

JOURNAL REVIEW.*

BY J. W. STURMER.

Introductory.—The members of our Philadelphia Branch who attend our meetings are the very members who read the journals. Accordingly, I run the risk of appearing before you to-night with a bundle of "twice-told tales." Being aware of this, I have decided to gather my material from the chemical journals, and from certain foreign journals, rather than from the American pharmaceutical publications, with which my audience is thoroughly familiar.

On the Stability of Glyceryl Nitrate.—Wilbur L. Scoville, in a paper presented at the New Orleans meeting of the American Chemical Society, called attention to the deterioration of the tablet triturates of glyceryl nitrate (nitroglycerin). He found that tablet triturates containing less than 1/100 gr. deteriorated more rapidly than stronger tablets. Secondly, that tablets prepared from the alcoholic solution were less stable than tablets made from a "paste." Thirdly, that glyceryl nitrate which had been kept over several winters, and had been subjected to freezing several times, was more stable than the freshly-made ester.

Kast and also Hibbard have proved that glyceryl nitrate exists in two forms, known respectively as the labile and the stable forms, the former with a melting-point of 2° C., and the latter melting at 13.2° C. Freshly-made glyceryl nitrate is the labile isomeride. Freezing changes this to the stable form—which agrees with Scoville's observations on the deterioration of glyceryl nitrate tablet triturates.—*Journal Industrial and Engineering Chemistry*, December, 1915.

Mucilage for Paraffin Paper.—

Dextrine	30 parts
Rice starch	30 parts
Acetate lacquer	20 parts
Beeswax	20 parts

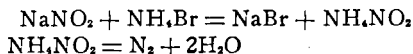
—*Journal Industrial and Engineering Chemistry*, December, 1915.

Resin-containing Citrus Oils.—R. T. Will, in a paper on the citrus industry of California, calls attention to the use of a volatile solvent (name withheld) in the extraction of oil of lemon and of oil of orange. He claims for this process a much higher yield of oil than by the "hand process," as used in Europe.

The oil extracted by means of the solvent is darker in color and rich in resin. He claims for the oil much greater stability. Samples kept for five years in colorless glass and exposed to air failed to become terebinthinate. The resins serve as a fixative, and retard volatilization; thus this extracted oil goes further as a flavor than does the European oil.—*Journal Industrial and Engineering Chemistry*, January, 1916.

Marking Porcelain Ware.—S. B. Kuzirian, of the Iowa Agricultural Station, reports in the *Journal of Industrial and Engineering Chemistry*, January, 1916, that cobalt nitrate is the most satisfactory substance for marking porcelain ware. The dish is heated over a low flame, and, while moderately hot, marked with cobalt nitrate solution. Moderate heating converts nitrate into cobaltic oxide (black), while prolonged heating at a very high temperature may reduce this to cobaltous oxide, which is brown in color.

An Explosive Mixture.—Sodium nitrite explodes with ammonium bromide. This incompatibility was originally published in the *Pharmazeutische Zentralhalle*, and abstracted by Merck's Report. The reactions given are as follows:



The Toxic Isomers of the Cinchona Alkaloids.—Professor Scoville recently called attention to the incompatibility between quinine and aspirin, and this paper has been widely quoted

* Presented before the Philadelphia Branch of the American Pharmaceutical Association, February 1916.

in the pharmaceutical press. In this connection, one should read also the papers published by H. C. Biddle, of the University of California, on the conversion of cinchona alkaloids into toxines, which are really toxic isomers of the natural cinchona alkaloids. Any organic acid is said to produce this change, which is retarded or prevented by the H ions—hence by ionizable mineral acids. The papers are found in the September (1915) number of the Journal of the American Chemical Society.

The Goeldner Test—a Mistake.—The Goeldner test for cocaine was first published in a Russian pharmacy journal, and has reappeared in German and American publications. The test is as follows: 0.01 Gm. resorcinol is mixed with 6 drops sulphuric acid; then a small portion of cocaine hydrochloride is added, producing a deep-blue coloration which gradually turns to purple, and ultimately purplish-red. L. A. Ryan, of the University of Pennsylvania, has proved that this color reaction depends upon the presence of nitrites or nitrates, with which substances the test is very delicate. Pure cocaine hydrochloride with pure sulphuric acid and pure resorcinol does not give a blue coloration, and, while the test can be used for nitrites and nitrates, it cannot be applied to cocaine. In view of the fact that a simple and reliable coloration test for cocaine is a great desideratum, it is important to give publicity to the correction of Goeldner's mistake.

[Professor LaWall called my attention to the fact that one of his students, Guy Shearer, in 1911, reached the same conclusion reported by Mr. Ryan.]

A "Real" Volatile Oil of Cade.—An oil obtained by steam distillation from *Juniperus oxycedrus* is now on the market, and is said to be similar in therapeutic properties to the empyreumatic oil, obtained by destructive distillation, with which we are all familiar.

A Test for Selenious Acid in Sulphuric Acid.—Ernst Schmidt, in *Archiv der Pharmazie*, June 27, 1914, describes the following test, for which he claims extraordinary delicacy: He uses 10 Cc. of the acid, and adds to it 0.01 Gm. of codeine phosphate. A bluish coloration results, changing to green. Other codeine salts, as well as morphine salts, produce the same effect.

Purification of Ammonium Salts.—Certain ammonium salts are known to contain impurities, which, in course of time, produce discoloration of these salts. The impurities are removed with great difficulty by ordinary recrystallization. If, however, the ammonium salts are subjected to heating, short of volatilization, the impurities become insoluble, and may be removed by dissolving the salt, filtering, and recrystallizing in the usual manner.—Hinselmann in a German publication, reported in *Chemical Abstracts*, January 10, 1916.

VOLUMETRIC ESTIMATION OF CALCIUM PHOSPHATE.

While acid sodium phosphate can easily be titrated with alkali and phenolphthalein, this method cannot be directly applied to acid calcium phosphate, $\text{CaH}_4(\text{PO}_4)_2$. When, however, the calcium phosphate is converted into sodium phosphate by means of sodium oxalate, a volumetric estimation of the phosphate is possible. Kolthoff (*Pharm. Weekbl.*) therefore recommends the following process: A weighed quantity of the calcium salt is dissolved in a small excess of hydrochloric acid, the solution transferred to a measuring flask, diluted with water, and neutralized with sodium hydroxide solution, using methyl orange as indicator. After water is added to the mark, there is added to an aliquot part of the liquid an excess of neutral sodium oxalate solution, and the mixture is titrated with tenth-normal sodium hydroxide solution, using phenolphthalein as indicator. Each cubic centimetre (mil) of sodium hydroxide solution corresponds to 7.1 milligrammes of P_2O_5 .
