belonging to Turkey on that side of the Black sea. It is the seat of a Greek bishop, under whom are two churches. There are twelve mosques, 4000 houses, and about 20,000 inhabitants, among whom are a few Franks, and many Ar­menians, Greeks, and Jews. Varna has considerable ship­ping and fisheries, and much trade in corn, butter, cheese, and wine. Lat. 43. 17. 30. Long. 27.45. E.

VARNISH, a clear limpid fluid, capable of hardening without losing its transparency, used by painters, gilders, &c. to give a lustre to their works, in order to preserve them and defend them from the air.

A coat of varnish ought to possess the following proper­ties. 1st. It must exclude the action of the air; because wood and metals are varnished to defend them from decay and rust. 2d. It must resist water; for otherwise the effect of the varnish could not be permanent. 3d. It ought not to alter such colours as are intended to be preserved by this means. It is necessary therefore that a varnish should be easily extended or spread over the surface, without leaving pores or cavities ; that it should not crack or scale ; and that it should resist water. Now resins are the only bodies that possess these properties. Resins consequently must be used as the bases of varnish. The question which of course presents itself must then be, how to dispose them for this use; and for this purpose they must be dissolved, as minutely divided as possible, and combined in such a manner that the imperfections of those which might be disposed to scale may be corrected by others.

Resins may be dissolved by three agents, 1st, By fixed oil. 2d, By volatile oil. 3d, By alcohol. And accordingly we have three kinds of varnish ; the fat or oily varnish, essential varnish, and spirit varnish. Before a resin is dis­solved in a fixed oil. It is necessary to render the oil drying. For this purpose the oil is boiled with metallic oxides ; in which operation the mucilage of the oil combines with the metal, while the oil itself unites with the oxygen of the oxide. To accelerate the drying of this varnish. It is ne­cessary to add oil of turpentine. The essential varnishes consist of a solution of resin in oil of turpentine. The varnish being applied, the essential oil flies off, and leaves the resin. This is used only for paintings. When resins are dissolved in alcohol, the varnish dries very speedily, and is subject to crack ; but this fault is corrected by add­ing a small quantity of turpentine to the mixture, which renders it brighter, and less brittle when dry.

We shall now give the method of preparing a number pf varnishes for different purposes.

4 *Varnish for Toilet-boxes, Cases, Fans,* &c.—Dissolve two ounces of gum mastich and eight ounces gum sandar­ach in a quart of alcohol ; then add four ounces of Venice turpentine.

*A Varnish for Wainscots, cane chairs, Iron chairs, Grates.—*Dissolve in a quart of alcohol eight ounces of gum sandarach, two ounces of seed lac, four ounces of rosin; then add six ounces of Venice turpentine. If the varnish is wished to produce a red colour, more of the lac and less of sandarach should be used, and a little dragon's blood should be added. This varnish is so thick that two layers of it are equal to four or five of another.

*A Varnish for Fiddles, and other Musical Instru­ments—*Put four ounces of gum sandarach, two ounces of lac, two ounces of gum mastich, an ounce of gum elemi, into a quart of alcohol, and hang them over a slow fire till they are dissolved ; then add two ounces of tur­pentine.

*Varnish in order to employ Vermilion for painting Equi­pages—*Dissolve in a quart of alcohol six ounces of sandar­ach, three ounces of gum lac, and four ounces of rosin ; afterwards add six ounces of the cheapest kind of turpen­tine; mix with it a proper quantity of vermilion when it is io be used

*Gold-coloured Varnish—*Pound separately four ounces of stick lac, four ounces of gamboge, four ounces of dragon’s blood, four ounces of anotta, and one ounce of saffron : put each of them separately into a quart of alcohol, and expose them for five days in a narrow-mouthed bottle to the sun, or keep them during that time in a very warm room, shak­ing them every now and then to hasten the solution. When they are melted, mix them together. More or less of each of these ingredients will give the different tints of gold according as they are combined. In order to make silver imitate gold exactly when covered with this varnish, the quantity of ingredients must be somewhat greater. The method of gilding silver leaf, &c. with this varnish, is as follows : The silver leaf being fixed, in the same manner as gold leaf, by the interposition of proper glutinous matters, the varnish is spread upon the piece with a brush or pencil. The first coat being dry, the piece is again and again washed over with the varnish till the colour ap­pears sufficiently deep. What is called *gilt leather,* and many picture frames, have no other than this counterfeit gilding. Washing them with a little rectified spirit of wine affords a proof of this ; the spirit dissolving the var­nish, and leaving the silver leaf of its own whiteness. For plain frames, thick tinfoil may be used instead of silver. The tin leaf, fixed on the piece with glue, is to be burnished, then polished with emery and a fine linen cloth, and after­wards with putty applied in the same manner: being then lacquered over with the varnish five or six times. It looks very nearly like burnished gold. The same varnish, macle with a less proportion of the colouring materials, is also ap­plied on works of brass ; both for heightening the colour of the metal to a resemblance with that of gold, and for pre­serving it from being tarnished or corroded by the air.

*Oil Varnishes* Gum copal and amber are the substances

principally employed in oil varnishes. They possess the properties necessary for varnishes, solidity and transparency. The copal being whitest, is used for varnishing light, the amber for dark colours. It is best to dissolve them before mixing them with the oil, because by this means they are in less danger of being scorched, and at the same time the varnish is more beautiful. They should be melted in a pot on the fire ; they are in a proper state for receiving the oil when they give no resistance to the iron spatula, and when they run off from it drop by drop. The oil employed should be a drying oil, and perfectly free from grease. It should be poured into the copal or amber by little and little, constantly stirring the ingredients at the same time with the spatula. When the oil is well mixed with the copal or amber, take it off the fire ; and when it is pretty cool, pour in a greater quantity of the essence of turpentine than the oil that was used. After the varnish is made. It should be passed through a linen cloth. Oil varnishes become thick by keeping ; but when they are to be used, it is only necessary to pour in a little essence of turpentine, and to put them for a little on the fire. The turpentine is necessary in oil varnishes to make them dry properly ; generally twice as much of it is used as of oil. Less is necessary in summer than in winter. Too much oil hinders the varnish from drying; but when too little is used. It cracks and does not spread properly. We shall subjoin the most useful oil varnishes.

*White copal Varnish.*—On sixteen ounces of melted copal pour four, six, or eight ounces of linseed oil, boiled and quite free from grease. When they are well mixed, take them off the fire (not forgetting to stir them properly) ; and when pretty cool, pour in sixteen ounces of the essence of Venice turpentine. Pass the varnish through a cloth. Amber varnish is made in the same way.

*Black Varnish for coaches and Iron Work.—*This var­nish is composed of bitumen of Palestine, rosin, and amber, melted separately, and afterwards mixed : the oil is then