

invalidate its logical accuracy to a certain extent, if we operated on the *free acid* itself, but it will be remembered that we recommend the mixture suspected to contain nitric acid to be neutralised with potassa, and then decomposed by dilute sulphuric acid, in contact with a particle of morphine. In this case the action on the morphine is entirely different from that which takes place when the *free* iodic, chloric, or bromic acid, acts upon that substance. Thus if we add sulphuric acid to the iodate of potassa, iodine is disengaged, and will colour blue a drop of a solution of starch. If the salt be the chlorate of potash, euchlorine is expelled without colouring the morphine at all. If the salt, lastly, be the bromate of potassa, bromine is set free, which is of a brownish colour, but totally different from the brilliant vermilion struck with morphine by nitric acid, and moreover it may be entirely volatilised by the heat of the hand.

These observations will prevent any difficulty, in a medico-legal point of view, as to the colours produced with morphine, by the nitric, chloric, bromic, or iodic acids.

ON THE ADULTERATIONS OF STRYCHNINE.

By M. ROBIQUET.

The difficulty connected with the preparation of strychnine, and the minute quantity contained in the substances from which it is prepared, have necessarily kept it at a very high price; but the great consumption of the article of late in India, where it is used for the destruction of wild beasts, has induced some druggists to seek for means of diminishing its value, and they have had recourse to their favourite method of increasing the weight by the admixture of various adulterations, and they have carried this species of industry so far as to add 40 or 50 per cent. of foreign matter, especially magnesia, to the strychnine. This fraud is easily detected by the calcination of the suspected sample. Another mode of adulteration consists in mixing the impure strychnine with bone black, which always contains some phosphate of lime, and then acting on the mixture by a diluted acid, which at the same time dissolves the strychnine and the earthy salt; the solution is then filtered and precipitated by ammonia, by which means the vegetable alkali is mixed with a considerable quantity of the phosphate. This mixture may be detected in the same manner as that with magnesia. The purchasers of the French vegetable

alkalies should attend to this circumstance, for the same frauds are doubtless practised with morphine and its preparations.—*Journal de Pharmacie*.

COLOMBINE—NEW CRYSTALLINE SUBSTANCE OBTAINED FROM COLOMBA ROOT.

By M. WITTSTOCK.

By treating colomba root with alcohol, sp. gr. 835, and distilling off two-thirds, after the residuum has been allowed to stand for some days, a crystalline deposition takes place of beautiful transparent quadrilateral prisms, with rhomboidal bases. A still better way, and one by which the colombine may be obtained quite pure and in a very short time, is by acting on the root with ether, sp. gr. 0.725, and allowing the tincture thus prepared to evaporate spontaneously; only two drachms of the root are required for the success of this process. Colombine is inodorous and excessively bitter; it does not change the colour of test paper; it is freely soluble in boiling alcohol and ether, and remarkably so in warm acetic acid, from which the excess separates on cooling in the crystalline form. Concentrated sulphuric acid causes its solutions to assume a deep-red colour. From some experiments on rabbits, it appears that colombine is capable of acting as an energetic narcotic in small doses.—*Journal de Pharmacie*.

OBSERVATIONS ON THE SOLIDIFICATION OF TURPENTINE BY CALCINED MAGNESIA.

By J. FAURE, Sen., Bourdeaux.

The essence of turpentine has been successfully employed for many years in different affections, remarkably so as a vermifuge, and very recently as a remedy in neuralgic diseases. Having witnessed the difficulty frequently experienced in its administration from the invincible dislike many patients conceive for its acrid and caustic flavour, I have undertaken a series of experiments, for the purpose of fixing or enveloping the turpentine, so as to destroy this unpleasant property. The successful results of these researches are as follows:—

1. Venice turpentine, and that obtained from the *terebinthina pinea*, was treated with calcined magnesia in different proportions. These mixtures became solid in the space of a few days, varying according to the quantity of magnesia employed.

2. The same turpentines were mixed with one-third of their quantity of the essential oil. These mixtures, in some instances, acquired a sufficient degree of consistence, in others became altogether solidified.

3. The solid masses were divided and boiled in alcohol, which dissolved away the