YELLOW, in *Dyeing*, is one of the five ſimple and mother colours. See COLOUR.

The only materials uſed by the calico-printers for the production of fine yellows are the quercitron-bark (ſee QUERCUS), and the *Weld*, or *Reſeda Luteola*, which ſee. In order to obtain calicoes of the fineſt yellow or more delicate lemon colour, it is neceſſary to dry the pieces in the open air, as the ſtove would not fail to injure ſuch colours; ſtove-drying having a tendency to change a yellow into an orange. In the operation of dunging the mordants for theſe pale yellows, care ſhould be taken that it be not done at a higher temperature than 96° or 100°, as ſuch a high temperature would impair their beauty. But beſides, by dunging at this low temperature, the dyeing may be completed at about 110°, which will give a much livelier colour than if a higher temperature had been employed. For all the different ſhades of reds and yellows, the mordant employed by calico-printers is the acetate of alumine; which is prepared by a mixture of the ſulphate of alumine with acetate of lead, both in a ſtate of ſolution; ſo that, on the theory of double decompoſition, ſulphate of lead is formed, which precipitates while the acetate of alumine remains in ſolution. Of late this article has been prepared from the pyroligneous acid, by means of lime and alum, in the following manner:—The pyroligneous acid is firſt paſſed through a ſtill, to diveſt it of a portion of the tar which is always diſſolved in it: it is then ſaturated with lime or whiting; and the acetate of lime thus formed is decompoſed by a heated ſolution of ſulphate of alumine. The reſult of this double decompoſition is ſulphate of lime, which precipitates, and acetate of alumine, which is drawn from the ſediment of the calcareous ſulphate, and preſerved for uſe. Mr. Parkes cautions the manufacturer againſt the uſe of lime in the proceſs for making acetate of alumine; and he ſays that the true mode of making it, though more expenſive, is that recommended by Berthollet, which conſiſts in decompoſing ſulphate of alumine by means of ſaccharum ſaturni, or acetate of lead. Mr. Parkes mentions a method of producing yellows on calico, which, though not often practiſed, has nevertheleſs a very good effect. The proceſs is as follows:—A ſtrong decoction of bark, thickened with gum tragacanth, is to be mixed with a portion of very pure muriate of tin; and this, when printed with the uſual management, will produce a colour of great brightneſs and durability. This mode poſſeſſes one very important advantage; *viz.* that if it ſhould be neceſſary to pad a piece in diluted acetate of alumine to obtain a pale lemon ground, the yellow figures previouſly done by the above proceſs will not give out any part of their colour to the ſecond mordant; whereas, whenever a ſtrong yellow has been produced in the common way, the pattern is very apt to ſpread, and to become irregular, and often to ſtain the ground, when the piece comes a ſecond time into the acetate of alumine. Parkes's Eſſ. vol. ii.

Turmeric likewiſe gives a good yellow, though not the beſt.

Woollen cloth, impregnated with a ſolution of alum and tartar, acquires on being boiled with the watery decoction, an elegant, but not very durable orange-yellow or gold-coloured dye. It is rarely made uſe of by the dyers, on account of its price, and the periſhableneſs of its colour.

There is alſo an Indian wood that gives a yellow colour bordering on gold. This wood, called *fuſtick*, is a ſpecies of mulberry-tree, of a deep ſulphur-yellow colour, which it readily gives out both to water and ſpirit. The watery decoction dyes prepared woollen of a very durable orange-yellow: the colour is imbibed by the cloth in a moderate warmth, without boiling.

The *fuſtet* or *fuſtel* of the French is a yellow wood or root, very different from our fuſtick; it gives a fine orange dye to woollen, but the colour is extremely periſhable in the air. This is called *cotinus coriaria*, or *Venice ſumach*.

The leaves of many kinds of herbs and trees give a yellow dye to wool or woollen cloth that has been previouſly boiled with a ſolution of alum and tartar. There is, indeed, no colour for which we have ſuch plenty of materials as for yellow.

Mr. Hellot obſerves, in his Art de Teindre, that all leaves, barks, and roots, which on being chewed diſcover a ſlight aſtringency, as the leaves of the almond, peach, and pear trees, aſh-bark (eſpecially that taken off after the firſt riſing of the ſap in ſpring), the roots of wild patience, &c. (ſee LEAF), yield durable yellows, more or leſs beautiful, according to the length of time that the boiling is continued, and the proportions of alum and tartar in the preparatory liquor: that a large quantity of alum makes theſe yellows approach to the elegant yellow of weld; that if the tartar is made to prevail, it inclines them to an orange; and that if the roots, barks, or leaves, be too long boiled, the yellow proves tarniſhed, and acquires ſhades of brown. Neumann's Chemical Works, by Lewis, p. 384. 434.

The Chineſe are famous for their yellows in dyeing, which never change with waſhing. They make this dye of the flowers of the acacia, in a manner in which we might uſe ſeveral of our productions to a great advantage.

It is thus: they gather the flowers before they are perfectly ripe, and dry them in an earthen veſſel over a gentle heat, till they criſp up in the manner of tea-leaves: they then add to them the ripe ſeeds of the ſame tree in different proportions; and then boiling them in river water with alum, they give the yellow in any degree that they pleaſe.

They have three kinds of yellow, which they diſtinguiſh by the names of *Ngo-hoang*, *king-hoang*, and *hoang* alone.

The firſt of theſe is the brighteſt yellow: to dye five or

ſix ells of ſilk of this colour, they uſe a pound of the flowers of the acacia, about two ounces of the ſeeds, and four ounces of alum.

The *king-hoang* is a ſomewhat deeper yellow: to dye this, they uſe the ſame ingredients in the ſame proportion as in the former caſe; and when the ſilk is dry from the dipping in this, they give it a ſecond dipping in a ſlight tincture of Braſil wood: this brings it to the fine ſtrong yellow we ſee.

The *hoang*, or pale yellow, is made of the ſame ingredients as the firſt, only inſtead of four ounces of alum they put in but three ounces: river water is found to be greatly preferable to any other for the extracting of theſe colours; but even in that there is great difference, ſome doing the buſineſs much better than others.

The Chineſe are ſo expert in judging on this occaſion, that they can tell by the taſte of water whether it will or will not do; and if it taſte faint they know it is faulty; but they dip the pieces twice into it inſtead of once, and the colour ſucceeds well.

The flowers of the acacia, when they have been prepared by roaſting in this manner, may be kept all the year round, and employed in dyeing as occaſion requires, only there is to be longer boiling for the dried flowers than the freſh ones; and it is always found that the freſh flowers give the brighteſt colour. Obſ. ſur les Coutum. de l'Aſie, p. 254.

Greens are uſually made of yellow and blue mixed. With yellow, madder red, and goat's-hair prepared with madder, are made the golden yellow, Aurora, panſy, nacarate, Iſabella, and chamois colour, which are all caſts or ſhades of yellow.

Mr. Peter Woulfe has given the following receipt for making the yellow dye:—Take half an ounce of powdered indigo, and mix it in a high glaſs veſſel, with two ounces of ſtrong ſpirit of nitre, which ſhould be previouſly diluted with eight ounces of water, for preventing the indigo's being ſet on fire by the ſpirit; becauſe two ounces and a half of ſtrong ſpirit of nitre will ſet fire to half an ounce of indigo: let the mixture ſtand for a week, and then digeſt it in a ſand-heat for an hour or more, and add four ounces more of water to it; filtre the ſolution, which will be of a fine yellow colour. If the indigo be digeſted twenty-four hours after the ſpirit of nitre is poured upon it, it will froth and boil over; but after ſtanding about a week, it has not that property.

One part of the ſolution of indigo in the acid of nitre, mixed with four or five parts of water, will dye ſilk or cloth of the paleſt yellow colour, or of any ſhade to the deepeſt, and that by letting them boil more or leſs in the colour. The addition of alum is uſeful, as it makes the colour more laſting: according as the ſolution boils away, more water muſt be added. None of the colour in the operation ſeparates from the water, but what adheres to the ſilk or cloth; and conſequently this colour goes far in dyeing.

Cochineal, Dutch litmus, orchil, cudbear, and many other colouring ſubſtances treated in this manner, will all dye ſilk and wool of a yellow colour.

The indigo which remains undiſſolved in making Saxon blue, and collected by filtration, if digeſted with ſpirit of nitre, dyes ſilk and wool of all ſhades of brown, inclining to a yellow.

Cloth and ſilk may be dyed green with indigo; but they muſt firſt be boiled in the yellow dye, and then in the blue. Phil. Tranſ. vol. lxi. part i. p. 129, &c. See DYEING.

Painters and enamellers make their yellow of maſſicot, or, as ſome write it, maſticot, which is ceruſſe raiſed to a yellow colour by the fire; or with yellow ochre. Limners and illuminers make it with ſaffron, French berries, orcanette, &c.

Mr. Boyle tells us a moſt beautiful yellow may be procured by taking good quickſilver, and three or four times its weight of oil of vitriol, drawing off, in a glaſs retort, the ſaline menſtruum from the metalline liquor, till there remains a dry ſnow-white calx at the bottom: on pouring a large quantity of fair water on this, the colour changes to an excellent light yellow.

He ſays he fears this colour is too coſtly to be uſed by painters, and he does not know how it would agree with every pigment, eſpecially oil colours. Works abr. vol. ii. p. 91. See VITRIOL.

Branton obſerves, that it was anciently the cuſtom to paint a man's door yellow, and ſtrew his houſe with ſalt, to declare him a traitor to his king.