Painting, in Oil, Miniature, Mosaic, and on Glass; of Gilding, Dyeing, and the Preparation of Colours and Artificial Gems; Preceded by a General Introduction; with Translations, Prefaces, and Notes.* 2 vols. London: J. Murray, 1849; vol. 1, p. 270, 292, 294, 310.



14. *To make a fine rose color.* – Take fine brexillium, and scrape it fine, and take strong ley made with the ashes of oak, and make it boil, and pour it over the said verzino into a glazed earthen saucer, so as to cover the brexillium, and let it stand for an hour. Then take egg-shells, pound them well, and grind them very fine on a porphyry slab with clear water, and lay them on a new hollow brick, that the water may be absorbed. Afterwards put them into a glazed earthen jar, and pound up some roche alum, and mix with the powdered eggshells; afterwards strain the ley in which the verxillium is put, and pour the ley which is dyed red with the verxilium upon the egg-shells, and mix, that the whole may be incorporated together ; and afterwards dry the lake, not in the sun, but on a hollow brick, straining it through a linen cloth, and you will have a perfect rose colour.



15. *Also, to make a colour deeper than rose colour.* – Take 1 oz. of scraped verzino and put it in a glazed saucer, with sufficient urine to cover it, and make it boil, on a charcoal fire, for an hour ; then, before you take it off the fire, add 1 oz. of honey, and mix it; then remove it from the fire, and leave it so until the next morning, and you will have a fine rose colour.



16. *To make a rose colour for drawing letters.* – Take red brexillium, and roche alum ground upon a stone, and put them both together in whipped white of egg, and let it stand for a day and a night, and you will have what was mentioned.



17. *Item, to make a rose colour.* – Put into a glazed saucer 1 oz. of scraped verzino; and pour in enough urine to cover the verzino and the ingredients which are to be added afterwards. Then add 1 oz. of white marble, ground upon a stone with water, and dried, and 1/2 oz. of roche alum in powder; and when putting the before-mentioned ingredients into the saucer, let the last thing which is added be the marble dust. Do not mix it until it has stood in the sun long enough for the marble to imbibe the colour ; and if it should dry in the sun before the marble has absorbed the colour, add to it some more of the same urine as before, and let it stand in the sun until the marble is sufficiently coloured, and it will become red, or rose coloured. Afterwards strain it through a linen cloth, and dry it upon a baked stone or brick, and keep it for use.

20. *To make a rose-coloured water for shading figures and other things.* – Put scraped verzino into whipped white of egg, and let it stand for a day. Then strain and squeeze through a cloth, and temper what

passes through with pure water : shade whatever you like with it, both on parchment and on paper. I think that the colour will not be extracted from the said brexillium or verzino, unless a little roche alum be added.



93. *To make the red water.* – Take an ounce of Brazil in powder and a 6th part of alun de glace, and make it boil well in a vessel of clear water until it is reduced to one half, and then use it. (Recipe brought from England)



101. *To make verzino for painting on silver.* – To make verzino for painting on silver or tin-foil, so that the brilliancy of the silver or tin may shine and appear through it, put a piece of white lime about the size of an egg into water to dissolve, and let it stand in the water for three days and three nights. Then rasp or scrape verzino, and add it to the limewater, and let it stand for an hour; then put it on the fire in a small jar, and let it boil until, when you put it upon your nail, it remains upon it. Then take isinglass, or, as some say, turpentine, a piece about the size of a bean, and put into it, and remove it from the fire. Take a little roche alum, which you must stick in the end of a small stick and tie it there, and dip it into the said mixture, and let it remain there until you see that it is dissolved. Then take a strainer, and strain or filter the water through it.



108. *To make lake.* – Take verzino and rasp it with glass, and take travertine rasped to powder, and a little roche alum, and grind it, and soak all these things in a ley, and let them stand for a day. Then mix the whole well together, and put the mixture in a new earthen jar, and make it boil for a quarter of an hour. Then take a small bag, and pour the whole into it, and let it remain until the moisture has passed or run through, and let it fall into a saucer or stone basin.

From the 15th century manuscript “Experimenta de Coloribus. Manuscripts of Jehan Le Begue” in Merrifield, Mary P. *Original Treatises, Dating from the XIIth to XVIIIth Centuries on the Arts of Painting, in Oil, Miniature, Mosaic, and on Glass; of Gilding, Dyeing, and the Preparation of Colours and Artificial Gems; Preceded by a General Introduction; with Translations, Prefaces, and Notes.* 2 vols. London: J. Murray, 1849; vol. 1, p. 52, 54, 86, 94.



XXXIV. [277] *How to make use of brasilium.* – Take a brass dish, and scrape as much brasilium into it as you may think necessary; then fill it up with urine; add powdered alum to it, and so let it remain for a night. The next day set it upon the coals, make it boil up once or twice; remove the dish from the fire, and put a little quick-lime with the brasilium and alum and stir it up, and so let it stand till it settles thick, and the water floats on the top; then throw away the water, and let the remainder dry in the sun, and keep it as long as you like. You may use this colour both on wood and on walls; but with greater brilliancy on parchment.

From the 15th century (13th century) manuscript “Eraclius De Coloribus et Artibus Romanorum. Manuscripts of Jehan Le Begue” in Merrifield, Mary P. *Original Treatises, Dating from the XIIth to XVIIIth Centuries on the Arts of Painting, in Oil, Miniature, Mosaic, and on Glass; of Gilding, Dyeing, and the Preparation of Colours and Artificial Gems; Preceded by a General Introduction; with Translations, Prefaces, and Notes.* 2 vols. London: J. Murray, 1849; vol. 1, p. 234.



77. *To make rosetto di verzino.* – Take verzino or red sandalwood, cut it into small pieces, and soften it in rain water, in which it is to be left for three days; then boil it until the water is reduced to half its original quantity, and for every pound add oz. 1 of roche alum with a scruple of gum arabic, and boil it until all the ingredients are liquefied, strain it, and it will be finished.



80. *To make brazil wood of four colours.* – Take brazil wood, and steep any quantity you please (so that it is more than a third part) in clear water until the colour is very red. Then divide this colour into 4 parts: if you wish to make a rose colour use it pure; if you wish it purple add lime water, but the water must be tepid; if you wish a violet colour add a ley to it; and if you desire that it should be of a mulberry colour add tartar.



87. *Mode of extracting the colour of brazil wood.* – Take of rasped or filed brazil wood, say, oz. 2, and white of egg at discretion, but in sufficient quantity to soak the brazil wood; then take two-eighths of burnt roche alum, and put the whole together in a pipkin, and stir it with a wooden spatula until you see that the whole is well coloured, strain it through a linen rag, and immediately expose it to the sun that it may dry; and if you wish to make a beautiful purple, take Campeachy wood (?), and do the same with that.



117. *To make a red Parisino [Parisian] colour.* – Take oz. 1/4 of Brazil wood, and half a bocale of clear ley; put the ley into a new glazed pipkin, and when it is hot, add to it the Brazil wood, keeping it over a slow fire for a quarter of an hour. It must then be strained through cloth into a new pipkin, and some pulverized roche alum of the size of a grain of rice must be added to it, and the mixture must be stirred without heat for 7 or 8 minutes. The whole must then be put into a pointed bag and passed through twice, as in straining wine. It may be kept in shells, &c.

From the late 16th or early 17th century “Paduan Manuscript” in Merrifield, Mary P. *Original Treatises, Dating from the XIIIth to XVIIIth Centuries on the Arts of Painting, in Oil, Miniature, Mosaic, and on Glass; of Gilding, Dyeing, and the Preparation of Colours and Artificial Gems; Preceded by a General Introduction; with Translations, Prefaces, and Notes.* 2 vols. London: J. Murray, 1849; vol. 2, p. 680, 682, 684, 702.



113. *To make verzino good for painting flowers on miniatures.* – Take a piece of lime, reduce it to powder, and put it into white of egg, and stir it well with a stick, in the same manner as the white of egg is prepared for vermilion; let it settle, and then separate the scum and filter off the white of egg. Then take verzino scraped fine with glass or with a rasp, and put it into the filtered white of egg, and let it soak for two days, and there must be enough white of egg to cover the verzino and it is done.



114. *For the same, another way.* – Take quicklime and put it to soak in a vase with sufficient water to cover the lime three fingers deep, stir it well with a stick until you see that it is well slaked; then let it settle for two days, and take the clear water and some scrapings of verzino, and put the verzino

to soak in the water for the space of three days. Then put the whole on the fire and boil it down to one-half or less; then add some pounded alum and a little gum arabic, take it off the fire, and let it settle; when cool strain it through a piece of linen cloth and it will be fine verzino.



115. *To make verzino, another way.* - Take verzino, scrape it fine, and put it into a glazed vase to soak with a sufficient quantity of cold and purified urine to cover the verzino; then add 2 parts of alum zucharino, one of white-lead, and a little pounded gum. Let the whole stand to soak for two days, then strain it through a linen cloth, and put it to dry; afterwards distemper it with gum water, and it will be good verzino.



118. *To make the colour brasilium.* - Take verzino or brasilium, scrape it and put it into sufficient gum water to cover verzino, in a glazed vase for a day and a night, and then boil it until the third part is consumed; then add some roche alum to it and boil it a little, and then pour into it one-third part of strong white vinegar, and let it boil a short time, afterwards strain it and keep it excluded from the air.



119. *To make verzino another way.* - Take scraped verzino, steep it in prepared white of egg for two days; afterwards strain it through a piece of white linen drop by drop on a new brick, and let the verzino remain until dry; then take it off carefully with a knife, and put it away, and when you wish to use it, soften it with water, and write whatever you like.



120. *To make a colour like grana with verzino.* - Take verzino scraped fine, and soak it in ley as strong as you think proper for the space of 3 days; then let it boil over a slow fire in a glazed vessel until the fourth part of it is consumed; then add to it immediately a little alum zucarino, and a little roche alum in powder, and mix it well with a stick; then let it cool, pass it through a filter, wrap it up closely, and put it away, and you will have a good colour like grana.



121. *To make verzino over the fire.* - Take half an ounce of verzino scraped fine, and a sufficient quantity of white wine to cover the verzino; then put these ingredients into a new glazed pipkin, and let them soak for the space of one natural day. Then add to them one-eighth part of roche alum, and the same quantity of gum arabic in powder, and let the whole stand another day. Boil until the liquor is reduced one-half, let it cool, then strain it through a piece of linen, and keep it in a well closed glass bottle, and it will be good.



123. *To make verzino in the sun.* - Take the verzino, scrape it fine, and then put it into a large fish shell, or in a glass vase, with sufficient red wine to cover the verzino; let it soak for a day and a night in the shade, not exposed to the night air; put it in the heat of the sun, and let it stand for 3 or 4 hours ; and take roche alum and a little gum, pound them both fine, and add them to the verzino; and let the verzino stand in the sun for 3 or 4 days, but do not expose it to the night air. Then strain it, and keep it in a well closed jar, in order that it may not change its colour, and it will be good.

124. *To make verzino in another way.* - Take verzino, and scrape it with glass, and then put the rasped wood into a shell half full of water, and let it stand for a day and a night; and having done this, strain it through a cloth, and press it into another saucer, and put into it a piece of alumen scabis, the size of a bean, and afterwards set the lake in the sun, and let it dry, and preserve it. When you wish to use it take a little drain water, and distemper it with that water, and use it.



127. *To make a very durable and beautiful verzino.* - Take calcined tartar and make as clear a ley with it as you can; and if you make the ley with white wine, it is better than making it with plain water, but either will do. Then take verzino scraped very fine, as much as you like, and put it to soak in the ley so that the verzino may be just covered by the ley, and no more, and let it remain so for a day and a night. Then put it into a glazed jar, and let it boil down one-third, that is to say, let it be reduced by one-third; then add gum arabic in fine powder, as much as you think will suffice, and let it boil a very little. Add a little roche alum, in fine powder, and immediately take it off the fire and let it cool and settle; then strain it through a linen cloth, and keep it in a well closed phial, and throw away the lees.



B. 132 - Take of verzino, scraped with glass or with a rasp, whatever quantity you like. And if you have a drinking-glass full of scrapings, reserve half of the verzino, and put the other half to soak in so much ley as just to cover the verzino; let it soak for the space of one night. Then put it to boil slowly over the fire, and when it has boiled while you can say one ave maria, take some of the verzino which you reserved, and put a small quantity, little by little, upon that which is boiling, and continue to do this as long as you have any left, always waiting a little after each time; and when you have no more left, and the verzino is reduced to one-half, stir in as much roche alum (and it must be well powdered) as you think sufficient, and immediately take it away from the fire and let it rest and cool. Then strain through a thin piece of linen that part only which comes away of itself, without pressing out the dregs. Put it into a well-closed glass phial, and place it in the heat of the sun for a day or two, and it will be fine and perfect verzino for writing. And if you wish the colour to be darker, add to it, when it boils, a piece of quicklime as large as a bean, and it will be done.



B. 133. - Take one ounce of verzino, scraped with a rasp or with glass. Put a third part of the verzino to soak in sufficient spirit of wine to cover it, for the space of one natural day, and add to it the weight of one quattrino of roche alum in powder. Put it over the fire, and let it boil for the space of one paternoster, strain it, and keep it in a phial, and also put by the verzino. Then take the rest of the verzino, that is, the other two-thirds, and put it to soak in very clear vinegar, and add to it a quattrino or more of alum and a quattrino of gum arabic, and a good half drinking-glass full of vinegar. Let it soak for 8 or 10 days, and then soak in this liquid the verzino which was taken out of the spirit, adding it to the other two-thirds, in the sun; then add to it another quattrino of pounded alum, and let it stand in the sun in a glass vase for 4 or 6 days; then put it away in a phial, after straining it. When you wish to use the colour, take some of the verzino that was in the spirit, which will be almost yellow, and mix it with one-tenth part of the verzino which was in the vinegar, and write with it, and it will be fine; and if you wish to have it darker, put more of the verzino made with the spirit into it, and if lighter, less. And the verzino will be better if made in this manner, viz.: - Take the verzino, scraped as before; then take a tumbler of vinegar, and let it boil for the space of one paternoster, and put into it 2 or 3 quattrini of pounded alum, because when the vinegar is boiling the alum dissolves and liquefies sooner; and if it does not all dissolve it is of no

consequence. Then put the verzino and the gum to soak in it, and place it in the sun for 8 or 10 days, and it will be good, and mix it with the other verzino, steeped in the spirit, and it will be light or dark as was before mentioned.



189. *To make the red colour for shading gold letters on paper.* - Take scraped verzino and put it in a horn-shaped vessel, with sufficient white of egg to cover it; let it remain in the sun for a day; afterwards press it out, and keep it in a well-closed glass flask; and, when necessary, use it for the red outlines of gold letters.



203. *To make a light rose colour for miniature.* - Take travertine pounded fine, as much roche alum as travertine, and an equal quantity of scraped verzino; boil the verzino with strong ley, and, when it boils, add the other ingredients and reduce it one half; then strain the liquor through a loosely woven cloth, and you will have a fine rose colour.

From the 15th century “Bolognese Manuscript” in Merrifield, Mary P. *Original Treatises, Dating from the XIIth to XVIIIth Centuries on the Arts of Painting, in Oil, Miniature, Mosaic, and on Glass; of Gilding, Dyeing, and the Preparation of Colours and Artificial Gems; Preceded by a General Introduction; with Translations, Prefaces, and Notes.* 2 vols. London: J. Murray, 1849; vol. 2, p. 436, 438, 440, 442, 450, 482, 486.



[§ 1.8.1] Now we shall deal with sanguine or brazil or rose: a certain wood ‘brazil’ originates in the region of Alexandria, and it is red in colour; now there is that which has white veins and which is sweet to the touch of the mouth: choose that.

[§1.8.2] Preparation. The colour is made from it in this way: take brazil wood and rasp it finely with glass or with a knife, and put the shavings in a shell, then pour on urine and temper it thus for a day and a night, but let it cool before it is re-mixed. In the morning, then, introduce water cooked in the method of the above liquid, and add however much alum is sufficient, and let it stand like that for the space of a day, then strain it through a cloth or silk, and let it stand thus until the colour shall be completely collected on the bottom, and discard the liquid which is supernatant, then wash two or three times with water such that the urine is completely eliminated, then dry it, that which you find, in the shell, temper with gum, and when this colour is dry, pour water over it, and leave it like that for a few hours of the day, then discard [the water]; and it is tempered with gum or glaire and water, or with new and tepid glue, if it shall be dry, it is moistened with breath, if it is winter, it should be heated with fire, then, if you want, it is possible again a second time to pour onto the brazil with water.

[§ 1.8.3] Another preparation. Rasp brazil and put it in a shell, and have glaire and gum water well prepared and twice the quantity of glaire than that of gum water, put it on the aforesaid [brazil shavings], and put in some pure water – half the quantity of the gum water that was added – and again add, and then put in alum the quantity of a chickpea, and mix.

From the “Liber Diversarum Arcium” in Mark Clarke. *Mediaeval Painters’ Materials and Techniques. The Montpellier Liber diversarum arcium.* London: Archetype Publications, 2011, p. 107-108.



*Recipe 10 — Preparation of brazilwood*⁴⁵. If you want to make rose thoroughly, then take one lot of rasped brazilwood and 1 lot of alum. Grind them as fine as flour. (Take) as much chalk as alum and grind it also long. Lay each part in a small pile. Take a glass and sprinkle it with a little alum and after that with the same quantity of chalk and then over that as much brazilwood. Pour over it a beaten egg glair so that ()⁴⁶ floats over it. Then let it stand for 8 days. Press it carefully through a cloth in to (a hole in) the chalk stone.⁴⁷ Let dry in a warm place. Take the material and put it in a small bag for keeping. If you want to work with, then temper it with water.

45. See Chapter 4, section 4.2, *Reds*.

46. A loss is signaled in Eastlake's copy. According to the technical procedure, this might be related to the quantity of glaire to be used.

47. Concerning this mineral chalk stone, see Chapter 4, Commentary, p. 166.



*Recipe 30*²⁵⁵ – *Preparation of glaze from brazilwood*²⁵⁶. If you want to make beautiful and fine rose colour which is translucent on silver and on gold. Take one lot or two of brazilwood which is finely rasped. Take oak ashes (or willow ashes)²⁵⁷ or beech ashes, one of both²⁵⁸ / (take one of these three) – and make a lye which should be clear and pure. Take a glazed vessel full of lye and put it on a blaze. Let the lye become as hot (without boiling) that one can hardly endure (put) a finger in it. Lay the aforesaid wood in the hot lye and press the wood down with (a finger or) a small stick and immediately the lye becomes as red as a beautiful rose. Let it stand for a while so the lye extracts all (the red)²⁵⁹ from the wood. After that take a settin of ice alum finely ground into powder and disseminate this powder over the wood into the colour. Stir all together with a wooden stick. Then filter it through a (clean)²⁶⁰ linen cloth into a clean glazed vessel. Let it stand overnight until the red settles to the bottom. Pour off diligently the supernatant liquid from the vessel except the thick (colour). Put the vessel in which is the thick colour on the fire and let it stand until the colour is hard. Then put it from the vessel in a bladder to keep it until one needs it. If the colour is three or four lots or a quarter²⁶¹ (?) when the colour is prepared and filtered through the cloth, then one should pour it in a small bag. This bag should be woven in such a thickness that one could hardly see through it and it should be pointed at the bottom and wide at the upper part with a ring at the top. This bag should be moistened before and then wrung. Then pour the aforesaid colour into the small bag and place a small vessel underneath. What drains first from the bag is a little bit red. When what drains from the bag is clear, then pour the colour from the vessel underneath into the bag. Hang up the bag on a nail and place the vessel underneath the bag and let the bag hang overnight until all the liquid is drained and (the bag no longer drains away).²⁶² Then take a smooth panel or a tile and turn the bag over. Scrape all the colour (material) well from the bag onto the panel or the tile. Put the colour in the air for three or four days until it becomes dry. Let it become hard. Then keep it in a bladder until one needs it. This is called fine rose colour.

255. Analogue but shorter recipes also appear in M4[561], T[78], N1[38] and N2[43].

256. See Chapter 4, section 4.2, *Reds*.

257. Also in P[13], A[28], M3[36].

258. S has not omitted to mention one type of ash and correctly refers only to the two types mentioned. The other parallel recipes present similar differences as they all propose three types of ash.

259. Also in P[13], A[28], M3[36].

260. Also in P[13], A[28], M3[36].

261. In DWB (26: 303), *vierling* could suggest a 'quarter' of a mass or a quarter of a pound.

262. Also in P[13], A[28], M3[36].



*Recipe 36 – Preparation of brazilwood*³³⁷. If you want to make beautiful fine translucent red which is light and intense. Then take a half lot of brazilwood which has been previously finely rasped. Lay that in a clean glazed dish. Take a little clear lye and heat the lye on the fire. Pour the hot lye over the brazilwood. Add also a little urine in it and mix all together into the wood. Take a hazelnut-sized piece of alum and grind it into powder. Put this same powder in the lye with the wood and stir all together. Then the lye, the urine and the alum extract all the red from the wood which is possible and the lye becomes (as) beautiful and fine red as a beautiful red rose. One should cover this colour to keep it clean. When you want now to use this colour for writing or for painting. Then pour the red colour in a clean shell and lay the gum in the colour. Let it dissolve in the colour. Stir it all together with a finger. Apply the colour evenly with a brush so the colour becomes beautiful and fine translucent rose red and also shiny. One can also write with this colour with the pen. If you want now to modify the same red colour into a beautiful purple colour, then spread over the red colour with a brush of strong lye, or of limewater, or of cooked wine.³³⁸ So the red colour is directly transformed into a beautiful purple, which is like violet and stands delicate and well on all other colours.

337. See Chapter 4, section 4.2, Reds.

338. See Chapter 4, Commentary, p. 167.

From Neven, Sylvie. *The Strasbourg Manuscript. A Medieval Tradition of Artists' Recipe Collections (1400-1570)*. London: Archetype, 2016.



The dark brown or dark red make thus: Take half an ounce of brazil wood,¹¹ grated or beaten, and put it into a stone jar, that the brazilwood fills half the jar; and then take strong lye and warm it, that it is lukewarm, and pour the lye over the brazilwood, the width of a finger, and stir it well; and take right away one-eighth ounce of ground chalk and stir it in and grate right away a quarter ounce of burnt alum; stir that in as well and look and see whether it will dissolve right away, as though it would foam; and let it stand three or four or five days. If you let it stand longer, it will get browner; and then pour it onto hard chalk through a cloth // and let it dry. // Then rub it with pure thin gum, not too strong and also not too weak, in the same way as the blue, without sugar-candy.

Nota Light rose

The light rose you shall make thus: Take the brazilwood, which you have dried out and which stayed in the cloth. Put it back in the jar and pour lye, which is not too hot, over it, as before; and then take four or five ounces of ground chalk and mix it in, but no alum. Mix this well and let it stand a night or two, and pour it out like the dark red, and then grind it, when it has dried well, in the same way as the dark red.

10. Aurum musicum is a sort of imitation gold leaf, although it looks quite different here - a brownish tint with a light metallic sparkle. The term musicum does not refer to music, but is a latinized form of medieval German terms Musiergold, muosiren, to adorn, to decorate. It may also be related to aurum mosaicum or musivum (mosaic gold), used in gilding wood or metal, depending on the etymologist's point of reference. It is mentioned and discussed in German manuals on painting and dyeing. See Ploss, op. cit., pp. 92, 97, 164, 166, 206. See also Thompson, op. cit., p. 37, notes 50 and 51; also his *Materials of Medieval Painting* (London, 1936), p. 181 ff.

11. Presilie in the original means brazilwood, a source of red or yellowish-brown color.



CHAPTER 8. To make rose color. – Take an ounce of fine brazil wood and scrape it until it is very finely divided and put it aside. Then take a quarter of an ounce of alum and take two pennyweight of white lead and grind it in a mortar with the alum and put it aside. And take then the brazil wood and place it in a cup made of malega.¹ And place therein the other powdered materials with the brazil wood. And pour urine upon them until they are covered. Let them stand thus three whole days, always stirring them every day with a piece of wood five or six times. And then pass it and strain it through a linen cloth above a trough made of gypsum or chalk. And let it soak in the trough, and, when it is dry, scrape it very well with a spatula. And keep it carefully out of the air, and when you wish to work with it, grind it in gum-water.

1. In modern Portuguese malega means a soup-bowl such as is used by country people. Apparently here it is used as a name of the wood of which such a bowl is made.



CHAPTER 9. In order to make another rose color. – In order to make another kind of rose color, take brazil wood, as much as you need, and scrape it very fine and put it in a small, new pot. And put in this pot lye of vine branches, until the brazil wood is covered with it. Put it on the fire and heat it until the lye takes up the substance of the brazil wood. And take two parts of alum and a half part of chalk and grind each one thoroughly by itself. Then mingle it and grind it together, and make, as you already know how to do, rose color out of alum.



CHAPTER 27. If you wish to make a good rose color. – If you wish to make good rose color, take as much brazil-wood as you please and scrape it well over a bowl [?] or retort. Then add alum to it. As soon as you have done so, take the urine of a chaste man and pour it over the brazil-wood and alum until they are well covered. Let them stand so for three days. Then take a piece of chalk and throw some of it in powdered form over this brazil-wood until it seems there is an equal quantity of both. And then let this preparation stay there for a day or two. And then take this rose color and mingle it with gummed white of egg and write with it. If you wish to make a blue color, put azure in it. If perhaps you wish to make a black color, place black in it. If perhaps you wish to turn a white color black, add to it black and white and take brazil-wood and put it in a white cloth and strain it over chalk. Know that there are ten principal colors: azure, orpiment, and vermilion, green, carmine, çufii [?]¹, sunflower, saffron, red lead, white lead and brazil-wood. When you wish to thin white of egg, pour into it the sap of a fig tree and thin it well for your work until it is as clear as water.

1. çufii may be an adjective modifying carmine or sunflower, or perhaps an equivalent for one of the words in the list. If one of these hypotheses were proved true the list would contain ten colors; as it stands it contains eleven.



CHAPTER 44. If you wish to make a good rose color. – If you wish to make good roseta, take brazil-wood and grind it in a mortar; let it be thoroughly ground. Sift it, and take a little virgin lime and

place it in a glazed earthenware bowl with water until the water becomes clear. In this water grind the brazil-wood and put in it a little alum and temper it with gum and write with it.

From *O Livros de Como se Fazem as Cores* as translated by Blondheim, D. S. in “An Old Portuguese Work on Manuscript Illumination” in *The Jewish Quarterly Review*, New Series, Vol. 19, No. 2 (Oct., 1928), pp. 97-135.



12. *Rose Color, Otherwise Called Pink* – The rose color, that is to say, pink⁷⁵ which is used commonly on parchment for the laying in of cloths or leaves and also of the bodies of letters, as well as how to make it in liquid form, without body, for shading the leaves or the bodies of letters.

The body-color⁷⁶ pink is made in this way. Take some of the best brazilwood⁷⁷ (and this is the way to test <the best kind>: if you put it in your mouth it tastes sweet when you chew it, and changes to a rose color),⁷⁸ and with a knife or a piece of glass scrape off as much of this wood as you want.⁷⁹ And put it into a lye made from the wood of vines or oaks⁸⁰ (and if the lye is old it is better). And put this into a glazed dish which will stand the heat: and have the lye cover this brazil, so that whatever part of it is extractable may be thoroughly extracted by this lye. And let it stand in this lye for a night or a day to soften. Then put it on the fire, and heat it to the boiling point but do not let it boil; and stir it often with a stick. Then take account of how much scraped brazil there was, and take the same quantity⁸¹ of very nice white marble very thoroughly worked up on the porphyry to an impalpable powder, or scraped with a knife, and as much sugar alum or rock alum⁸² as there is of the brazil. And grinding them thoroughly, mix them gradually in this dish, always stirring it with a stick, until the froth⁸³, which it makes subsides, and it is well colored. And then it is strained through a clean linen or hempen cloth into a glazed or unglazed porringer. And know that some say that the lye, after it is well colored, should be strained through a cloth into a glazed dish; and after getting it fairly hot, they put in the alum and marble. And it will take up the color immediately; and the water will separate almost clear above it,⁸⁴ and you pour it off carefully. And it this is better. But the lye must be two weeks old, or made with rain water which has been spoiling in a stone jar or, as is most usual, in a hollow wooden vessel, because that water is much the best and brings out the best color. Know, also, that some people consider it better to have the moisture of the lye soaked up by the porringer; and that others put it into a glazed jar, let it settle, and afterwards gradually and carefully draw, off the lye and let the material dry. And still others hollow out a fired earthen brick and put the material into this hollow to dry.⁸⁵ And when you want it to keep for a long time, work it up with gum water⁸⁶ and let it dry; and put it away in small pieces.

And if anyone wants to make it richer, he may, when he puts in the brazil, put into the lye with it some dyer's grain,⁸⁷ if obtainable, to the amount of an eight or sixth part of the weight of that brazil, more or less, at will, because it makes a more permanent color and will be more beautiful; and proceed as above. However, it is a more beautiful color with the brazil alone than mixed with the grain.⁸⁸ Do whichever you like. Likewise, if, into the brazil dissolved in lye as above, you put, for body, eggshells,⁸⁹ kept overnight in strong vinegar, with the membranes removed in the morning, and washed with clear water and ground to an impalpable paste on the porphyry, together with rock alum in the weight aforesaid, and put it into a sieve of linen cloth, and pour the filtrate back into the sieve three or four times (and all the good substance will stay in the sieve), and you let it dry in this sieve, in a breeze, so that the sun does not strike it, and put it away, and do as before, it will be very good.

75. Rosetta is translated “pink” to distinguish it from the adjective, *rosaceus*, “rose.” The term “Roset” used, for example, in *The Art of Limning*, ed. cit., fol. Vv, is probably exactly equivalent, but also, unfortunately, obsolete, and liable to be

confused with “Russet,” which is quite a different word. See the gloss, “To make Rosett,” attached to the rule, “A fare Ia roxeta,” in MS Sloane 416, fol. 139v, which describes a color made from brazil on a base of eggshells or, alternatively, “de quela polvere cum Ia quale se imbornisse le spate e le arme.” Rosetta is very commonly used as the name of various brazil pigments, but also as a general term for the color “pink,” and for the “pinks” in flesh painting, as in Cennino, Cap. LXVII, etc.

76. Rosetta corporea. A body color is more or less opaque, and possesses also a greater or less degree of substance; the ideas of bulk and opacity are blended in the term. This pink is given body in both senses by the incorporation of powdered marble. It should be noted that this marble dust is not added to the finished product as an extraneous ingredient, to give it the quality of a body color, as Chinese white might be mixed with rose madder in water color or gouache. The powdered marble is present at the moment of precipitation of the color from its solution, and the coloring principle of the brazil is mordanted upon the particles of marble by the action of the alum. The marble is thus made the “base” or “carrier” or “extender” of the color, and forms an integral combination with it. The pigment produced by this recipe has about as much body in water color as cobalt blue, which its working quality somewhat resembles. The color described in §13, the rosa incorporea of §29, on the other hand, has no “body” at all, but comes out liquid and transparent, like so much red ink.
77. Lignum brasili, probably *Caesalpinia sappan* or *C. echinata*. See Cennino, ed. cit., II, 39, n. 5. See also A. Doren, *Wirtschaftsgeschichte*, I, 79, n. 1, and the extensive article, “Brasilienholz,” in W. Heyd, *Geschichte des Levantehandels*, II, 576-580. References to this material in medieval technology are too numerous to be assembled here, and the articles cited provide an ample bibliography. Brazil wood may be purchased in blocks or chips from wholesale chemists in this country.
78. The natural color of the dry brazil wood is rather brown than rose; when wet, the color immediately deepens and inclines to crimson. *The Liber diversarum artium*, I, VII, ed. cit., p. 753, recommends “illud ... quod venas habet albas, et quod est dulce in tactu oris.”
79. Brazil seems to have been sold regularly in block form during the Middle Ages. See Francesco Balducci Pegolotti, *Pratica della Mercatura*, in G. F. Pagnini, *Della Decima* (Lucca, 1756), III, 361. The commonest practice seems to have been to scrape it with glass; sometimes it was shaved with a knife, as here, or filed or pounded in a mortar. The object in all these treatments was, of course, simply to break up the structure of the wood in order to hasten the extraction of the color from it.
80. See n. 47, p. 36, above.
81. It is probably safe to assume that this means “quantity by weight,” not bulk. See the last line of p. 8, and the eighth line of p. 9.
82. See n. 45, p. 36, above, and n. 82, below. Lecoy de La Marche, p. 88, n. 2, states that “L'alun succharin est une composition d'alun, d'eau rose et de blanc d'oeuf.” Compare M.P. Merrifield, *Original Treatises*, II, 894. This idea of alumen zuccarinum seems to have originated with F. B. Pegolotti, op. cit., III, 295. See W. Heyd, op. cit., II, 555, n. 9. The use of any such fancy compound here is not only inherently improbable, but, in the light of experiment, quite certainly not intended by our author.
As noted below, n. 84, the recipe requires a fairly concentrated form of alum. *The Liber luminis luminum*, Florence, Biblioteca Riccardiana, MS L. III. 13, 119, contains the following note: “De allumine zucharino. Allumen zucharinum est albissime nature, acetositatem mordacem in se continens; locoque alluminis lameni potest poni” (ed. J. Wood Brown, *Life and Legend of Michael Scot*, p. 256). The “Iemen alum” alluded to in this quotation was described in 846 by Ibn Khordadbeh, in a work edited under the title, *Livre des Routes*, by M. J. De Goeje (Leyden, 1889), p. 134. See also J. Ruska, *Das Steinbuch des Aristoteles* (Heidelberg, 1912), p. 174, and the *Liber Dedali philosophi*, ed. J. Wood Brown, op. cit., p. 255.
83. The formation of this froth demonstrates that the lye was, as pointed out in n. 47, p. 36, above, a carbonate solution, not a hydroxide. When alum is added to a solution of potassium carbonate, potassium sulphate is formed in the solution, aluminum hydroxide is precipitated out, and carbon dioxide escapes as a gas, with marked effervescence. This effervescence is noted here, and satisfies us as to the nature of the lixivium employed.
84. In our experiments it was found that a weight of common alum, $K_2SO_4 \cdot Al_2(SO_4)_3 \cdot 24H_2O$, equal to that of the brazil wood was far from enough to precipitate out all the color of the latter. This passage, coupled with experiment, makes it likely that the alum of our text was not the material commonly so called in modern trade. If calcined, the anhydrous product is about 80% more effective; anhydrous aluminum sulphate, $Al_2(SO_4)_3$, is about 50% more effective still, and does extract substantially all the color from the brazil extract.
85. See n. 48, p. 37, above.
86. Aqua gummata. Aqua is used here in the sense of “water,” gummed water, gum water; in the expression *aqua gumme* (see §18, pp. 13, 14, above), however, it means rather “solution,” and is so translated. We have been unable to discern any authority in the text for Lecoy de La Marche’s statement, p. 33, that “Il y avait deux sortes d'eau de gomme (aqua gummae, aqua gummata). La première se faisait avec Ia gomme arabique... On obtenait la seconde avec la gomme adragant...” On the contrary, there is good evidence that these terms are interchangeable, and that both apply to the gum arabic solution, for in §18, p. 14, above, the author describes specifically an “aquam gumme draganti,” for anyone who wants it. He seems to have had a low opinion of this material, for he does not mention it again except to say, slightlyly, “Use it if you wish; but it is not very useful.”
87. Grana tinctorum. Mrs. Merrifield, op. cit., I, CLXXIV-CLXXVI, equates grana and kermes, “the dead bodies of the female insect of the coccus ilicis ... constantly to be traced as a dye during the Middle Ages in the South of Europe.” She says that “there appears to be no doubt that chermes and grana were really synonymous.” Robert Hendrie, *An Essay upon Various Arts*, pp. 62, 63, identifies the “greyn of Portyngale” of Chaucer’s *Cant. Tales*, B* 4649 (VII, 3459) with “the ‘grana

tinctoria,' the 'kokkos' of the Greeks, the 'Kermes berries.'" See also NED, s.v.v. "Kermes," and "Grain," III, 10, a. Strictly, there is little doubt that grana was originally, and for a long time, synonymous with kermes; but there is some evidence to show that by the fourteenth century some distinction had grown up between these terms. Probably the grana tinctorum of our text is kermes. Lecoy de La Marche certainly errs in stating, p. 24, that it is cochineal; cochineal is made from *Coccus cacti*, indigenous to Central America, and was unknown in Europe before the sixteenth century.

Coccus ilicis, gathered from the branches of *Quercus coccifera*, was pretty surely known in the Middle Ages as grana. This name is generally supposed to indicate medieval ignorance of the animal nature of the kermes grains. That ignorance was in fact classical; grana is simply the equivalent of Gk. kokkos, "berry" L. *coccum*, both used specifically of the kermes "berries"; and in the Vulgate, Exodus 35, 25, vermiculum is used in place of *coccum*, showing that before the end of the fourth century kermes was recognized as a "little worm."

The name vermiculum was regularly used in the Middle Ages in this sense. It appears in the *Compositiones*, Lucca, MS 490, ed. L. A. Muratori, *Antiquitates*, II, col. 379, and in the *Mappae clavicula*, MS Phillipps 3715, ed. cit., p. 221, probably in its root sense. So also in LeBegue's *Tabula de Vocabulis*, ed. cit., I, 38: "Vermiculus color rubeus est, qui fit ex frondibus sil vestribus, ut dicit Catholicon, et Grece ipsum dicunt coctum; nos vera rubeum vel vermiletum." See also *ibid.*, p. 22, s.v. "Coccus." After the twelfth century vermiculum tended gradually to replace cinnabarin as the name of the red sulphide of mercury which we call vermilion. (See D. V. Thompson, Jr., "Artificial Vermilion," art. cit., p. 66.)

Thus *coccum*, grana, and vermiculum appear as synonyms. The coccarin of the *Compositiones* chapter, "Alia compositio vermiculi," loc. cit., and *Mappae clavicula*, Cap. CLXXIII, "Compositio vermiculi," and Cap. CLXXV, "Pandius," seems to have been identical, or very similar. (See M. P. Merrifield, loc. cit.) Ernst Berger, *Beiträge*, III, 12, endeavors to make the vermiculum of these passages our vermilion, and to see kermes in the lacca of the *Compositiones* chapter "De Russeo." In the latter argument he may well be correct, for it must be remembered that lacca, lac, is also a vermiculum, *Coccus lacca*, and that confusion may well have existed between kermes and lac. See Cennino, ed. cit., II, 26, n. I.

The history of grana is closely bound up with the history of dyeing. The earliest mention of this term in trade seems to be found in a *Pacta concordiae in itae inter Bononienses et Ferrarienses*, dated 1193, printed by Muratori, op. cit., II, call. 891-900. At col. 894 E we find listed "de lume zucarina, de grana, de Brasile..." The comma after grana is omitted by Muratori and supplied by W. Heyd, *Levantehandels*, II, 577, n. 2. Heyd, *ibid.*, pp. 609, 610, gives a good brief account of the history of kermes, and calls attention to certain oriental and eastern-European products which must be considered within the outlines of the grana problem, especially the so-called "Polish cochineal," *Porphyrophora Frischii* Brandt. "Bei dieser ist kein Zweifel, dass sie dem westlichen Europa zugeführt wurde." Heyd refers in this connection to the statement in the *Liber diversarum artium*, I, xi, "De distemperatione grane et gorme," ed. cit., p. 756, that "Gorma quidem color est qui trahit in purpuram, et affertur de quadam regione que Rasia dicitur." (The version of this note found in the *Liber de coloribus*, art. cit., p. 296, has "regione, et hec rosa dicitur.")

Alfred Doren, *Wirtschaftsgeschichte*, I, 78, n. I, points out that the identification of grana with kermes is not justified in all cases. The *Trattato dell' arte della seta*, ed. G. Gargioli, *L'Arte della Seta in Firenze, trattato del secolo XV* (Florence, 1868), "unterscheidet ... den Kermes als die wertvollere Farbe ganz klar von der grana, und gibt verschiedene Methoden für die Farbung mit heiden Farbstoffen an." Doren points out that Tommaso Mocenigo in L. A. Muratori, *Scriptores rerum Italicarum*, XXII, 960, F. B. Pegolotti, *Pratica della Mercatura*, in Pagnini, op. cit. p. 45, supra, III, and Giovanni di Bernardo d'Antonio da Uzzano, *ibid.*, IV, 20, 49, 53, etc., distinguish kermes and grana as two products of different values, subject to different tariffs, and that cloths dyed with them bring different prices. Since, however, the documents of the wool trade are concerned almost exclusively with grana, which represented the most valuable of all dyestuffs, Doren suggests that the distinction between chermisi and grana may have been more significant in connection with silk dyeing than with wool. "Vielleicht handelt es sich bei heiden um zwei Farbstoffe von wenig verschiedenen Beschaffenheit, die beide aus derselbe Quell, wenn auch mit verchiedenen Methoden gewonnen wurden; oder-und das scheint mir wahrscheinlicher- man bezeichnete mit Kermes die besseren orientalischen, mit 'grana' die gewöhnlichen westeuropaischen Sorten, die z. B. der *Trattato della Seta* allein als 'grana' anführt."

88. The apparent contradiction here may be resolved if we understand the author to mean that the mixed brazil and grana will be more beautiful in the long run.
89. Brazil lakes on a base of powdered eggshells were apparently a fourteenth-century innovation. Other rules for their preparation may be found in the *Ricette daffare piu colori*, MS cit., fol. 99, and in the *Liber illuministarum*, MS cit., fol. 227v, ed. L. Rockinger, art. cit., pp. 36-37, n. I. The *Experimenta* of Jehan LeBegue's collection, copied from a lost manuscript of Johannes Alcherius, contain a rule of Italian origin, §14, "Ad faciendum colorem rosete fine," ed. M. P. Merrifield, op. cit., I, 53, similar to that of the *Ricette*. LeBegue states, ed. cit., p. 69, that the manuscript from which he copied this rule had itself been copied in 1409 from a manuscript borrowed from a certain Fra Dionisio of the Order of the Servi, "qui ordo in Mediolano dicitur del sacho."

The unpublished MS Sloane 416, cit. supra, fol. 139v, contains a rule mentioned in n. 75, p. 44, above, "A fare Ia roxeta," glossed in the left margin, "To make Rosett." The text seems pertinent enough to the present discussion to warrant quoting it here: Toy gusse d'ove bene lavade, e secale. Quante siano seche, pistale nel mortale, e poi maxinale suxo Ia pietra cum aqua chiara, e poy lasale secare. Da poy toy verzino raspato, e falo bolire in Ia lesia forte tanto che cali el terço. Poy tuolo dal fuoco, e cussi caldo butali dentro lume de roca pista, e meseda molto bene. E poy butalo sopra Ia predicta, posta sopra Ia bocha de uno quadrelo. Fa in questo modo: quanta sia secha Ia polvere, toy uno quadrelo secho che non abia tochato aqua, e faze una peça tanto grande che basti, e dentro li miti questa polvere che sia per fino a meço; e poy sopra Ia peça miti lo verzino che culi bene, e strucalo bene. La lesia entrara nel quadrelo, e lo colore remagnera apreso in Ia polvere. E quando Ia vorai adoperare, maxinala como l'aqua, e temperala poi cum aqua gomata. E nota: se tu non vuoy fare de gusse de ove, toy de quela polvere cum Ia quale se imbornisse le spate e le arme, e fa come e dito di sopra.



13. *The Liquid Brazil Color, Without Body, for Shading*⁹⁰ – Take as much of that same wood as you want, scraped as above (and if you have any of the aforesaid grain and want to add it, do so; or, if not, work with brazil plain) and <put it> into a glazed dish. And put over it enough white of egg well broken with a seasponge, to cover this brazil, thoroughly, and to extract the juice from it thoroughly by a process of softening. And let it stand with this white of egg for two or three days. And then you take a little sugar alum or rock alum, namely, to the amount of two ordinary beans or three at the most, to half an ounce of brazil and dissolve it in gum water, and mix it with this brazil and glair. And let it stand for one day more, and then strain it through a linen cloth into a glazed earthenware dish, good and broad, especially at the bottom; and let it dry. And some people dry it on the porphyry, to get it done more quickly.⁹¹ And put it away. And when you want to use it take a little of it, or as much as you have a use for, and put it into a glazed dish or into a mollusk shell, and temper it with plain water. And before it is tempered, put in a little of the solution of honey,⁹² as much as you can pick up on your brush handle, or as much as is needed to keep it from cracking after it dries out. And if, because of the plain water; it lacks binding medium, so that it is not good lustrous, add more glair of eggs (or gum water, but the glair is the better). And take care not to get too much honey into it, because that would, spoil its color. And be careful also not to have too much of the binding medium in it, because it will crack the other colors, and the honey solution is put in on this account,⁹³ as all experienced persons know, and I write about this only as a reminder to people who are occasionally careless about their work. I am not going into the subject of lac;⁹⁴ I leave that to the painters.

90. See n. 76, p. 44, above.

91. Compare the preparation of saffron described in §27, p. 19, above.

92. See §19, p. 14, above.

93. The colloids, gum, size, and albumen, used as binders, are brittle when dry; but they remain flexible as long as they are kept a little bit moist. Hygroscopic substances, generally glycerine nowadays, but sometimes still honey and sugar, as here, are used to prevent the colors from drying out entirely and cracking as a result. It is, of course, disastrous to use too much of any of these, because the least excess makes the color sticky. Some modern water colors, especially those put up in tubes, occasionally contain too much glycerine, and never dry out properly.

94. Seen. 87, p. 46, above; also Cennino, ed. cit., II, 26, n. 1. A. P. Laurie, *Materials of the Painter's Craft* (London, 1910), pp. 253-278, contains an excellent chapter "On the preparation of the lakes used by the old masters." The distinction indicated here between illuminators and painters is an instructive one. Compare the title, *Liber de coloribus illuminatorum sive pictorum*.

From Thompson, Daniel Varney, George Heard Hamilton. *An Anonymous Fourteenth-Century Treatise: De Arte Illuminandi, the Technique of Manuscript Illumination; Translated from the Latin of Naples Ms. Xii. E. 27*. New Haven, London: Yale University Press; H. Milford, Oxford University Press, 1933, p. 7.



Of red colour, and first Brasill.

You must take care when you seeth Brasill, that you do it when the element is clear, without clouds, raine, or wind, otherwise it will not be good, you must make it thus:

Take quicklime, poure raine water upon it, let it stand all night, in the morning poure the water softly from the lime, or straine it through a cloath, and for a quart of water, take an ounce of Brasill, let it seethe till it be halfe consumed, then put into it one ounce of beaten alum, one ounce of gum

Arabike, two ounces of gum of Cheritree, or else two ounces of cleane glue, strine it from the wood: you may likewise put into it some chalke beaten to powder.



To seeth Brasill another way.

To an ounce of Brasill, take the third part of a quart of beere, wine, or vinegar, put it in a new pot, let it stand a night, in the morning set it on the fire, and let it seethe till it be halfe consumed, then for every ounce of Brasill, take two penny worth of alum, beaten to powder, and as much beaten gum Arabike, stir them well together, and let them seethe againe, but if you desire to have it somewhat darke, then scrape a little chalke into it: when it seetheth, let it not seeth over the pot, and being cold, strain it through a cloath, and put it into a glasse well stopped.



To make Rosin.

Take strong vinegar, or wine, and put powder of alum therin, when the alum is dissolved, then make a strong and thicke lee with quicklime, and take four times as much Brasill as your alum waieth, put it in a clout, and hang it in the lee, and let it stand a day and a night, then strain it and hang the Brasill again in the lee, and let it stand as long as it did the first time, which doe in like manner three or foure times, when you have done so let it stand and drie, and it is perfect.

From *A Booke of Secrets: Shewing the diuers waies to make and prepare all sorts of Inke, and Colours...*, London, Printed by Adam Islip for Edward White, and are to be sold at his shop at the little North dore of Pouls, at the signe of the Gun. 1596.



For Brasil

Take a piece of brazil being sweet to the tongue and cleave it into small splinters. Add enough water so that it is covered to three finger's depth. Soak like this for one day and one night, and then boil until almost half the liquid has been spent. After cooling, throw the wood aside, keeping the liquid, into which you throw a little [measure of] gum arabic and a little *agua ardiente* [sugar cane spirit]. Let it stand thus until the gum melts, stirring it two or three times every day. When it has melted, place it on a slow fire again. When it begins to boil, add well crushed alum a little at a time until it makes the water very vermilion. When it has turned quite crimson (testing it with the fingernail), add a little crushed pepper. When it has boiled, take it from the fire and strain it; keep it in a glass and use it. (Nunes, 1615; Harley, 1982, gives a similar recipe from de Mayerne (BL MS SLoane 2052; Clarke MS 2790), though vinegar is included in the original boiling).

From Filipe Nunes. *Arte da Pintura, Symmetria, e Perspectiva*. Joao Baptista Alvares : Lisboa. 1767 (originally published in 1615) as translated in the chapter "Brazilwood" in Eastaugh, et al. *Pigment Compendium. A Dictionary of Historical Pigments*. Amsterdam; Boston; London: Butterworth-Heinemann. 2008.



Notes of De Mayerne, MS p. 62, Berger Note 129:

EXCELLENT ROSETTE. Boil 3 ounces of the best very red and dark pernambuco wood and an ounce of alum in a quart of very good red wine vinegar, till it is boiled down by half. Strain it and add 1/2 ounce of the most beautiful and purest gum Arabic, this gives a beautiful columbine; 1 ounce of gum makes the color too dark. It is added at the end of the boiling. Strain the rosette; it keeps well for a year and forms no precipitate.

Mayerne, Théodore T, Ernst Berger, et al. *Lost Secrets of Flemish Painting: Including the First Complete English Translation of the De Mayerne Manuscript, B.m. Sloane 2052*. Eijsden, the Netherlands: Alchemist, 2010. p. 81.