

PREPARATA E CUPRO.

PREPARATIONS OF COPPER.

ÆRUGO PRÆPARATA. Dub.¹ *Prepared Verdegris.*

"Let the verdegris be reduced to powder, and the more subtile parts be separated in the manner directed for the preparation of chalk."

By this process the subacetate of copper is obtained in a state of very minute mechanical division, better fitted for internal use, in the cases for which it is sometimes prescribed. (See *Ærugo*, Part ii.)

CUPRUM AMMONIATUM. Lond. *Ammoniated Copper.*²

"Take of sulphate of copper, *half an ounce*; subcarbonate of ammonia, *six drachms*. Rub them together in a glass mortar until the effervescence cease; then wrap up the ammoniated copper in bibulous paper, and dry it with a gentle heat."

AMMONIARETUM CUPRI. Edin. *Ammoniuret of Copper.*

"Take of pure sulphate of copper, *two parts*; subcarbonate of ammonia, *three parts*. Rub them thoroughly together in a glass mortar, until all effervescence is finished, and they unite in a violet-coloured mass, which wrap up in bibulous paper, and dry, first on a chalk stone, and afterwards with a gentle heat. Let it be preserved in a well stopped glass phial."

CUPRUM AMMONIATUM. Dub. *Ammoniated Copper.*

"Take of sulphate of copper, *an ounce*; carbonate of ammonia, *an ounce and a half*. Rub them in an earthenware mortar, until all effervescence having ceased, they unite into a mass, which is to be dried, wrapped up in bibulous paper, and preserved in a phial closed with a glass stopper."

The product of these processes is either a triple salt, a subsulphate of oxide of copper and ammonia, or a mixture only of subsulphate of copper, and subsulphate of ammonia³; but the former is the more probable state of the compound, from the difference of capacity which it has for water being so great as to render the resulting mass extremely moist. During the trituration, the sulphate of copper is partially decomposed, and part of its acid yielded up to the ammonia, which is con-

¹ Vert-de-gris (F.) Grünspan (G.) Acetato di Rame (I.) Cardenillo (S.)

² Schwefelsaures Kupfer mit Ammonium (G.) Ammoniuro di Rame (I.)

³ It is certainly not an ammoniuret, although so designated in the Edinburgh Pharmacopoeia.

sequently freed from the carbonic acid, the effervescence being the effect of the dissipation of this disengaged acid in the gaseous form. The action of the affinities, which produce these changes, is perhaps aided by the water of crystallization of the ingredients becoming fluid. In drying the product it must be very carefully excluded from the air.

Qualities.—This preparation has the odour of ammonia, a hot, styptic, metalline taste, and a rich blue colour. By exposure to the air the blue colour is lost, and the salt acquires a greenish hue.

Medical properties and uses.—Ammoniated copper is tonic and antispasmodic. It has been principally employed in epilepsy, as a remedy for which it was first proposed by Dr. Cullen; and has since his time been frequently employed with evident advantage—although we must confess, that in our trials of it the event has not been such as to encourage us to place much dependence on its powers for relieving this severe disease. It is less apt to excite nausea than the other preparations of copper. Cullen, however, recommends its use not to be continued for more than a month at a time; and adds, that after the first interval, if the disease continues, the most benefit will be derived from giving the medicine “only for some days before an expected accession.”¹ It has been given with advantage in chorea, after a course of purgatives, combined with digitalis and myrrh.

The dose is gr. $\frac{1}{4}$ th gradually increased to grs. v. given twice a day, either simply made into pills with crumb of bread, or combined with valerian.

LIQUOR CUPRI AMMONIATI. Lond. *Solution of Ammoniated Copper.*

“Take of ammoniated copper, a drachm; distilled water, a pint. Dissolve the ammoniated copper in the water, and filter the solution through paper.”

AQUA CUPRI AMMONIATI. Dub. *Water of ammoniated Copper.*

“Take of lime-water, eight fluid ounces; muriate of ammonia, two scruples; prepared verdegris, four grains. Let them be mixed together, and digested for twenty-four hours; then pour off the clear liquor.”

As nearly the same result follows whichever of these processes is adopted; that of the London pharmacopœia, from its simplicity, is undoubtedly to be preferred, although too much water is ordered. In the Dublin process, the lime decomposes the muriate of ammonia, and combines with its mu-

¹ *Mat. Med.* ii. 25.

riatic acid, forming a muriate of lime, while the disengaged ammonia unites with the oxide of copper of the verdegris, and forms a soluble compound. It differs from the simple solution of ammoniated copper, in holding also the muriate of lime in solution; and is a stronger preparation, for nearly one-half of the oxide of the ammoniated copper is precipitated by the excess of water.

Medical properties and uses.—This solution is detergent, and mildly escharotic. It forms an useful local stimulant for cleaning foul indolent ulcers, and disposing them to heal; and is also employed, still more largely diluted, for removing specks from the cornea.

SOLUTIO SULPHATIS CUPRI COMPOSITA. Edin.
Compound Solution of Sulphate of Copper.

“Take of sulphate of copper, sulphate of alumina, each *three ounces*; water, *two pounds*; sulphuric acid, *one ounce and a half*. Boil the sulphates in the water, to dissolve them; and then to the liquor filtered through paper add the acid.”

This preparation is a simple solution of the sulphates. It is sometimes used as a styptic for stopping hæmorrhages; and largely diluted as a lotion in ophthalmia tarsi, and the purulent ophthalmia of infants.

As has been already noticed (Part ii.) the best antidote for the salts of copper, when taken as poisons, is sugar.

PRÆPARATA E FERRO.

PREPARATIONS OF IRON.

LIMATURA FERRI PURIFICATA. Edin.¹ *Purified Filings of Iron.*

“Having placed a sieve over the filings, apply a magnet, so that it may draw the filings upwards through the sieve.”

The iron filings obtained from the workshops are always mixed with many impurities, and often with filings of copper and other metals. It requires some address to purify them by this process; at least the sieve must not be placed too close upon the filings, but as distant as the sphere of attraction of the magnet will admit of, so that the iron only may be raised.

OXIDUM FERRI NIGRUM PURIFICATUM. Edin.²
Purified Black Oxide of Iron.

¹ Limaille de Mars (F.) Gepulvertes Eisen (G.) Limatura di Ferro (I.) Eerumboc Podia (Tam.)

² L'oxide noir de Fer (F.) Schwarzes gesäuertes Eisen (G.) Ossido nero di Ferro (I.)