CHEMICAL NOTICES.

From the Chemical News.

Les Mondes.

Action of Light upon Chloride of Silver.—When freshly precipitated chloride of silver (best obtained by means of decomposing a soluble silver salt with chlorine water) is placed in a white glass tube about 15 inches in length, and exposed to the action of direct sunlight, it will be observed that the chloride of silver remains quite white as long as the solution of chlorine water retains it greenish yellow color; but as soon as that color has vanished, the chloride of silver begins to decompose water under the influence of the direct rays of sunlight; the chloride gradually blackens, and after a shorter or longer duration of time, the whole quantity will have become black, especially if care be taken to shake the tube now and then, so as to expose the whole mass to the light. When the tube is afterwards placed in a dark place entirely excluded from daylight, the black color of the chloride of silver again disappears gradually, and the chloride becomes white; this experiment can be repeated over and over again with the same tube. The bromide, and probably also the cyanide of silver, behave in the same manner; the iodide of silver blackens only after having been rendered sensitive to light by pyrogallic acid.

Platinising Copper, Yellow Metal and Brass.—In order to obtain the platinising fluid, add, to a moderately concentrated solution of chloride of platinum, finely-powdered carbonate of soda until effervescence ceases, next some glucose, and afterwards just so much common salt as will cause a whitish-colored precipitate. When it is desired to apply this mixture for platinising, the objects to be treated are placed in a vessel made of zinc and perforated with holes; the vessel is then placed, with its contents, for a few seconds into the mixture just described, which, just previous to using, should be heated to 60° C. On being removed from the zinc vessel, the objects are to be washed with water and dried in sawdust.

Journal für Praktische Chemie, 1869, No. 2.

On a Constituent of the Resin from the Ferreira Spectabilis.—It appears that in the Brazils there is in use, as a febrifuge, a resin, known in some parts of the country as *sulphato*, in others as *Resina d'angelim pedra*. When this resin is first digested with water, which removes coloring matter, the residue dissolved in water acidulated with hydrochloric acid, and the crystals thereby obtained first purified with water, next with absolute alcohol, again dissolved in hot water, and this solution treated with ammonia, a substance is precipitated which has been named *angelin;* this material has been sent from Cantagallo to Vienna, and was thence forwarded to Prague, to Dr. Gintl, for examination and report. That gentleman, after very exhaustive qualitative and quantitative researches, found, on elementary analysis of the frequently purified substance, that it consists, in 100 parts, of:—C, 61·51; H, 6·81; N, 7·26; O, 24·42; formula—

$$C_{10}H_{13}NO_3.$$

Dr. Gintl further found that angelin is in all respects identical with Ruge's ratanhin, also in its behaviour with nitric acid by which both these substances are first made rose, next ruby-red, and finally deep violet colored, provided only dilute acid be applied, and heated very gradually and gently.

Bulletin Mensuel de la Societé Chimique de Paris, March, 1869.

Iron in Milk.—M. Bistron has found that the milk of the female goat contains on an average 0·1 grm. of iron in 1,000 parts of milk; this quantity of the metal appears to be constantly present in that fluid, and corresponds with the quantity found in the milk of women.

On the Action of Light upon Sulphide of Carbon.—Many of our readers have had the opportunity of noticing that the bottles, especially if made of white glass, containing sulphide of carbon often become lined, if exposed for any length of time to direct sunlight, with a coating strongly adhering to the glass. M. Loew has experimented on this substance, by enclosing the sulphide in sealed glass tubes previously moistened with water which has the effect of lessening the adhesiveness of the brownish coating. On opening the sealed tubes after a few months' exposure to sunlight, the water was observed to have an acid reaction, due to the formation of some formic acid; the solid substance alluded to is insoluble in alcohol, chloroform, ether, and sulphide of carbon, but soluble in a boiling solution of caustic potassa, becoming, however, at the same time decomposed. The substance is sesquisulphide of carbon, which, on being submitted to distillation, is decomposed, yielding sulphur and carbon; the sulphide of carbon from which this substance is deposited contains sulphur in solution, though perfectly pure previous to exposure to sunlight.

Testing Sulphate of Quinine.—M. Panot applies, for the purpose of ascertaining the presence of salicine in sulphate of quinine, the well-known action of oxidizing substances upon salicine, and the transformation of the hydride of salicyl into a substance which, under the influence of perchloride of iron, assumes a bluish violet color. The suspected sulphate of quinine is placed in a flask, to which, by means of a perforated cork, a glass tube can be fixed; then 2 c.c. of a dilute sulphuric acid (1 of acid upon 4 of water), and 4 c.c. of a saturated solution of bichromate of potassa, are poured into the flask; heat is applied to the flask, and its contents brought to boiling, while the products of the distillation carried off by the glass tube are collected in distilled water. When the reaction ceases, some few drops of a solution of chloride of iron are added to this distilled water, and should a violet coloration ensue, this will be evidence of the adulteration with salicine of the sulphate of quinine; the presence even of ½ per cent. of salicine is very readily proved by this process.

Moniteur Scientifique, No. 297, 1869.

The Use of Bran in Brewing, Manufacture of Spirits and Starch Making.—Since bran contains from 40 to 60 per cent of its weight of starch (farine), M. Poncelet proposes to use a certain quantity of bran instead of malt or raw grain for the purpose of brewing, making spirits from grain, and the manufacture of starch. He either uses the bran as it is, or extracts the starch from it previously, and adds this substance to the materials required for the mash-tubs.

The Substitution of Alum-shale for Bone-black in Sugar Manufacture.—M. Belin proproposes to do away with the use of animal charcoal for sugar manufacturing purposes, and to substitute instead the exhausted alum-shale after it has been applied to the manufacture of alum, or sulphate of iron. 100 parts of juice from beet-root require from one to eight parts of the exhausted shale. The liquid, after having become clarified, is evaporated to 26 degrees, Beaume, in contact with air without any previous filtration, and next concentrated in vacuum pans to 43 degrees. The concentrated syrup thus obtained is run into large iron tanks and left to crystallise. The only advantage gained by this process is, beside the saving of animal charcoal, the obtaining of molasses better fit for the distillery of spirits usually connected with beet-root sugar works.

Sulphurous Acid for Dissolving Bones.—It is well known that hydrochloric acid is used for the purpose of dissolving the earthy salts of bones, in order to obtain the gelatine they contain in such a state as to render that substance readily soluble in boiling water. The use, however, of hydrochloric acid is rendered rather inconvenient for this purpose, on account of the formation of chloride of calcium which interferes with the drying of the gelatine. M. Coignet, at Paris, has found that sulphurous acid answers the purpose of hydrochloric acid in this instance perfectly well. The bones are placed in cold water, and through the water a current of sulphurous acid gas is forced so long as it is required to completely soften the bones, which are afterwards washed in fresh water wherein some sulphurous acid gas has been previously dissolved.

Bull. Mensuel Soc. Chimique, Paris.

A New Compound of Lime and Sugar.—Messrs. Boivin and Loiseau have formed a new combination of lime and sugar which, moreover, contains carbonic acid. It is prepared in the following manner:—To 200 kilos. of syrup containing 60 per cent of crystallisable sugar, 120 kilos. of caustic lime as a thickish milk of lime are added, and next carbonic acid gas is passed through the mixture. After some time a precipitate is formed and as soon as it makes its appearance, 20 litres of tepid lime water are added, and the stream of carbonic acid gas is stopped. The precipitate just alluded to is the new compound, and it contains in 100 parts 43 of sugar, 40 of lime, and 17 of carbonic acid

On the Estimation of the Iodine of Commerce by Volumetrical Analysis.—M. Robierre dissolves a weighed quantity of the iodine, the true value of which has to be estimated, in a concentrated solution of iodide of potassium, the solution is diluted to 100 c.c., and is dropped into an alkaline solution of arsenious acid of known strength. Instead of using starch water, as a means of recognising the end of the reaction, the author adds a few cubic centimetres of benzol to the solution of arsenious acid, and ceases to add more of the solution of iodine as soon as the former solution becomes rose-coloured. The arsenical solution is made by weighing off 49·95 grms. of arsenious acid and 14·5 grms. of crystallised carbonate of soda, and dissolving these in a litre of water, representing 12·688 grms. of iodine to the litre; 10 c.c. of this solution are taken for each assay, and 4 c.c. of benzol are added.—*J. de Pharmacie.*