

Report on the Progress of Pharmacy

For the Year 1912

(Thirteenth Installment.)

Iron Albuminate.—W. Grüning, of Riga, in an extensive paper, gives the chemistry, describes the official solutions, the position of the iron albuminate among the other official iron preparations, and ferrialbumin and ferrialbumin acid. For particulars the original paper must be consulted. The author lays special stress upon the fact that the Dieterich formula, using the dry egg albumin, produces a far superior and more stable material than the formula of the new German Pharmacopoeia, which employs 7.5 percent of fresh egg albumin instead of 3.5 percent of the dry albumin. He also finds that 75 parts of fresh egg albumin only represent 9 parts of dry albumin and that consequently the present solution of iron albuminate is weaker than the old one.—Ph. Zhalle, 1912, No. 44, 45. (O. R.)

Milk: Oxydases, Catalases and Reductases.—Dr. A. Splittgerber, of the Chemical Division of the Hygienic Institute of Dr. M. Neisser, Frankfurt, has made a detailed study of these agents and has reached the following conclusions:

I. The oxydases and peroxydases are present in variable quantities in the milk of different mammalia. Peroxydases can be determined in cow's milk which is not heated beyond 80° C. Arnold's reagent, that is tincture of guaiac, when fresh, is active without hydrogen peroxide. Storch's reagent, that is paraphenylendiamin and hydrogen peroxide, is not active in milk containing preservatives. Rothenfusser's reagent, consisting of an alcoholic solution of paraphenylendiaminchlorhydrate and guaiacol, when added to the lead acetate serum of milk in the presence of hydrogen peroxide, is so sensitive as to detect 1 part of raw milk in 1000 parts of boiled milk.

II. Catalases have the property of decomposing hydrogen peroxide into water and molecular oxygen, which latter can be collected and measured in a specially construct-

ed apparatus. The origin of catalases are still undetermined and are either caused by micro-organisms or enzymes.

III. Reductases have the property of decolorizing methylene blue, either with or without formaldehyde. For further particulars the original voluminous paper must be consulted.—Ph. Zhalle. 1912, 46-51. (O. R.)

Ointment of Colloidal Silver.—The proper preparation of Unguentum Argenti Colloidalis of the new German Pharmacopoeia has caused a great deal of discussion. R. Richter states that it is an entirely wrong procedure to pulverize the colloidal silver and then mix it with the ointment. It is highly important to add the same amount of distilled water as there is colloidal silver and leave the mixture standing in a mortar until it is spongy. The mixture is then thoroughly triturated and the ointment base added.—Ph. Zhalle. 1912, 46, 1305. (O.R.)

Soap Hand Paste.—The following formula is recommended:

Soft soap	80 parts
Ammonia water.....	5 parts
Pumice in powder.....	31 parts
Oil of Turpentine—a sufficient quantity to form a soft paste.	

This can be filled in boxes and also in collapsible tubes.—Ph. Zhalle. 1912, 46. 1312. (O. R.)

Cremulae, or Chocolate Creams.—Sir James Saroger has thus named medicinal chocolate creams. The "cream" is prepared by evaporating a mixture of sugar and milk to the consistency of paste. Different medicaments can be incorporated into this paste, which is covered with chocolate in the popular chocolate cream drop.—Ph. Zhalle. 1912, 50. 1427. (O. R.)

Benzin and Kerosene: Differentiation.—Prof. Dr. Holde and Dr. Ubbelohde, two authorities in petroleum chemistry, consider the flash point as the most important for the differentiation between benzin and kerosene.

Great confusion seems to exist, quite especially as of late a great many fractional distillates have come into the market. The authors consider that the product having a flash point above 21° C. should be named kerosene or petroleum.—Ph. Zhalle, 1912. No. 50, 1429. (O. R.)

Milk: Acidity.—Fresh milk has an alkaline reaction with helianthin and lacmoid, an amphoteric reaction with lacmus and an acid reaction with phenolphthalein. F. Bordas and F. Touplain have shown that the acid reaction of milk when phenolphthalein is used as an indicator depends upon the free casein. The same authors have also proven that fresh milk does not contain any free acids, as lactic or citric acid, or any acid salts.—Annal. Falsific. 4, 1911, 297. (O. R.)

Pyrogallol: Oxidation by Hydrogen Peroxide.—If a mixture of 10 cc. of a 10 percent solution of pyrogallol and 20 cc. of a 40 percent solution of potassium carbonate and 10 cc. of a 35 percent solution of formaldehyde are added to 500 cc. of a 30 percent solution of hydrogen peroxide contained in a capacious vessel, the oxidation takes place so rapidly that flames are evolved.—Farm. Notisbl. 1912, Nr. 10. (O. R.)

Methyl Alcohol: Detection in Alcohol.—C. Nakai recommends the following: A mixture of 3 cc. of the liquid, 2.5 gm. ammonium persulphate and 8 cc. of a 20 percent sulphuric acid is diluted with water to 50 cc. and is then distilled. Five distillates of 5 cc. each are collected separately and two drops of Fuchsin-sulphuric acid are added and also 2 cc. of a solution of Stannous chloride. The more methyl alcohol present, the deeper will be the blue or violet blue color. With this test methyl alcohol can be detected if present 1 in 10,000.

The Fuchsin-sulphuric acid solution is prepared by mixing 50 cc. of a saturated sodium bisulphite solution with a solution of 1 gm. of Fuchsin in 1 Liter of water, acidified with 1 cc. of concentrated sulphuric acid.—Yakugakuzasshi, 1912, Nr. 364. (O. R.)

Albumin: History of the Reagents.—Beta-Naphthalene-sulphuric acid was proposed as a reagent by E. Riegler in Jassy, and is so sensitive as to detect one part of albumin in 40,000. Sulphosalicylic acid, or salicyl-sulphonic acid, was proposed by MacWilliam and detects as little as one part of albumin in 130,000 parts of urine. Sulphosalicylic

acid was discovered by Auguste Cahours in 1843 and further researches were made by O. Mendius in the chemical laboratory at the University of Göttingen. Since 1889 it has been manufactured on a large scale by Von Heyden. A test paper has also been introduced, but has been found to deteriorate. As a reagent for albumin in urine, it was introduced by MacWilliam and approved by Emil Fischer.—Ph. Zhalle, 1912, 1145. (O. R.)

Acetone-Alcohol.—According to *Merck's Annual Report* (1911), this is a mixture of 30 parts acetone and 70 parts alcohol 95 percent. It possesses highly disinfectant and antiseptic properties and is used for cleansing hands or wounds.—Ph. Zhalle, 1912, 1162. Editor's Comment: Great caution should be exercised when this mixture is called for by physicians or on prescriptions. It has been the habit of some druggists to label purified deodorized methyl alcohol as *Acetone Alcohol*, which, however, is a wrong name, as Columbian spirit, etc., is entirely free from acetone. This is another proof that methyl alcohol in any form should be labeled "Poison," and that it should not be mislabeled "Acetone Alcohol," which, according to the abstract, is an entirely different article. (O. R.)

Bismuth Soap: A New Cosmetic.—E. Wagner proposes the following method: A mixture of cacao butter and wool fat are heated to 50° C. and when cooled to 32° C. a solution of sodium hydroxide is added to it in a thin stream with constant stirring. The bismuth salt, either the subnitrate or subgallate, is then added, together with the necessary perfume and the entire mass is kneaded until it cools.—Ph. Zhalle, 1912. 50, 1429. (O. R.)

Insect Powder.—E. Jüttner and P. Siedler, after a visit to Dalmatia and Montenegro, delivered several lectures before the Deutsche Pharmazeutische Gesellschaft in Berlin. The best insect powder is obtained from the closed flower heads of *chrysanthemum cinerariaefolium*, while the open flower heads produce a less valuable powder. The three chief adulterants of insect powder are stems, other similar flowers and coloring. The moisture, according to Dietz, is from 3.42 to 9.85 per cent. The ash content of the closed flowers seems to be more than that of the open flowers and varies, according to Dietz,

between 6.65 to 8.34. The extract content, according to Thoms, is 4 to 6 percent, according to Dietze, 4.35 to 7.72, and according to Caesar and Loretz, 6 to 9.5 percent. The paper is illustrated with microscopic slides of the powder from the flower heads and also that of the stems.—Ph. Zhalle. 1912. 50, 1431 to 1435. (O. R.)

German Pharmacopoeia: Comments.—Dr. A. Schneider and R. Richter have presented a very valuable contribution to pharmaceutical literature in their comments on the fifth edition of the German Pharmacopoeia, which were published in installments in the *Pharmazeutische centralhalle* during 1912. These comments have also been published as reprints, which are printed on one side of the paper only, and which can be used as a supplement to the Handkommentar and Schneider and Süß. (O. R.)

Rennin: Laboratory Studies Of.—In a study of the properties of rennin, prepared by different methods, A. Zimmerman states that rennin prepared by precipitation with sodium sulphate has a strength of 1:30,000 to 1:40,000 in 12 min., while that prepared with sodium chloride 1:150,000 to 1:200,000 in 12 min.

Scale rennin prepared with a strength of 1:30,000 to 1:40,000 is prepared by scaling the clarified solution of the whole rennets at a temperature not exceeding 110° F.

Commercial rennin comes in two forms: (1) Powdered, prepared from the Na Cl product and diluted with sugar of milk to test 1:30,000 to 1:40,000 in 12 min.; (2) Granular rennin, prepared from the scales and which tests the same as the powdered.

The permanency of the rennin in solution seems to be dependent upon phosphoric acid, which probably exists in the rennets as a calcium salt.

The addition of .075 percent of phosphoric acid to milk greatly increases the activity of the rennin, much more so than lactic, hydrochloric, or oxalic acids.—Journ. Ind. and Eng. Chem., July, 1912, Vol. 4, p. 508. (L. A. B.)

Alkaloids: Micro Chemical Identification of.—E. B. Putt states that morphine, codeine, dionin, atropine, cocaine, b. eucaine, nicotine, antipyrin, strychnine, and heroin form characteristic crystals when treated with either iodine, platonic chloride, or palladous chloride.

Putt's method of procedure is to transfer by means of a teasing needle, a small frag-

ment of the alkaloid to a perfectly clean glass slide, dissolve it in a drop of N/10 HCl, then add from a dropping bottle a drop of the appropriate reagent, then examine under microscope at once.

Photomicrographs are given showing characteristic forms of crystals.—Journ. Ind. and Eng. Chem., July, 1912, Vol. 4, p. 508. (L. A. B.)

Aromatic Sulphuric Acid: Improved Method of Assay for.—L. A. Brown states that the U. S. P. method for this preparation does not give reliable results, and gives an improved method for the assay of same.

A sample of about 10 gms. is diluted to 100 cc. with water, 10 cc. aliquots are titrated with N/10 KOH and phenolphthalein, which gives the "total acidity," due to free sulphuric and ethyl sulphuric acids.

The neutralized sample is then diluted to about 100 cc., heated to boiling and 2 cc. conc. hydrochloric acid added, followed by an excess of barium chloride.

From the amount of barium sulphate found is calculated the percent of "free sulphuric acid" and also the equivalent amount in cc. of N/10 H₂SO₄. This figure is subtracted from the "total acidity" and the difference multiplied by two, then calculated to percent of sulphuric acid as "combined sulphuric acid."

Total sulphuric equals "free" plus "combined sulphuric."

It was found that in the U. S. P. method all the ethyl sulphuric acid is not completely hydrolyzed by four hours' heating, and that even after eight hours' boiling, some remained undecomposed. Also that ethyl sulphuric acid is decomposed to a greater extent in concentrated solution than in dilute solution.

The formation of ethyl sulphuric acid in this preparation appears to be a time reaction and apparently comes to an equilibrium with 1 part of the acid as free sulphuric and 2 parts as ethyl sulphuric.—Journ. Ind. and Eng. Chem., July, 1912, Vol. 4, p. 512. (L. A. B.)

Camphor: Spirit of—Method of Assay.—A. T. Collins suggests that Spirit of Camphor may be accurately assayed by the following method:

Polarize in a 200 mm. tube, making correction for temperature, 1/2 mm. for each degree C., adding if above 20° C., deducting if below.

Place 50 cc. or more in evaporating dish and evaporate to dryness on water bath, stirring with glass rod at end to get camphor dry as possible. When quite dry place on watch glass, cover with small funnel and carefully sublime.

Dissolve 2.5 gms. of the sublimed camphor in sufficient alcohol to make 25 cc. and polarize as at first. This is called the "control."

The percentage is found by dividing the minutes of rotation of the control into the original reading, and then multiplying by 10.—*Journ. Ind. and Eng. Chem.*, July, 1912, Vol. 4, p. 514. (L. A. B.)

Opium: Suggested Modifications in the Assay of.—Mr. R. Norris Shreve states that the U. S. P. method of assay for opium gives inaccurate results, due to (1) incomplete extraction of the opium, (2) retention of morphine by the mother liquor during precipitation, (3) inaccuracies in the lime water method for determination of the impurities in the precipitated morphine.

Shreve suggests that in view of the difficulty of extracting opium by the U. S. P. method (only about 2/3 of the morphine present being removed by gentle mechanical shaking for 8 hours, on three out of four samples) that a test for the completeness of extraction be given in the U. S. P.

It was found that considerable morphine is retained by the mother liquor in the U. S. P. method, and a table is given showing the amount retained at different temperatures. It was also found that the extractive matter in the mother liquor serves to hold back more morphine than is represented by the solvent action of the solvents themselves.

It is suggested that the purity of the crude morphine be determined by the Mallinckrodt re-assay method.—*Journ. Ind. & Eng. Chem.*, July, 1912, Vol. 4, p. 514. (L. A. B.)

Papain: Determination of the Digestive Value of.—J. R. Rippe toe submits the following method as a means of determining the digestive power of papain.

Prepare egg albumen as directed under pepsin assay U. S. P. 8th revision. Introduce into a 4-ounce wide-mouth flint bottle 40 cc. of a 0.1 percent sodium hydroxide solution and add 10 grams of the disintegrated albumen; stopper the bottle and shake vigorously until the albumen is broken up.

Then add the papain in fine powder and mix by shaking 15 seconds. Place the bottle in a water bath previously heated to 52° C.

and digest at this temperature for 6 hours, removing bottle every 10 minutes and shaking gently for 15 seconds. At the end of this period, transfer the mixture to a 100 cc. grad. stoppered cylinder, rinse the bottle with water, add rinsings to the mixture and make the volume up to 70 cc. with water.

Allow to stand for one hour, then read off volume of the desopit, take second reading after standing 16-18 hours, which seems to give more positive results.

It was found that some digestion took place in 0.1% HCl but that 0.2 or 0.3% HCl inhibits the action.—*Journ. Ind. and Eng. Chem.*, July, 1912, Vol. 4, p. 517. (L. A. B.)

Formic Acid: The Detection of in Fruit Products.—F. L. Shannon, in commenting upon the use of formic acid as a preservative of fruit products, suggests the following method of procedure as a means of detecting formic acid in such products.

Place 200-500 cc. of the syrup or crushed fruit in a two liter, long-necked, round-bottom flask, provided with a Reitmeier bulb, add 50-100 cc. water, and distill over by means of steam, about 2500 cc. distillate, or until distillate ceases to react acid to litmus. Neutralize the distillate with N/I NaOH, using litmus as an indicator. Evaporate to about 50 cc. and transfer to an Erlenmeyer flask, provided with a reflux condenser, add a few pieces of pure magnesium wire and a slight excess of dilute sulphuric acid and set in a cool place for one hour, adding more sulphuric acid if necessary.

Transfer liquid to suitable distilling flask, and collect the first ten cc. of the distillate and apply tests for formaldehyde.

As an additional means of detection, it is recommended that the lead salt of formic acid be formed and isolated and subjected to appropriate tests for identification.—*Journ. Ind. and Eng. Chem.*, July, 1912, Vol. 4, p. 526. (L. A. B.)

Prussian Blue in Tea: The Detection of.—Fred West submits the following test as a means of detecting Prussian Blue in tea:

Grind about 15 gms. of the tea in a mortar until it passes through a No. 20 sieve.

Place thin, smooth filter papers, 11 cm. in diameter, on glass plates and moisten each filter paper with solution oxalic acid, removing any air bubbles from under paper.

Sprinkle the ground tea leaves over the filter papers, being careful not to sift the tea so thickly that the particles of tea over-

lap. Allow the filters to dry on the plates in the air, brush off the particles of tea leaves with a stiff brush, when, if the tea be colored with Prussian Blue, it will be indicated by bright blue spots upon the filter.—*Journ. Ind. and Eng. Chem.*, July, 1912, Vol. 4, p. 528. (L. A. B.)

Phenol: Rapid and Accurate Methods for Determining.—L. V. Redman and E. O. Rhodes have made a study of the bromide-bromate and the hypobromite methods for the determination of phenol, endeavoring to shorten the time required for the assay and comparing the hypobromite method with the bromide-bromate method for accuracy, ease of manipulation, and time required for the determination.

As a result of their work they state that both methods are capable of reaching an accuracy of only 0.3% error, and that the reaction period may be reduced from 30 minutes to 1 minute of continuous shaking, after adding the bromine, without sacrificing accuracy.

However, it is necessary to shake for at least 3 minutes after adding the KI solution, otherwise an error of 0.5%, due to this cause alone, will occur.

The bromide-bromate solution was found to be much more stable than the hypobromite solution, and is also free from the odor of bromine.—*Journ. Ind. and Eng. Chem.*, Sept., 1912, Vol. 4, p. 655. (L. A. B.)

Vanillin: Difficulties in the Colorimetric Estimation of.—W. S. Hubbard states that the A. O. A. C. method for the colorimetric method of determining vanillin does not give satisfactory results.

He finds that there is a loss of vanillin when lead cream is used as a clarifying agent, a portion of the vanillin being carried down as a lead salt of the composition of $(C_8H_7O_2)_2 Pb$.

A more intense color is formed if the ferrous sulphate be added, as given in the original method of Moerk's, instead of the bromine water.—*Journ. Ind. and Eng. Chem.*, Sept., 1912, Vol. 4, p. 669. (L. A. B.)

Vanillin: A New Colorimetric Method for the Determination of—in Flavoring Extracts.—Otto Folin and W. Denis have proposed the following method for the colorimetric determination of vanillin in flavoring extracts:

Transfer 5.0 cc. of the sample to a 100 cc. flask and add 75 cc. water, then add 4 cc. of

the lead acetate solution and sufficient water to make 100 cc.

The contents of the flask are rapidly filtered and 5 cc. of filtrate placed in a 50 cc. flask, then add 5 cc. of the phosphotungstic-phosphomolybdic reagent, shake, and allow to stand for 5 minutes, then fill to the mark with a saturated sodium carbonate solution. Invert the flask 2 or 3 times, allow to stand for 10 minutes for any precipitate to settle, then filter rapidly and compare the deep blue solution with a standard solution, prepared in like manner, in a Du Bosc colorimeter.

The reagents required are (1) an aqueous solution of pure vanillin, containing in each 10 cc., 1 mg. of vanillin; (2) the phosphotungstic-phosphomolybdic acid reagent, prepared by heating 100 gm. sodium tungstate, 20 gms. phosphomolybdic acid, or molybdic acid (free from ammonia or nitrates), 100 gms. 85% phosphoric acid, and 700 cc. water, and boiling over free flame for one and one-half hours, cool, filter, and make up to 1 liter; (3) a solution of sodium carbonate saturated at room temperature.

Care should be exercised to see that the intensity of color in the standard and sample to be read is approximately the same, also in setting up colorimeter to see that the illumination of both fields is the same, so that comparisons of the standard can be made within at least 0.2 mm.

It is essential that both solutions shall be perfectly clear, otherwise erroneous results will be obtained. The results of several analyses show good comparisons with the more laborious gravimetric official method.—*Journ. Ind. and Eng. Chem.*, Sept., 1912, Vol. 4, p. 670. (L. A. B.)

Benzoic Acid as an Acidimetric Standard.—Geo. W. Morey states that benzoic acid possesses many advantages as a standard in acidimetry, in that its high molecular weight permits of the use of large samples, thus reducing the error of weighing; its stability and lack of hygroscopicity make its use very convenient; the ease of obtaining it in a high state of purity and the simplicity and rapidity of the method make it an excellent material to use as a standard in acidimetry and alkalimetry.

The benzoic acid was purified by recrystallizing twice from alcohol, once from water, and then fractionally subliming in vacuo.

Because of the bulkiness of the sublimed

benzoic acid, its bulk was condensed by placing it in a covered platinum dish and melting by placing in an oven heated to 140° C. When melted, the liquid was poured into a test tube, allowed to solidify, and the stick so obtained broken into pieces of convenient size, and preserved in a glass-stoppered bottle.

To use as a standard, weigh out about 1 gm. of this material, place in a 300 cc. flask, add 20 cc. alcohol, and allow to dissolve. Add three drops of a 1% solution phenol phtalein and titrate with N/10 alkali, and CO₂ being removed from the flask by means of a current of CO₂ free air.

A 7% transformation of the indicator was the end point selected, the effect of the alcohol on the end point being determined by means of a blank experiment.

The results obtained by the above method compared very closely with that obtained by means of standard hydrochloric acids prepared by the distillation method of Hulett & Bonner, the gravimetric silver chloride method, and standard sulphuric acid, standardized gravimetrically by the barium sulphate method, and by the sodium oxalate method.—*Journ. Am. Chem. Soc.*, August, 1912, Vol. 34, p. 1027. (L. A. B.)

Weights and Measures Should Be Guaranteed U. S. P. Standard.—Joseph W. England says that "there is probably no more important need in the pharmaceutical world than the necessity of having accurate and uniform weights and measures, especially measures of volume. It is simply idle to standardize the more potent remedies of the Pharmacopoeia, with the greatest possible degree of accuracy, and then measure them with measures that are not accurately graduated."

In a test of thirty-six eight-ounce graduates of different makers it was found that

- 1 That not one of the measures were accurately graduated.
- 2 Some were better than others, but that all were bad.
- 3 On one graduate the six fl. ounce mark was correct only.
- 4 On twelve graduates the four drachm mark was the correct measure of six fluid drachms, a variation from the standard of 50 percent.

The standard used in testing these graduates was one fluid ounce=29.5161 grammes of water, weighed in dry air at a tempera-

ture of 15° C., barometric pressure of 760 mm., the coefficient of expansion of the glass being assumed to be 0.000025 and the density of the brass weights 8.3, these figures being derived from the original data in use at the National Bureau of Standards of the U. S. at Washington, D. C.

Graduates should be held in a perfectly level position when measuring, with careful observation of the lower meniscus. The narrow cylinder shaped graduates yield more accurate results than the cone-shaped graduates. The use of graduated prescription bottles should be discouraged because they vary greatly in accuracy. The American-made graduates, in accuracy and appearance are superior to those of foreign make and are more likely to be in accord with U. S. P. standards.

He recommends that all graduates should be required to be guaranteed by the manufacturers and should be marked "Guaranteed U. S. P. Standard by _____," and that pharmacists should purchase no goods not so marked, for use in pharmaceutical measurements of volume.—*Proc. Penn. Phar. Asso.*, 1912, pp. 118-120. (E. C. M.)

Saturated Solutions, Proper Method of Making.—J. Leon Lascoff, of New York, gives the following reasons for the delinquencies of pharmacists in the making of true saturated solutions of chemicals, particularly the iodides and bromides:

1. Impurity of the salts, especially the iodides.
2. The careless methods followed in manipulation.
3. Incorrect weights and measures.
4. Working at the wrong temperature.
5. The use of containers of the wrong size.

The most accurate way of making saturated solutions is by weighing both water and the salt, shaking until dissolved and straining. He gives the following table as being approximately correct as to the amount of each salt which is required to make a fluid ounce of a saturated solution at 25° C.

	Grams to make 100 cc.	Grains to make one fl. oz.
Potassij Iodidum.....	99.6	456
Sodii Iodidum.....	127.5	584.3
Strontii Iodidum.....	114.9	526.
Potassii Bromidum....	50.4	230.
Sodii Bromidum.....	72.09	329.
Magnesii Sulphas.....	56.32	260.
Potassii Chloras.....	5.69	26.

—*Proc. N. Y. Phar. Assoc.*, 1912, pp. 320-321. E. C. M.

Antidotes, Suggested Official Table of.—Otto Raubenheimer suggests that a Table of Antidotes, similar to that of the Netherlands Pharmacopœia, should be added to the United States Pharmacopœia.—Proc. N. Y. Phar. Assoc., 1912, p. 324. (E. C. M.)

Chloroform, Quantitative Estimation of, in Chloroform Liniment.—Joseph L. Mayer, New York, reviews the different methods for the estimation of Chloroform in chloroform liniment, finds them lacking and suggests the following as a convenient and satisfactory process for the determination of the chloroform content: Into a test-tube having a capacity of about 85 cc. and about 25 mm. in diameter, place 10 cc. of distilled water and 10 cc. of liniment to be analyzed, accurately measured with a pipette; to prevent bumping a small piece of pumice-stone, which has previously been heated to a white-heat and thrown into water, is added. The test-tube is connected with a Liebig condenser by means of corks and bent tubes. For a receiver use an accurate 25 cc. cylinder graduated in tenths or fifths of a cc. containing five cc. diluted water. It is not necessary to have the condenser-tube come in contact with the water. All that is required is to have it project into the cylinder. By means of a naked flame, quietly distill the chloroform into the water contained in the cylinder. It is easy to know when the chloroform is all distilled by watching the receiving cylinder. As the chloroform distills it sinks to the bottom, then comes a lighter distillate which remains on top and is perfectly clear and then a distillate which forms a milky layer occupying about 1 cc.; after this turbid zone has appeared remove cylinder; stopper it with a sound cork and mix by shaking thoroughly. Then remove the cork and add diluted sulphuric acid (10%) to the 25 cc. mark and shake thoroughly. In a few moments the chloroform will have settled to the bottom in a clear layer and all that remains is to multiply the cc. of chloroform by 10 to obtain the percentage of chloroform in the sample. The entire examination does not require over fifteen minutes.—Proc. N. Y. State Phar. Assoc., pp. 295-296. (E. C. M.)

Formaldehyde, Methods of Assay.—Claude E. Hill of Austin has made a comparative examination of the different modes of assaying formaldehyde and concludes that of the

four methods tried that the cyanide method gives the best results. The objection to the U. S. P. method of assay is that other aldehydes interfere with the correct estimation of formaldehyde and that it cannot be used for solutions of less strength than five percent, but he says it is very adaptable to strong solutions. The objection to the ammonia method is the volatility of the ammonia, and the iodometric method, like that of the U. S. P., is not of service in the presence of other aldehydes. The cyanide method gives accurate results in the presence of other aldehydes or oxidizing agents; and works equally well in dilute or strong solutions, for in using this method strong solutions are diluted. This process is based on the Vohlard Thiocyanate method, which is very accurate.—Proc. Texas. Phar. Assoc., 1912, pp. 85-87. (E. C. M.)

Syrup Ammonii Hypophosphitis.—In a paper entitled "Some Criticism and Comments on the Proposed N. F. Formulas," Dr. P. E. Hommell says that the addition of Compound Spirit of Vanillin to this syrup is apt to make it sickening to susceptible patients and that it is a very acceptable preparation without this addition and further remarks that unless drugs are very bitter, nauseous or acrid, flavoring, sweetening or coloring to the degree found in the N. F. preparations are entirely unnecessary.—Proc. N. J. Phar. Assoc., 1912, pp. 90-96. (E. C. M.)

Quinine, Aromatic Syrup of.—Dr. P. E. Hommell criticizes the enormous waste of Quinine as administered in pill or tablet form, and recommends the following as a most eligible preparation for its administration after an experience of many years with it in his own practice:

Quinine sulphate, one drachm.
Hydrobromic acid dilute q. s. to dissolve.
Tinct. cardamom. co.
Anise water of each, four fl. drams.
Simple syrup to make four fl. ounces.

The use of hydrobromic acid tends to overcome some of the untoward action of the quinine, such as headache, giddiness and tinnitis aurium, with not infrequent impairment of hearing and of sight, and he has never observed, following its use, any cutaneous eruptions which are often the sequelæ of the administration of quinine in concentrated form.—Proc. N. J. Phar. Assoc., 1912, pp. 96-97. (E. C. M.)

Opium Deodoratum.—William K. Ilhardt, St. Louis, says that in preparing deodorized opium, ether dissolves more coloring matter and resins than bezin. Benzin dissolved 8.6 to 9.5% while the ether-soluble matter amounted to 12%. A preliminary test of the ether extract showed but a small amount of morphine present. Attempts to determine the loss of morphine by assay before and after its deodorization were not satisfactory. The averages of two lots are as follows:

Sample A assayed 12.1% before, 13.4% after.

Sample B assayed 12.6% before, 12.84% after.

The relative value of ether and benzin should be thoroughly studied, and should ether be found to dissolve too much of the desirable constituents of the opium and benzin less, then the use of the latter should be continued, on the other hand ether appears preferable since it removes more matter than benzin.—Proc. Missouri Phar. Assoc., 1912, 113-114. (E. C. M.)

Sterilization in the Pharmacy.—Commenting upon the proposition that Methods of Sterilization may be introduced into the new editions of the U. S. P. and N. F., E. Fullerton Cook, Ph. D., describes the equipment required by the pharmacist to dispense sterile solutions and the methods of their preparation. While these methods do not cover the whole field of sterilization by the pharmacist they are offered as suggestions and with the hope that pharmacists generally may be encouraged to prepare for this largely-increasing demand upon their skill.—Proc. N. J. Phar. Assoc., 1912, pp. 74-77. (E. C. M.)

Mistura Rhei et Sodae, Improved Formula for.—Adolph P. Marquier suggests a change in the formula for Rhubarb and Soda Mixture, the present formula, in his opinion, containing too much glycerin and too much spirit of peppermint. He suggests the following as an improved formula for this preparation:

Sodium Bicarbonate.....	35 grams
Potassium Carbonate.....	3 grams
Fl. Ext. Rhubarb.....	15 cc.
Fl. Ext. Ipecac.....	3 cc.
Spt. Peppermint.....	15 cc.
Alcohol	100 cc.
Glycerin	250 cc.
Water, sufficient to make....	1000 cc.

Dissolve the sodium and potassium salts in 500 cc. of water. Add the fluidextracts to the glycerin and alcohol and spirit of peppermint and enough water to make 500 cc. Add this to the above solution and allow it to stand twenty-four hours and filter.—Proc. New Jersey Phar. Assoc., 1912, p. 72. (E. C. M.)

Blaud's Pills, Permanency of.—Charles H. LaWall from an analysis of some carbonate of iron pills said to be at least forty years old, says that the results show that for permanence these pills when properly made are in the highest possible class.—Proc. N. J. Phar. Assoc., 112, pp. 73-74. (E. C. M.)



BELLES LETTRES AND SANITARY SCIENCE.

An example of how the youth of Indiana combine the pursuit of literature and sanitary science is seen in the accompanying verses, entitled "How It Happened," reprinted from the *Bulletin* issued by the Board of Health of that State, and said to be the product of a Short Ridge High School student.

A fly and a flea,
A mosquito and a louse,
All lived together
In a very dirty house.
The louse spread the ague,
The 'skeeter spread the chills,
And they all worked together
For undertaker's bills.

The fly spread typhoid,
And the flea spread typhus, too,
And the people in the house
Were a mighty dirty crew.
Along came a man
And he cleaned up the house,
He screened out the 'skeeter
And swatted the louse;
The fly and the flea
He smacked on the wall,
And now the people in the house
Are never sick at all.

—D. WHITE.