PHARMACEUTICAL ABSTRACTS

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ABSTRACTORS

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CHEMISTRY

ANALYTICAL (*Continued*)

Flax Studies. III. Refractometric Method for the Estimation of Iodine Value of Raw Linseed Oil. The oil is expressed at laboratory temperature from finely ground flaxseed, and the refractive index determined at 25° and converted to Wijs iodine value by means of the regression equation expressing the relation between these variables. In cold-pressed linseed oils prepared from 339 samples of sound Canadian flaxseed varying in Wijs iodine value from 153 to 202 units, a correlation of 0.980 between refractive index and Wijs iodine value was found, which permits the estimation of iodine value with a standard error of prediction of 2.1 units. Ether extracts obtained by the usual extraction procedure for determining oil content are not recommended, owing to differences in the characteristics of the oil and a lower degree of association between refractive index and iodine value. Since the refractive index of linseed oil and its relation to iodine value are influenced by free fats acids, oxidation and polymerization, the method is not applicable to commercially prepared oils or to flaxseed which has heated or become musty. The method is considered sufficiently accurate for surveys of the quality of flaxseed produced in different districts and of new varieties and hybrids submitted by plant breeders and also for linseed crushers for securing a measure of the intrinsic drying value of their raw material.—F. H. LEHBERG and W. F. GEDDES. *Can. J. Research*, 15, C (1937), 349–361; through *Chem. Abstr.*, 31 (1937), 8968. (F. J. S.)

Fluorine—Determination of Traces of, in Foods. The liquid is evaporated with sodium hydroxide and the residue (or solid food) ashed. The ash is distilled with dilute sulfuric acid at 125° with steam from glass vessels; fluosilicic acid distils over and is caught in three 10-cc. fractions. The distillates are neutralized to alizarin-red, a known volume of standard hydrochloric acid is added, and the whole titrated to reddish yellow with 0.01*N* thorium nitrate. The titration is not strictly quantitative and correction tables are included.—T. VON FELLENBERG. *Mitt. Lebensm. Hyg.*, 28 (1937), 150–169; through *J. Soc. Chem. Ind.*, 56 (1937), 1127. (E. G. V.)

Fluorine Compounds—Report on the Determination of. In the Willard-Winter method for fluorine as modified by Armstrong (*Chem. Abstr.*, 27 (1933), 2397) titration with thorium nitrate of solutions buffered at p_H 3.0 were 20% lower than titrations buffered at p_H 1.6; below p_H 1.2–1.4 the titrations were considerably higher and above p_H 3.0–3.4 there was a marked decrease.—R. H. CARTER. *J. Assoc. Official Agr. Chem.*, 20 (1937), 394; through *Chem. Abstr.*, 31 (1937), 8435. (F. J. S.)

Fructose—Iodometric Determination of. The determination of fructose can be based on the copper reduced by treating with a solution of copper sulfate and alkali carbonate, but the amount of cuprous oxide formed depends on the alkalinity of the solution, the quantity and concentration of sugar present and the temperature and time of heating. The following procedure is recommended: Prepare the reagent by dissolving 250 Gm. of potassium carbonate in 700 cc. of hot water and adding slowly 100 Gm. of powdered potassium bicarbonate; mix this solution with 15 Gm. of blue vitriol dissolved in 150 cc. of water, cool and dilute to exactly 1 liter. For the analysis, take 50 cc. of reagent in a 100-cc. volumetric flask, add 20 cc. of the sugar solution and heat to 48.5° to 49° C. for two and one-half hours; cool to 15° C., dilute to the mark and filter through a dry filter paper rejecting the first 20 to 25 cc. of filtrate; take 50 cc. of the filtrate, carefully acidify with sulfuric acid, add 10 cc. of 10% potassium iodide and titrate with decinormal sodium thiosulfate with starch as indicator. Calculate the sugar content of the original 20 cc. by means of the formula: $x = [(m - n) + 0.7]/0.26$ mg., where m = number of cc. of thiosulfate solution used in the analysis and n = number of cc. of thiosulfate solution used in a blank run with 20 cc. of water.—S. STREPKOFF. *Ann. chim. anal.*, 18 (1936), 231–232; through *Chimie & Industrie*, 38 (1937), 239. (A. P.-C.)

Gallic Acid—Assay of, of the German Pharmacopœia. The following method is used: Dissolve 0.2 Gm. of the acid accurately weighed in 20 cc. water, add 1 cc. of 0.04% bromthymol blue solution and titrate with 0.1*N* sodium hydroxide solution to a color change of olive-green. The values obtained by this method correspond quite well with those obtained for water-free acid and are slightly lower than those obtained by potentiometric methods.—H. LEONHARDT and R. KLOCKMANN. *Apoth. Ztg.*, 52 (1937), 1117–1118. (H. M. B.)

Gold—Micro-Determination of. A method is described for the micro-determination of gold in very small quantities such as are present in the urine of patients undergoing gold therapy. It was found that tellurium precipitated by sulfur dioxide from solutions containing 10% by volume of strong hydrochloric acid quantitatively co-precipitated gold. The combined precipitates were filtered, the filter burned off and the gold dissolved in warm aqua-regia. After aeration, to remove nitrosyl chloride and chlorine, the solution was buffered with acid potassium fluoride, 1 cc. of 0.1% *o*-dianisidine in diluted hydrochloric acid (2 cc. of concentrated acid to 500 cc. of solution) was added and the solution titrated with a standard solution of hydroquinone (0.4186 Gm. of hydroquinone, 10 cc. of hydrochloric acid to make 500 cc. of solution). Palladium interferes with this method. The method was found to recover 1 part of gold in a thousand million parts of solution.—W. B. POLLARD. *Analyst*, 62 (1937), 597. (G. L. W.)

Halogen—New Microchemical Test for. By heating an inorganic halide with concentrated nitric acid in the decomposition flask recommended by Feigl and causing the resulting halogen, halogen hydride or nitrosyl chloride to come in contact with a suspended drop of silver nitrate solution, the presence of halogen is shown by the formation of a turbidity of silver chloride, silver bromide or silver iodide. In most cases the turbidity can be identified by its color and behavior toward ammonia solution.—F. HALLA and F. RITTER. *Mikrochim. Acta*, 1 (1937), 365; through *Chem. Abstr.*, 31 (1937), 8435. (F. J. S.)

Halogens in Organic Compounds—Micro-, Semi-Micro- and Macro-Determination of. In the Stepanov method for determining halogens in organic compounds the ethyl alcohol can be replaced advantageously by monoethanolamine. It reacts with sodium slowly and serves as a good solvent except for aromatic halogen compounds with which the addition of a little dioxane serves to dissolve the sample. The sample is dissolved in the ethanolamine with the addition of dioxane if necessary. A little sodium is added and the sample is refluxed for some time. This converts the halogen to sodium chloride which is eventually precipitated as silver chloride from a solution acid with nitric acid. About 50 organic compounds containing chlorine, bromine or iodine were analyzed and the tabulated results show that the method is very satisfactory.—WILLIAM H. RAUSCHER. *Ind. Eng. Chem., Anal. Ed.*, 9 (1937), 296. (E. G. V.)

Homeopathic Preparations—Examination of. A contribution to the knowledge of *Dolichos pruriens, Abies nigra, Angelica atropurpurea, Cynosbatus, Hedysarum ildefonsianum, Helinathemum vulgare* and *Cibotium barometz* (*Penghawar Djambi*) including preliminary tests, analysis and reactions of the tinctures.—F. SONNTAG and G. KUHLMANN. *Apoth. Ztg.*, 52 (1937), 1026–1028. (H. M. B.)

Hydrocyanic Acid—Report on the Determination of, in Glucoside-Bearing Materials. In the alkali titration method there is little difference whether the potassium iodide and ammonium hydroxide are added separately or in the form of the indicator solution, but the use of the indicator solution does not give quite as sharp an end-point probably because, when the solutions are added separately, larger amounts of potassium iodide and ammonium hydroxide are added. The Prussian blue method (A. O. A. C., Methods of Analysis (1930), 287) is unsatisfactory. The colorimetric method of Frances and Connell gives variable results that are uniformly lower than those by the alkali titration method, probably owing to incomplete conversion of sodium cyanide to sodium thiocyanate and to difficulty in removing entirely the excess of free sulfur.—ROBERT A. GREENE and EDWARD L. BREAZEALE. *J. Assoc. Official Agr. Chem.*, 20 (1937), 444–447; through *Chem. Abstr.*, 31 (1937), 8437. (F. J. S.)

Iodine—Old and New Knowledge of.—OTTO SCHMATOLLA. *Apoth. Ztg.*, 52 (1937), 1053–1054. (H. M. B.)

Iodine Chloride Method—Andrews', Conversion of, into an Iodine Bromide Method. When the quantity of iodine present does not exceed 160 mg., add to the sample a concentrated solution of 22 Gm. of potassium bromide, then 5 cc. of concentrated hydrochloric acid, dilute to 100 cc., add 5 cc. of carbon tetrachloride and titrate with standard iodate solution to decolorization of the carbon tetrachloride layer. When the quantity of iodine present lies between 160 and 310 mg., add a concentrated solution of 37 Gm. of potassium bromide and dilute to 200 cc. The following procedure is recommended for the determination of formaldehyde: To 10 cc. of approximately twentieth-molar formaldehyde solution in a 300-cc. volumetric flask add 5 cc. of half-molar iodine chloride solution and 20 cc. of two and one-half times normal sodium hydroxide solution containing 15 Gm. of dissolved potassium bromide; after 5 to 10 minutes add a concentrated solution of 22

Gm. of additional potassium bromide, 10 cc. of concentrated hydrochloric acid, and water to 200 cc.; titrate with fortieth-molar potassium iodate solution with carbon tetrachloride indicator. Many other oxidizing agents can be used instead of the potassium iodate, *e. g.*, potassium periodate, potassium permanganate, potassium bromate, cerium sulfate, chloramine-T and bromine. The oxidation with potassium chlorate is too slow and with potassium dichromate at least 30 cc. of concentrated hydrochloric acid must be present in 100 cc. of the final solution. Numerous other substances can be titrated similarly to iodide.—R. LANG. *Z. anal. Chem.*, 106 (1936), 12–23; through *Chimie & Industrie*, 38 (1937), 233. (A. P.-C.)

Iodine Ion—Determination of, by Richard's Method in Tincture of Iodine and in Sodium and Potassium Iodides. In the determination of iodide by the Richard method (*J. pharm. chim.*, 16 (1902), 207) which consists in titrating with sodium thiosulfate after addition of potassium iodate, tartaric acid and disodium hydrogen phosphate, it is recommended that 30 cc. of 5% $Na_2HPO_4.2H_2O$ be used as the phosphate reagent. In tincture of iodine the titration, after reduction of free iodine, should be performed 10 (instead of 3 to 5) minutes after the addition of the sodium phosphate and just before adding 0.5 Gm. of potassium iodide.—P. KARSTEN. *Pharm. Weekblad*, 73 (1936), 1658–1668; through *Chimie & Industrie*, 38 (1937), 313. (A. P.-C.)

Iron—Determination of Ferrous and Ferric, in "Extractum Ferri Pomati." Dissolve 2 Gm. of the preparation in a mixture of 20 cc. of water and 10 cc. of 10% hydrochloric acid and add 0.5 Gm. of potassium thiocyanate plus 20 cc. of ether. Titrate ferric iron with decinormal titanium trichloride until the pink color of the ether phase just disappears. Add bromine in excess, remove the excess by adding 5% phenol solution, and determine total iron content after 10 minutes by further addition of 0.5 Gm. potassium thiocyanate and titration with titanium trichloride.—L. SZEBELLEDY. *Magyar Gyógyszerésztud. Társaság Értesítője*, 12 (1936), 417–419; through *Chimie & Industrie*, 38 (1937), 313. (A. P.-C.)

Ketones—Use of Reagent of Girard and Sandulesco for the Isolation of, from Volatile Oil and Animal Drugs. Two derivatives used and described are trimethylacetylhydrazid-ammonium chloride (T) and acetylhydrazid-pyridinium chloride (P). The following procedure was used for the isolation of the ketones in oil lavender: Warm 800 Gm. of pure oil, 1000 cc. absolute ethyl alcohol, 100 Gm. (T), 100 cc. acetic acid for $1^1/_2$ hours under a reflux on a water-bath, pour into 9 Kg. ice water which contains sufficient sodium hydroxide to neutralize 0.9 of the acetic acid, add 3 liters of ether, shake vigorously and separate the aqueous layer which contains the ketones; add sufficient hydrochloric acid to obtain an acid liquid (1*N*), allow to stand in the cold for 3–4 hours with shaking, extract twice with ether to remove the ketones and wash the ether layer with sodium carbonate and then with water, expel the ether (yield 30 Gm.). The crude mixture evaporated on strips of filter paper shows the following odor types: (1) methyl heptenone and amyl odor, (2) carvone and (3) a pepper-like odor. Upon fractionation (1) is obtained at b. $p._{3\ mm.}$ 0–80° C. (12 Gm.). The main portion boils at ordinary pressure at 160–175°, n = 1.4327, crude semicarbazone (washed with petroleum ether) m. p. 106–108°; recrystallized from dilute alcohol, m. p. 111°; the second fraction, b. $p._{3\ mm.}$ 80–110° C. (about 13 Gm.) redistilled gives (*a*) b. $p._{3\ mm.}$ 80–100° C. (8 Gm.), n = 1.468, (*b*) b. $p._{3\ mm.}$ 100–110° C. (5 Gm.), n = 1.488. The residue (3 Gm.) consists of dense ketones. By the treatment of amber with (T) a dense golden-yellow and film-forming ketone fraction is isolated which forms oximes and semicarbazones. Ketone products were also isolated from olive oil.—G. SANDULESCO and S. SABETAY. *Riechstoff-Ind. Kosmetik*, 12 (1937), 161–162. (H. M. B.)

Mercury—Determination of, by Means of Ammonium Thiocyanate. The method consists in precipitating mercury as thiocyanate in presence of ferric ammonium sulfate as indicator according to the equation: $Hg(NO_3)_2 + 2NH_4CNS = Hg(CNS)_2 + 2NH_4NO_3$. One cc. decinormal thiocyanate = 0.0100 Gm. of mercury. Free nitric acid does not interfere, but the presence of chlorides destroys the accuracy of the determination on account of the low dissociation of mercuric chloride. The method is applicable to the assay of pharmacopœial mercury compounds; organic matter is first oxidized with permanganate and the excess of permanganate is destroyed with ferrous sulfate.—K. H. BAUER. *Pharm. Zentralhalle*, 78 (1937), 69–70; through *Chimie & Industrie*, 38 (1937), 314. (A. P.-C.)

Mercury—Volumetric Determination of. The method, which is suggested for determining mercury in organic compounds and in mixtures of these in seed-disinfecting preparations, is described as follows: The mercuric solution resulting from one of several methods of wet oxidation

described in detail is filtered through a Gooch crucible if necessary. The filtrate is treated with sufficient potassium iodide (about 1 Gm.) to form the soluble double salt, made alkaline with 5*N* sodium hydroxide plus an excess of 5 cc. and heated to 60° C. Two cubic centimeters of freshly prepared warm 2.5% gelatin solution are added and, with constant swirling, 3–4 cc. of 40% formaldehyde solution. The reduced mixture is cooled to 20° C., acidified with excess of acetic acid, treated at once with 25 cc. of *N*/10 iodine solution and stirred, and the excess of iodine is titrated with *N*/10 thiosulfate solution (1 cc. of *N*/10 iodine = 0.01003 Gm. of mercury).—M. FITZGIBBON. *Analyst*, 62 (1937), 654. (G. L. W.)

Methyl Alcohol—Determination of, in Alcoholic Liquors. The Dènigés method, in which methyl alcohol is oxidized to formaldehyde and the color developed with Schiff's reagent determined, is advocated. Acid concentration, the amount of aqueous potassium permanganate, the quantity of ethyl alcohol present, the composition of the sodium bisulfite-fuchsin solution and the time of heating affect the depth of color and are standardized.—T. VON FELLENBERG. *Proc. 5th Intern. Cong. Tech. Chem. Agric. Ind., Holland*, 1 (1937), 184–196; through *J. Soc. Chem. Ind.*, 56 (1937), 968. (E. G. V.)

Morphine—Assay of, in Opium. In the determination of morphine in opium by the method of the Italian Pharmacopœia 7 Gm. of opium (previously dried at 60° C.) are triturated in a mortar and transferred to a tared flask with sufficient water to make exactly 63 Gm. of suspension; after standing for 1 hour, the material is filtered, morphine is precipitated with ammonia in presence of ethyl acetate, the precipitated morphine is dissolved in excess of decinormal hydrochloric acid and the excess is titrated with decinormal potassium hydroxide. The method gives slightly low results and it is therefore preferable to: (1) Work on the undried opium and calculate to dry basis by determining moisture on a separate portion by drying at 105° C.; (2) macerate for 48 hours (instead of 1 hour) before filtering.—G. CARMINA. *Giorn. farm. chim.*, 85 (1936), 36–39; through *Chimie & Industrie*, 38 (1937), 316–317. (A. P.-C.)

Morphine—Microdetermination of, in Poppy Plant and Opium. A 0.3 to 0.4-Gm. disintegrated specimen is extracted with 8 cc. of concentrated barium hydroxide solution by two alternate heatings and centrifugings. An aliquot of the supernatant solution is treated with acetic acid to p_H 0.5, and morphine is determined by the colorimetric method of Dènigés (*Compt. rend. acad. sci.*, 151 (1910), 1062).—A. GUINZBERG and N. KRACHEVSKI. *Prom. Org. Khim.*, 2 (1936), 104–107; through *Chimie & Industrie*, 38 (1937), 317. (A. P.-C.)

Nicotine—Colorimetric Determination of. Nicotine is determined directly in 10–50 mg. of the powdered tobacco by addition of aqueous cyanogen bromide and beta naphthylamine, the intensity of the color which develops being determined photometrically. The values obtained agree well with those obtained by Pfyl and Schmitt's and Bodnar's methods.—L. BARTA and Z. MARSCHEK. *Mezőgazdasági Kutatások*, 10 (1937), 29–36; through *J. Soc. Chem. Ind.*, 56 (1937), 1132. (E. G. V.)

Nitro Groups in Organic Compounds—Semi-Micro Qualitative Test for. A 0.7-cc. portion of the iron solution is pipetted into a four-cc. test-tube, and a small quantity of the finely powdered unknown is added. Then 0.5 cc. of the base solution is added and a stream of natural gas is passed through the tube to remove any air. The tube is quickly stoppered and shaken. A positive test is indicated by the formation of a red-brown to brown precipitate of ferric hydroxide. Negative tests in many cases gave a very light green precipitate. However, in some cases the precipitate became dark due to slight oxidation. The iron solution is made as follows: a 500-cc. portion of distilled water is boiled for 15 minutes to remove any dissolved air. After cooling, 25 Gm. of ferrous ammonium sulfate and 2 cc. of concentrated sulfuric acid are added. An iron nail may be added to retard oxidation by air. The base solution is made by dissolving 30 Gm. of stick potassium hydroxide in 30 cc. of distilled water and then adding this to 200 cc. of 95% ethyl alcohol.—W. M. HEARON and R. G. GUSTAVSON. *Ind. Eng. Chem., Anal. Ed.*, 9 (1937), 352. (E. G. V.)

Novocaine and Primary Amines—a New Colorimetric Test for. A drop or minute particle of the primary amine to be tested is treated on a slide with a drop of a solution prepared from 4 Gm. of *p*-dimethylaminobenzaldehyde, 380 cc. of absolute alcohol and 80 cc. of concentrated hydrochloric acid. A yellow, greenish yellow or orange color is produced immediately. Acetanilide, aspirin, starch, eucaine, alypin, antipyrine, aconitine, apomorphine, atropine, caffeine, tropacocaine, scopolamine and cocaine give no color. Orthoform and anesthesin give the color but may be distin-

guished from commercial novocaine hydrochloride by their insolubility in water.—S. N. CHAKRAVARTI and M. B. RAY. *Analyst*, 62 (1937), 603. (G. L. W.)

Oakmoss Products—Composition of Commercial. A review with 14 references.—ALEXANDER ST. PFAU. *Riechstoff-Ind. Kosmetik*, 12 (1937), 179–182. (H. M. B.)

Oils—Acid Values of, Determination of, by Potentiometric Titration Using the Glass Electrode. The glass electrode contains a saturated solution of quinhydrone in *N*-hydrochloric acid and solid quinhydrone. Around it is placed a perforated glass sheath to protect the membrane from damage. The whole dips into a glass reaction cell into which also dips the agar-potassium chloride salt bridge of the calomel half-cell and the glass stirrer. This stirrer is turned by compressed air. The burette for titration is placed with its jet over the stirrer. All clamps are rubber covered for insulation purposes. The apparatus is so arranged that nitrogen can be bubbled through the solution in the reaction cell. A Cambridge valve-potentiometer is used for measurements. The method is capable of giving accurate results for the acid values of oils; it is superior to the colorimetric method eliminating errors due to the nature of the acid, the color of the oil and the color of the indicator; the only drawback is its slowness.—A. C. ROLFE and G. P. ALCOCK. *J. Soc. Chem. Ind.*, 56 (1937), 294T. (E. G. V.)

Olives and Olive Oil—Analytical Data on Palestinian. A summary of the analytical results obtained in the examination of samples of olives from ten trees over a period of four years (1933–1936).—G. W. BAKER and M. PUFFELES. *Analyst*, 62 (1937), 604. (G. L. W.)

Oxidation-Reduction Reactions—Theoretical Foundation of Titrations Based on. The current theories are explained.—MARÍA M. RODRIGUEZ. *Rego. Annales asoc. quim. farm. Uruguay*, 40 (1937), 27–55; through *Chem. Abstr.*, 31 (1937), 8438. (F. J. S.)

Perfumes—Natural, Analysis of. A review. A two-stage condenser for collection of volatile fractions during vacuum distillation is described.—Y. R. NAVES, S. SABETY and L. PALFRY. *Ann. chim. anal.*, 19 (1937), 201–208; through *J. Soc. Chem. Ind.*, 56 (1937), 1133. (E. G. V.)

Phosphoric Acid—Organically Combined, Determination of, in Phytin and in Drug Mixtures. Dissolve 0.2 Gm of phytin in 100 cc. of 0.6% hydrochloric acid, and titrate with a ferric chloride solution containing 2 Gm. of iron and 6 Gm. of hydrochloric acid per liter, in the presence of 4 cc. of decinormal ammonium thiocyanate. The addition of the ferric chloride solution is continued until a whitish precipitate begins to appear, the latter indicating the approaching end of the reaction. Thereupon, add 0.15 to 0.25 cc. of the ferric chloride solution until the supernatant liquid acquires a pinkish color; 1 cc. of ferric chloride solution = 5.45 mg. of organically combined P_2O_5. Special manipulation of drug mixtures containing phytin is described.—G. A. WEISSMANN and J. R. BERMANN. *Pharm. Zentralhalle*, 77 (1936), 239–242; through *Chimie & Industrie*, 38 (1937), 317. (A. P.-C.)

Pyridine—a New Color Reaction of. When pyridine is placed on a piece of filter paper wet with 1% solution of quinoline and then exposed to ultraviolet light, an intense golden-yellow coloration results. This reaction permits the identification of pyridine in the presence of nicotine and is an example of a photo-reaction between pyridine and a tertiary amine. A similar reaction is shown by lepidine, quinaldine, 8-hydroxyquinoline, isoquinoline and acridine. However, only pyridine gives a bright yellow color, the others are less bright and tend toward the orange.—ANGELO CASTIGLIONI. *Ann. chim. applicata*, 27 (1937), 256–257; through *Chem. Abstr.*, 31 (1937), 8444. (F. J. S.)

Quinine Iodobismuthate for Hypodermic Use. A description of its preparation and assay.—G. VITA and L. BRACALONI. *Boll. chim.-farm.*, 75 (1936), 325–334; through *Chimie & Industrie*, 38 (1937), 315. (A. P.-C.)

Resins—Detection of, in Fatty Oils and Varnishes. The following procedures are recommended: (*a*) *Determination of Volatile Constituents.*—Weigh exactly about 5 Gm. of varnish in a petri dish (10-cm. diameter) and dry 4 hours on a water-bath. Place the dish in a dry oven at 105° C. for 1/2 hour. (*b*) *Determination of the Fatty Oils and Resins.*—Weigh accurately 10 Gm. of the varnish in a saponification flask and evaporate the solvent (volatile constituents) in a drying oven. Saponify the residue in the flask with 2*N* potassium hydroxide (alcoholic), evaporate off alcohol and transfer the soap quantitatively to a separatory funnel. Add hydrochloric acid and take up with ether the saponified fats, resin acids and unsaponifiable matter. Wash the ether solution carefully until neutral to methyl orange and evaporate the solvent and weigh the residue

(A = fatty and resin acids). Determine the resin acids in *A* by the following modification of Wolf-Scholze method: "Dissolve *A* in 15 cc. absolute alcohol and treat the solution with a mixture of 1 cc. concentrated sulfuric acid and 4 cc. absolute alcohol, boil 15 minutes under a reflux condenser; add 60 cc. sodium chloride solution (10%) and transfer the mass quantitatively to a separatory funnel, extract with 3 portions of ether, combine the ether washings and wash until neutral. Add dropwise 0.5*N* alcoholic potassium hydroxide until the ether solution is alkaline to phenolphthalein. Shake well, add 2 drops 0.5*N* alcoholic potassium hydroxide and separate the solution into two layers by the addition of 50 cc. water (*a*) an ether layer which contains the esters and unsaponifiable matter and (*b*) the aqueous layer containing the resin soaps. Allow to separate for four hours, separate, and extract the soap solution twice with ether. Combine the ether extracts and wash free of soap by means of water. Add the wash waters to the resin soap solution from which the alcohol is evaporated, treat the soap with hydrochloric acid and dissolve the separated resin acids in ether; evaporate off the ether and dry to constant weight (B = resin acids). Fatty acids of the fatty oil = A − (B + unsaponifiable portion).—WALTER MEYER. *Apoth. Ztg.*, 52 (1937), 1144. (H. M. B.)

Rotenone—Determination of, in Derris and Cube. Crystallization from Extracts. The original method is improved by a modified procedure for the crystallization of rotenone-carbon tetrachloride solvate from extracts of derris and cube roots. Accurate results were obtained only when the rotenone content was equivalent to at least 4% of the root, which made it necessary to add rotenone in some cases. The non-rotenone content retards the crystallization. The "hidden" rotenone of Cahn and Boam is probably a result of retarded crystallization. Evaporate the extract from 25 Gm. of root and 100 cc. of carbon tetrachloride on the steam-bath in a current of air until free of solvent. Treat the residue with exactly 25 cc. of carbon tetrachloride and heat gently to dissolve it. Cool in an ice-bath for several minutes and seed with a few crystals of rotenone-carbon tetrachloride solvate. Stopper the flask tightly and swirl until crystallization is complete. If only a slight crystallization takes place, add a carefully weighed quantity of pure rotenone so that at least 1 Gm. of rotenone is present. After standing at 0° over night, filter and wash with ice-cold 27% rotenone in carbon tetrachloride. Dry with suction for five minutes and at 40° until the weight is constant. Treat 1 Gm. of the impure crystals with 10 cc. of alcohol which has been saturated with rotenone at room temperature. Filter, wash with the alcohol, dry at 105° for an hour and weigh. Allow 0.07 Gm. for the solubility.—HOWARD A. JONES. *Ind. Eng. Chem., Anal. Ed.*, 9 (1937), 206. (E. G. V.)

Semen Sabadillæ and Acetum Sabadillæ—Assay of. Shake 3 Gm. of sabadilla seed for 10 minutes with 60 Gm. of ether and 3 cc. of fifth-normal ammonia; filter 40 Gm. of the solution (corresponding to 2 Gm. of seed) through cotton into a 150-cc. glass-stoppered Erlenmeyer flask; distil off the ether and take up the residue in 5 cc. of alcohol, 20 cc. of petroleum ether and 30 cc. of boiled water; add 10 cc. of decinormal hydrochloric acid and titrate back with decinormal sodium hydroxide using methyl red as indicator; 1 cc. = 0.0625 Gm. of alkaloids. The alkaloidal content should be not less than 4%. To determine alkaloids in sabadilla vinegar evaporate 60 Gm. to dryness on the water-bath; transfer with the least possible amount of water to a 200-cc. container, shake vigorously for 10 minutes with 60 Gm. of ether and 5 cc. of ammonia, filter 50 Gm. of the solution (corresponding to 50 Gm. of the vinegar); distil off the ether, take up the residue in 10 cc. of alcohol, 10 cc. of water and 5 cc. of decinormal hydrochloric acid, and proceed as above. —F. KÜRSCHNER and W. IMMENKAMP. *Pharm. Zentralhalle*, 77 (1936), 458–461; through *Chimie & Industrie*, 38 (1937), 316. (A. P.-C.)

Shikimic Acid and Its Derivatives. Statement of the method used in preparing and an analysis of the product is given for the following metallic salts of shikimic acid: lithium, sodium, potassium, silver, magnesium, calcium, strontium, barium, lead and zinc.—HSING-HAN LEI. *J. Am. Pharm. Assoc.*, 26 (1937), 900. (Z. M. C.)

Silver Iodide—Colloidal, Assay of. The colloidal silver iodide used in oculistics contains about 20% of silver iodide intimately mixed with protein matter. The product should not contain too large a quantity of alkali iodides; not more than 1% of iodine that is not combined with silver can be tolerated. Total iodine can be determined by the Carius or by the Baubigny-Chavanne method. To determine silver iodide, destroy organic matter by digestion with sulfuric acid and potassium dichromate, reduce the silver iodide and titrate the liberated iodine. From the difference between the two determinations, calculate the iodine combined as alkali iodides.—C. STAINIER

and L. LECLERCQ. *J. pharm. Belg.*, 19 (1937), 81–87, 97–100; through *Chimie & Industrie*, 38 (1937), 314. (A. P.-C.)

Strychnine—Determination of Small Quantities of, in the Presence of Caffeine (Compound Syrup of Hypophosphites). To 50 cc. of the syrup add 5 Gm. of citric acid. Make the solution alkaline with ammonia, extract with chloroform and evaporate to obtain the mixed alkaloids and weigh. Dissolve the mixed alkaloids in 25 cc. of water to which 1 cc. of 25% v/v sulfuric acid has been added. To the cooled solution add 1 cc. of freshly prepared 5% potassium ferrocyanide solution, stir and allow to crystallize several hours. Filter and wash with acidified water. Wash the precipitate from the filter with successive 10-cc. portions of 10% ammonia water, water and chloroform. Extract the washings with chloroform, evaporate and weigh the strychnine.—D. C. GARRATT. *Analyst*, 62 (1937), 538. (G. L. W.)

Sulfur—Importance and Determination of, in the Various Linkages in Pharmaceuticals. This is an address which was delivered before a meeting in Copenhagen and points out in a general way the important effects of the introduction of sulfur into some compounds and the basic principles of 3 general methods for determining sulfur.—E. SCHULEK. *Scientia Pharm.*, 8 (1937), 111. (M. F. W. D.)

Sulfuric Acid—Free, Rapid Method for Determining, in Presence of Large Amounts of Ferrous Sulfate. The method is as follows: Add a measured excess of a filtered 50% potassium fluoride solution to the iron solution. Stir for about a minute, add phenolphthalein and titrate with *N*/2 potassium hydroxide. Conduct a blank titration on the same volume of fluoride solution in a volume of CO_2 free water equal to the volume of the iron solution. It is well to have the fluoride solution near the neutral point on the acid side. This may be done by adding phenolphthalein to the potassium fluoride solution and neutralizing with potassium hydroxide or dilute sulfuric acid as the case may be, and adding a slight excess of the acid. This method is based on the fact that when solutions of potassium fluoride and ferrous sulfate are mixed, all the iron is spontaneously precipitated at room temperature as ferrous potassium fluoride, a light-colored compound which is stable toward dilute acids and alkalis.—L. KEBRICH. *Chemist-Analyst*, 27 (1938), 7. (A. C. DeD.)

Tartaric Acid—Determination of, as Lead Tartrate. The method was used for the determination of potassium bitartrate and total tartrate in baking powders. Two grams of sample were dissolved to make 200 cc. of solution. Twenty cubic centimeters of the solution were neutralized to phenolphthalein and 15 cc. of 5% lead nitrate solution added. After 2 hours the precipitate was filtered on a tared Gooch crucible, washed with 50 cc. of water and dried at 105°. The weight of precipitate multiplied by 0.423 gives the weight of tartaric acid. Baking powders: Two grams of sample on a tared Gooch crucible were treated with cold water. The starchy filler was removed by filtration and the filtrate made up to 100 cc. Twenty-five cubic centimeters of the filtrate were acidified to methyl orange with *N*/5 nitric acid, boiled, cooled, neutralized, and the total tartrate precipitated as above. A second portion of the original filtrate was used to determine potassium as chloroplatinate. This was calculated to potassium bitartrate and subtracted from the total tartrate.—C. H. MANLEY. *Analyst*, 62 (1937), 526. (G. L. W.)

Temperatures—Unusual, Colors for the Designation of. Heat color indicators are described and a color thermoscope consisting of films of acetylcellulose containing varying amounts of the halides of the heavy metals can be used for 10° intervals for temperatures of 35–300° C.—R. FREITAG. *Apoth. Ztg.*, 52 (1937), 1132. (H. M. B.)

Tin—Colorimetric Determination of, by Means of Toluene-3,4-Dithiol ("Dithiol"). The acid solution containing tin is treated with a few drops per liter of thioglycollic acid and diluted so that it contains not more than 60 p. p. m. of tin. Five cubic centimeters of this are placed in a graduated test-tube followed by 1 cc. of hydrochloric acid and 1 cc. of warm agar jelly. The solution is boiled for a few seconds, cooled and 2 cc. of 0.2% solution "Dithiol" in 1% sodium hydroxide containing 0.3–0.5% of thioglycollic acid added and the whole diluted to 10 cc. After heating 1 minute in a boiling water-bath, 2 cc. of the hot liquid are placed in a standard porcelain tray and matched in a Lovibond tintometer with the standard glasses. Only the red component is considered. A curve prepared from known amounts of tin by the method is used for determining unknown amounts.—R. E. D. CLARK. *Analyst*, 62 (1937), 661. (G. L. W.)

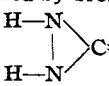
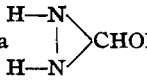
Tin—Separation of Small Quantities of, in Presence of Antimony and of Arsenic. The method of Pinkus and Claessens was found excellent for determining 0.3 to 30 mg. of tin in the

presence of 40 to 80 mg. of arsenic and antimony, provided the precipitation of the tin with cupferron is made in the presence of a considerable excess of the reagent at 3° to 5° C. in a solution which is approximately normal in hydrochloride acid. If in the analysis a solution of thio salts is at hand (as obtained by pouring an acid tartrate solution into 100 cc. of 5% sodium sulfide and filtering off the insoluble sulfide precipitate), first precipitate the sulfides of arsenic, antimony and tin by adding acetic acid and hydrogen sulfide; dissolve the precipitate in caustic soda solution (using about 2 Gm. of sodium hydroxide per 0.1 Gm. of the sulfide precipitate); heat the alkaline solution and add an excess of hydrogen peroxide to oxidize sulfide to sulfate; decompose the excess peroxide by boiling, make acid to methyl red and add enough more acid to make the solution normal in hydrochloric acid; cool to room temperature in water and then to 3° C. in ice; the final volume should be 100 to 150 cc. Add a 5% aqueous solution of cupferron with vigorous stirring, continue stirring for 3 minutes after precipitation has taken place, and then add 15 to 20 cc. of the reagent in excess; wash the precipitate by decanting 3 times with a chilled 0.05% solution of cupferron and finally on the filter with water at room temperature; dry at 60° C. and ignite the filtrate carefully to stannic oxide; precipitate the arsenic and antimony as sulfides and analyze in the usual manner. Perfect results were obtained in 14 analyses in which the tin was either bivalent or quadrivalent.—N. J. TSCHERWIAKOW and E. A. OSTROUMOW. *Ann. chim. anal.*, 18 (1936), 201–207; through *Chimie & Industrie*, 38 (1937), 233. (A. P.-C.)

Titration—Electrometric, of Acidity of Wines, Etc. Owing to the difficulty of ascertaining the inflexion point in the titration of wines and fruit products, it is recommended that titration should be carried out to a previously fixed end-point.—R. U. BONNAR. *J. Assoc. Official Agr. Chem.*, 20 (1937), 203–205; through *J. Soc. Chem. Ind.*, 56 (1937), 967. (E. G. V.)

"Tu-Hao"—Chinese Drug, Chemical Examination of. "Tu-hao" or *Angelica grosseserrata* has been prescribed as a stimulant. Extraction of 7 kilos with alcohol followed by steam distillation yielded 6.6. Gm. of essential oil. The following were identified in the non-volatile fraction: glucose, a phytosterol (melting point 142° to 143° C.), and also palmitic, stearic, oleic and linoleic acids. Alkaloids are absent.—Y. F. CHI and Y. M. LEE. *J. Chinese Chem. Soc.*, 4 (1936), 305–311; through *Chimie & Industrie*, 38 (1937), 316. (A. P.-C.)

Ultraviolet Light Filtered, as an Analytical Medium in Pharmaceutical Practice. A discussion of the application of ultraviolet light for the macro- and microscopic investigation of crystalline chemicals and plant principles. Five illustrations are also given.—A. KUFFERATH. *Pharm. Ztg.*, 82 (1937), 526–527. (N. L.)

Urea—a New Formula for. Some Applications of the Nitroferrocyanide Reaction. A study of the reactions of forty different types of compounds with sodium nitroferrocyanide solution led to the following classifications: (*a*) In alkaline solution (either sodium hydroxide or ammonium hydroxide) a 2% recently prepared nitroferrocyanide reagent yields red or purple pigments with compound containing (I) an un-ionized thiol group, —SH, or (II) an enolizable ketone of the system RH—CO—R′⇄R=C(OH)—R′ where R and R′ are hydrocarbon radicles, one of which, at least, is aliphatic. These pigments are acid stable. (*b*) A related form of the color is given, only in the presence of strong base, by ketonoid compounds in which R is an imino group linked on both sides to carbon. These pigments are acid labile. Amides do not react. Urea gives a type B pigment after oxidation with iodine in alkaline solution or after oxidation with potassium persulfate in neutral solution and subsequently being made alkaline. When oxidized by bromine in neutral solution in the dark at room temperature urea yields hydrazi-ketone  . This substance gives an immediate type B reaction and is quantitatively hydrolyzed to hydrazine and carbon dioxide with barium hydroxide. From a review of the known properties of urea in solution the author proposes the formula  as more nearly representative of those properties and suggests the probability of the occurrence of the hydrazi-ring in other compounds.—W. R. FEARON. *Analyst*, 62 (1937), 586. (G. L. W.)

Vitamin A—Determination of, with Hilger Vitameter. A longer period of saponification with more concentrated potassium hydroxide is recommended. Operations are described which obviate emulsification during the extraction after saponification. A procedure is described for the

extraction of fat from, and determination of vitamin A in, evaporated milk.—J. B. WILKIE. *J. Assoc. Official Agr. Chem.*, 20 (1937), 208–212; through *J. Soc. Chem. Ind.*, 56 (1937), 976. (E. G. V.)

Vitamin A—Iodometric Determination of. A new titration method for estimating the amount of vitamin A is described, using *N*/100 iodine.—W. SOLJANIKOWA-NIKOLSKAJA. *Bull. Biol. Med. exp.*, U. R. S. S., 1 (1936), 410–411; through *Physiol. Abstr.*, 22 (1937), 929. (F. J. S.)

Vitamin B_1 Assay—Accuracy of. The "average variance" (σ^2) of the increase in weight of rats in one, two and three weeks on a vitamin B_1-free diet supplemented by daily dosage of vitamin B_1, has been calculated from the formula: $\sigma^2 = \frac{\Sigma d^2}{N-M}$ where Σd^2 is the sum of the squares of all the deviations from their respective means; N is the number of rats from which the calculation is made and M is the number of groups of rats in which the N rats were distributed. The calculation is based on tests in which the doses given were in the ratio 1:2 of numerous substances tested on approximately 500 rats. The figures for the probable error calculated for a test in which ten rats are used for the test substance and ten for the standard were 18, 12.5 and 10% for a test lasting one, two and three weeks, respectively. It is concluded that the increased accuracy obtained by carrying on a test for longer than two weeks seldom justifies the extra labor involved.—K. H. COWARD. *Biochem. J.*, 30 (1936), 2012; through *Quart. J. Pharm. Pharmacol.*, 10 (1937), 263. (S. W. G.)

Vitamin C—Determination of, by Phosphotungstic Acid. I. Reduced Vitamin C. II. Total Vitamin C. I. Details of the reagents used and the method for the colorimetric determination are given. The color is stable and specific for vitamin C. The extinction coefficients are directly proportional to the concentration up to 10 mg. % and independent of temperature. Comparison with the indophenol method gives identical or somewhat lower results. II. By means of mercuric acetate the total vitamin C is oxidized to the dehydro form which is subsequently completely reduced by hydrogen sulfide and the vitamin C content determined colorimetrically. Both ascorbic acid and its oxidized form are recovered quantitatively and the reduced form remains unaltered for two hours after removal of the hydrogen sulfide. An even better agreement with the indophenol determinations was recorded in this series of determinations on animal and plant tissues.—A. FUJITA and T. EBIHARA. *Biochem. Z.*, 290 (1937), 182–200; through *Physiol. Abstr.*, 22 (1937), 932. (F. J. S.)

Vitamin D_4—Crystalline. Crystalline vitamin D_4, $C_{28}H_{46}O$, was obtained by irradiation of 22-dihydroergosterol, formation of the dinitrobenzoate and saponification. Melting point 107–108° C. $[\alpha]_D^{18}$ — 89.3. Absorption maximum at 265 mμ. A structure analogous to vitamin D_2 is suggested.—A. WINDAUS and G. TRAUTMANN. *Hoppe-Seyl. Z.*, 247 (1937), 185–188; through *Physiol. Abstr.*, 22 (1937), 933. (F. J. S.)

Zeolites—Synthetic, Use of, in the Isolation of Vitamin B_1. I. Experiments with Rice Polishings. A systematic investigation was carried out to determine the best conditions for the removal of the vitamin from extracts of rice polishings by means of the zeolites and the most suitable way of recovering the substance from the zeolites. It was found that a single silver precipitation with silicotungstic acid, yielded high potent concentrates, from which on recrystallization crystals of pure vitamin hydrochloride could be obtained.—L. R. CERECEDO and D. J. HENNESSY. *J. Am. Chem. Soc.*, 59 (1937), 1617. (E. B. S.)

Zeolite—Synthetic, Use of, in the Isolation of Vitamin B_1. II. Experiments with Brewer's Yeast. A method is given for isolating the vitamin from brewer's yeast as the hydrochloride by the use of a synthetic zeolite.—L. R. CERECEDO and F. J. KASZUBA. *J. Am. Chem. Soc.*, 59 (1937), 1619. (E. B. S.)

Zeolites—Synthetic, Use of, in the Isolation of Vitamin B_1. III. Experiments with Wheat Germ. A method is given for the isolation of vitamin B_1 from wheat germ by means of a synthetic zeolite.—L. R. CERECEDO and J. J. THORNTON. *J. Am. Chem. Soc.*, 59 (1937), 1621. (E. B. S.)

PHARMACOGNOSY

VEGETABLE DRUGS

Cardamoms—Common and Oriental. Report is made concerning a survey undertaken to establish the relationship and comparative value of several varieties of cardamom which are recog-

nized articles of trade in the orient. The history covers origin, use and extent of growth and a discussion of the rarer cardamoms which includes six varieties. Cultivation, production and commerce are discussed. Botanical characteristics are gone into thoroughly. Chemical characteristics include distillation of the oil and a tabulation of characteristic properties of fourteen varieties, isolation of oil-extraction with solvents, composition of the volatile oil. Under preparation and uses are listed U. S. P. and N. F. preparations which contain the seed or the oil or some preparation of them, twenty-two in all. The authors conclude that the character and percentage yield of volatile oil from the round Chinese cardamom suggest the possibility of using the fruit as equal to the official Malabar cardamom. The bitter Chinese cardamom, though closely related to the others, contains a bitter crystalline camphor. Anatomical and chemical data should facilitate identification of Cardamomum and Amomum species do not seem sufficiently marked to justify separation in different genera. Attention is directed to new sources both for condimental and medicinal uses.—ARNO VIEHOEVER and LE KYA SUNG. *J. Am. Pharm. Assoc.*, 26 (1937), 872. (Z. M. C.)

Castor Oil Plants of the Belgium Congo. There is no clear proportional relation between the size, weight, kernels and oil content of the beans studied. The oil content of the plants grown in this country is comparable with that of plants grown in other countries.—L. TIHON. *Bull. agr. Congo Belge*, 27 (1937), 648–659; through *Chem. Abstr.*, 31 (1937), 8968. (F. J. S.)

Cinnamon—Microscopical Examination of. Chinese cinnamon often contains large starch grains (greater than 20μ) which would be mistaken for those of barley, wheat or rye but for the fact that they are optically isotropic, refract differently, are of different shape and stain differently. Cinnamon from Ceylon and Dutch Indies has little starch and the grains are smaller than those of the Chinese variety.—B. HAZSLINSZKY. *Z. Unters. Lebensm.*, 74 (1937), 37–42; through *J. Soc. Chem. Ind.*, 56 (1937), 1127. (E. G. V.)

Karkade Tea. The drug, which consists of the dried flowers of *Hibiscus sabdariffa*, L., contained 94% of dry matter (of which 5.85% was nitrogenous and 1.17% wax-like) consisting of crude fiber (König) 11.60, inorganic matter 11.78, nitrogen-free extractives 69.60%, caffeine nil. The carbohydrate and fruit acid content of the infusion is recorded.—J. PRITZKER and R. JUNGKUNZ. *Mitt. Lebensm. Hyg.*, 28 (1937), 15–19; through *J. Soc. Chem. Ind.*, 56 (1937), 1132. (E. G. V.)

Rhubarb—Malic Acid in. The occurrence of malic acid in plant tissues is of great importance in plant metabolism. Ruhland and Wetzel have stated that rhubarb contains *l*-, *d*- and *dl*-malic acid, the *l*-isomer occurring chiefly in the aerial parts and the inactive isomer chiefly in the rhizome or newly developed leaf tissue. The authors have studied the relationship between the quantities of total malic acid and *l*-malic acid in samples of rhubarb (*Rheum hybridum*, var. *Victoria*), carrying out their observations on all parts of the plants at successive stages of development. The total malic acid was determined by ethereal extraction of the dried acidified tissue, followed by oxidation with potassium permanganate and potassium bromide to a steam-volatile, bromo-substituted substance which formed an insoluble phenylhydrazine derivative, a reaction which is highly specific. The *l*-malic acid was determined by polarimetric methods. The results showed agreement between *l*-malic acid and total malic acid even in the rhizome and bud tissues, in which Ruhland and Wetzel had stated the malic acid to be the *dl*-variety. Only a very small amount of the total organic acidity exists as *l*-malic acid and a large proportion of unknown acids is present; unless highly specific methods of analysis are used it is probable that these unknown acids would be determined as *dl*-malic acid.—G. W. PUCHER, H. E. CLARK and H. B. VICKERY. *J. Biol. Chem.*, 117 (1937), 599; through *Quart. J. Pharm. Pharmacol.*, 10 (1937), 256. (S. W. G.)

Rhubarb—Organic Acids of Leaves of. The oxalic, *l*-malic and citric acid content of rhubarb leaves (*Rheum hybridum*) has been investigated in order to obtain information as to the quantities of these acids in the petiole, main vein and leaf blade tissues; the concentration gradients of the acids in the parts of the leaf; the relation between the concentration of the total acids and titratable acidity, and also the relationship between the concentration of the acids and of ammonia. The determinations were made by ethereal extraction of the dried sample brought to p_H 1.0 with dilute sulfuric acid, transferring the extract to dilute alkali and diluting the solution to a known volume. The acid content differed in different parts of the leaf and was greatly in-

fluenced by the age of the leaf and by the season in which it had developed, the leaf blades of young leaves containing a predominance of unknown acids with oxalic acid in next greatest amount, but oxalic acid predominating in leaves developing later. The main veins and petiole contained more malic acid, with oxalic acid next. The concentration gradient of oxalic, citric and unknown acids increased from petiole to vein to blade, but that of *l*-malic acid decreased likewise, the total organic acid concentration remaining almost constant in all parts of the leaves. The ammonia concentration in the tissues was in all cases low, and although an increase occurred in leaves of later development, no quantitative relationship between ammonia and any of the acids existed.—G. W. PUCHER, H. W. CLARK and H. B. VICKERY. *J. Biol. Chem.*, 117 (1937), 605; through *Quart. J. Pharm. Pharmacol.*, 10 (1937), 256. (S. W. G.)

Rhubarb and Rhapontic. P. finds that (1) rhubarb in pieces does not fluoresce under the analytical lamp but appears yellow to brownish and darker than in ordinary light; rhapontic rhubarb fluoresces blue to blue-violet, (2) Joachimovitz's test for ammonia with German rhubarb yields amorphous residues which do not redden with sulfuric acid; genuine rhubarb yields rectangular compact crystals, non-refractive, do not redden with sulfuric acid, (3) rhapontic rhubarb gives needle-like crystals showing beautiful polarization colors, often roof shaped lying side by side; alone they are rhombic and rectangular and redden with sulfuric acid, (4) with 50% mixtures no crystals separate and (5) mixtures with 70% rhapontic rhubarb crystals did not appear even after 48 hours. Wimmer's test (*Pharm. Post* (1919), 221) was found to be valuable only to distinguish rhapontic rhubarb from the pure drug and not in mixtures. Extensive studies on the ash are reported.—W. PEYER. *Apoth. Ztg.*, 52 (1937), 1078–1079. (H. M. B.)

Saponin Drugs. A review including a new listing of plants and plant parts containing saponins. Eight illustrations and seven references.—MAX ROBERG. *Apoth. Ztg.*, 52 (1937), 1158–1160. (H. M. B.)

PHARMACY

GALENICAL

Acetylsalicylic Acid Composition. Aspirin is dissolved in inert solvents (glycol dioleate, pine, camphor and palm oils, methyl and ethyl salicylate, etc.) yielding stable preparations suitable as use for liniments.—E. B. PUTT. Brit. pat. 469, 526; through *J. Soc. Chem. Ind.*, 56 (1937), 1270. (E. G. V.)

Acetylsalicylic Acid Solution—Production of. A mixture of acetylsalicylic acid, an analgesic or antipyretic drug, and glycerin is gently heated.—L. HIRSCHHORN. U. S. pat. 2,040,848; through *J. Soc. Chem. Ind.*, 56 (1937), 1270. (E. G. V.)

Aconitum Napellus—Precautions Used in the Preservation of the Tincture of. The author states that the physiological action of the extract obtained from aconite lasts only for the first year after the drug had been extracted. The author also suggests that the tincture be prepared from this extract by dissolving it in 25% alcohol which has been previously brought to p_H 2.5–3.0, hydrochloric acid being used for this purpose. However, the tincture which is thus prepared should be tested physiologically at the expiration of one year.—R. FREUDWEILER. *Chem. Zentr.*, 108 (1937), 381. (G. B.)

Antiseptic Solution—National Formulary, Notes on. Approximately 80% of the active ingredients are removed by filtration. The author discusses some of the changes that have been made in the last three National Formularies and reports his experimental work. He thinks there are three possible solutions of the difficulty: (1) Increase alcohol to about 40%; (2) use the newer non-toxic propylene glycol; or (3) decrease the flavoring constituents such as eucalyptol, methol, thymol and chlorthymol sufficiently to form a clear solution. If 25% of the water is replaced with the propylene glycol the solution mixes well with water, requires no clarifying agent and may be diluted with two parts of water to form an effective germicide. Increasing alcohol to 70% accomplishes the same purpose.—WILLIAM C. CLARK. *J. Am. Pharm. Assoc.*, 26 (1937), 897. (Z. M. C.)

Drug Extraction. XIV. Extraction of Podophyllum. Continuing the study on drug extraction, the present paper deals with experiments conducted to determine the relative value of alcohol and of alcohol-water (9:1) as menstrua for the preparation of resin of podophyllum. It was found that the rate of extraction was practically the same for either menstruum. The alcohol-water mixture gives a slightly higher yield of resin but the product is less pure than that

obtained with alcohol. On the basis of purity, alcohol is preferable for the preparation of resin of podophyllum.—WILLIAM J. HUSA and PAUL FEHDER. *J. Am. Pharm. Assoc.*, 26 (1937), 1246. (Z. M. C.)

Ferrous Iodide-Cod Liver Oil—Preparation of. To make a ferrous iodide-cod liver oil preparation, the ferrous iodide solution is concentrated by vacuum distillation in an atmosphere of hydrogen. The oil is added to this solution and quickly filtered to avoid oxidation of the ferrous salt. This oil contains 0.2% of ferrous iodide. For the preparation of ferrous oleate, ferrous carbonate is prepared from ferrous sulfate and sodium carbonate in a flask heated in a boiling water-bath where carbon dioxide is kept bubbling to avoid oxidation; oleic acid is added in stoichiometric proportion to the ferrous sulfate; the combination with ferrous carbonate is instantaneous. This ferrous oleate mixes very well with cod liver oil. Iodine oleate is then added to produce the ferrous iodate-cod liver oil, which is more stable than ferrous iodide-cod liver oil. Though the potassium thiocyanate reagent is less sensitive for detecting ferric iron in the presence of iodine, it can be used if the solution is acidified with decinormal hydrochloric acid.—C. MASINO. *Giorn. farm. chim.*, 85 (1936), 30–35; through *Chimie & Industrie*, 38 (1937), 320. (A. P.-C.)

Filters and Filtration. A review.—FRANCIS CHILSON. *Drug and Cosmetic Ind.*, 41 (1937), 494–496, 503. (H. M. B.)

Filtration—Art of. A lecture.—E. A. ALLIOTT. *Trans. Ceram. Soc.*, 36 (1937), 342–372; through *J. Soc. Chem. Ind.*, 56 (1937), 1142. (E. G. V.)

Galenical Pharmacy—an Exercise for Student Instruction and a Problem for Research. In his discussion the author aims to present the most important reasons for the justification of the existence of galenical procedures in the curriculum of student study and as projects for research. He enumerates the research projects of this nature now under way under the authorization of the pharmacopœial commission of the Swiss pharmaceutical society. He has also attempted to elucidate the fine relationship between pharmaceutical practice and galenical pharmacy. This relationship is not difficult to see since the exercises of galenical pharmacy are identical with the scientific problems of pharmaceutical practice.—J. BÜCHI. *Pharm. Acta Helv.*, 12 (1937), 309–320. (M. F. W. D.)

Galenical Pharmacy—College Instruction in. While practical pharmacy varies throughout the world depending on conditions in the country and cannot be fully taught in the colleges, galenical pharmacy is more or less uniform in all countries. The author defines galenical pharmacy as the study of the preparation, stability and assaying of the various forms and combinations of drugs. For many reasons, laboratory experience in galenical pharmacy is not only desirable but necessary. As examples of procedures of value for laboratory work, the author describes the preparation of extract of malt and extract of nux vomica, the preparation of isotonic solution of arsenic trioxide for injection, ampuls of procaine hydrochloride, and tablets of aspirin and magnesium oxide indicating the possibilities for instruction in the basic principles of galenical pharmacy.—SVEND AAGE SCHOU. *Scientia Pharm.*, 8 (1937), 133. (M. F. W. D.)

Galenical Preparations VII—Studies Of. Deterioration in Galenical Preparations. There are only a few galenical preparations which remain unchanged from the time of preparation until the time of use; many change considerably during the course of preparation. In some cases the changes are quite insignificant and require careful inspection while in other cases they are immediately evident to the eye. Since the changes occurring vary so widely both in form and degree even to the point of rendering the preparation worthless, the subject is of utmost importance. The changes are divided into 3 large classes: physical, such as the effect of change in temperature, loss of solvent or active principle by evaporation, change in optical rotation, and change in viscosity; chemical, as saponification, esterification, salt formation and oxidation; and biological as caused by bacteria, algæ, molds, etc. The stability of bitter almond water and solution of iodine in isopropyl alcohol are studied.—L. ROSENTHALER. *Scientia Pharm.*, 8 (1937), 135. (M. F. W. D.)

Infusions, Decotions and Macerations—Preparation of, in Pharmaceutical Works with the Glass Filtering Apparatus "Sintrax." Alkaloidal, glucosidal, saponin, tannin and mucilaginous drugs were studied and it was shown that this type of apparatus is suitable for the preparation of the above classes of products and deserves trial as an apparatus which saves time and materials. One fault lies in the difficulty of filtration which depends on the fineness of the powder. (Thirteen references are given.)—KARL FÜRST. *Pharm. Monatsh.*, 18 (1937), 129–133. (H. M. B.)

Lobelin Hydrochloride Solutions—Stability of. On warming a solution of lobelin hydrochloride for some time two changes are noticeable, namely, the odor of acetophenone and a brown-yellow color in the solution. In the present study the stability of lobelin hydrochloride solutions to sterilization was determined. Considering the formula accepted for lobelin, it is evident that the amount of acetophenone formed is a measure of the hydrolysis of the lobelin. It is shown that the spectrographic method of Rasmussen and Shou cannot be applied to the partially hydrolyzed solution since both lobelin and acetophenone give absorption curves very closely similar. The acetophenone was quantitatively determined in the following manner: 5 cc. of the solution to be tested was acidified with a drop of dilute HCl and then shaken with 3 portions of ether to make a total volume of extractive equal to 25 cc. The acetophenone was then determined spectrographically in the ether extract by the Henris method. Aqueous solutions in water alone are quite susceptible to decomposition, 0.0001*M* HCl stabilizing it some and 0.001*M* HCl retarding decomposition to less than 1% when kept at 80° for 2 hours. Higher temperatures increased the decomposition in all cases. Another series of experiments shows that old solutions (5 years) are more susceptible to hydrolysis than more recently prepared solutions. The stability of solutions on storage under ordinary conditions for periods up to $1^1/_2$ years in cork-stoppered Jena glass flasks and in sealed ampuls was tested. The studies show that when hydrolysis in pure aqueous solutions has reached 2 to 3%, the acetophenone content does not increase further during $1^1/_2$ years. The cork-stoppered flasks showed a loss of acetophenone, obviously diffusion through the stopper. Solutions 0.001*M* in HCl when sealed in ampuls are most stable. The stabilized solutions remained colorless for the entire period of storage. Solutions of lobelin must be prepared with 0.001*M* HCl, are stable on storage but do not withstand heating to 80°.—F. REIMERS. *Scientia Pharm.*, 8 (1937), 119. (M. F. W. D.)

Medicinal Solutions—Application of Macht's Phytopharmacological Technique to the Study of Changes in. I. Effect of Heat and Aging on the Toxicity of Solutions of Cocaine Hydrochloride. The toxicity is increased by heating, rapidly at first and then becoming slower. Similar effects occur on aging.—J. REGNIER, R. DAVID and R. JORIOT. *Compt. rend. soc. biol.*, 125 (1937), 1012–1013; through *J. Soc. Chem. Ind.*, 56 (1937), 1267. **II. Effect of the Initial Reaction of Solutions of Cocaine Hydrochloride on Their Stability.** The solution is most stable between p_H 2.1–6.1 and less stable at a higher p_H if buffered.—J. REGNIER, R. DAVID and R. JORIOT. *Ibid.*, 1014–1015. (E. G. V.)

Pharmaceuticals—Manufacture of Ureas from α,ω-Diaminocarboxylic Acids. The products of the prior patent are made by interaction of α,ω-diamino acids substituted in the α-amino with aqueous cyanic acid or its salts, and removing the α-substituent if desired. Thus, α-benzoylornithine is treated with aqueous potassium cyanate (1.25 equivalents), followed by sulfuric acid, and the product is hydrolyzed (30% sulfuric acid at the boiling point).—I. G. FARBENIND. A.-G. and G. W. JOHNSON. Brit. pat. 470,468; through *J. Soc. Chem. Ind.*, 56 (1937), 1268. (E. G. V.)

Pulverization—Technic of. A discussion.—ANON. *Riechstoff-Ind. Kosmetik*, 12 (1937), 162–164. (H. M. B.)

Salves, Creams, Soaps and the Like. The claims cover the inclusion of fairly pure myristyl alcohol (I) (that is 30 parts) in soapless creams (*e. g.*, petrolatum 9, glycerin 7, water 30 parts), but the inclusion of I in soap-containing products is described in the examples.—W. SCHRAUTH. U. S. pat. 2,045,415; through *J. Soc. Chem. Ind.*, 56 (1937), 1236. (E. G. V.)

Sodium Morrhuate and Quinine—Manufacture of Pharmaceutical Solutions from.—F. R. GREENBAUM. Brit. pat. 470,925; through *J. Soc. Chem. Ind.*, 56 (1937), 1274. (E. G. V.)

Solargentum Solutions—Stability on Aging. Storage tests were made in an effort to find differences between fresh and aged ones and after a year and a half no difference was detected. Tests showed no more irritation with old solutions than fresh. No viscosity changes were observed. The p_H decreased slightly by aging. The authors believe that Solargentum solutions can be used safely and without loss of effectiveness for considerable time after they are prepared.—F. N. VAN DERIPE, R. A. KONNERTH and R. E. SHOETZOW. *J. Am. Pharm. Assoc.*, 26 (1937), 1249. (Z. M. C.)

Tablets—Exact Dosage, Hardness and Disintegration of. The exactness of dosage of tablets is not well defined in most pharmacopœias. Some standards fix a limit of variation of the

active constituent while others specify no requirements at all. Only one pharmacopœia limits the variation in gross weight of tablets. The variation of gross weight and consequently in exactness of dosage depends on the following factors: unevenness of granule size, the finer powder falling to the bottom of the feed shoe making the first tablets heavy; the addition of fine disintegrating and cohesive agents to coarse granules; sticking of the tablets to punch and matrix; poor matching of the punch and matrix and breaking of the tablets during shipping or through poor packing. The variations in gross weight for some 55 uncoated specialty tablets, 13 coated specialty tablets, 31 tablets from different companies and 24 tablets prepared by the authors are tabulated. This study shows that: (1) with increasing weight of tablets, the sum of the plus and minus percentage variations decreases; (2) the limits of variation of gross weight cannot be set up for coated tablets; (3) the specifications of the Danish Pharmacopœia should be modified so that tablets up to 0.1 Gm. total weight should be weighed to 3 places and tablets above 0.1 Gm. to only 2 places; the limits should be expanded 100%; (4) most tablets on the market show a fairly good exactness of dosage based on the gross weight. Tablets must exhibit a certain degree of firmness so that they may withstand storage and shipping without changing appearance and shape or breaking. However, they should not be pressed so hard as to seriously hinder their disintegration. Three methods for determining firmness are described and criticized. The method of shaking 5 or 10 tablets in a 50-cc. bottle in a mechanical shaker for a stated period of time was chosen and some tablets studied. Coated tablets can withstand 30 minutes of shaking without breaking. The following requirement is suggested for uncoated tablets: an exact number of tablets (6 to 10) should show no change in shape or appearance after 2 minutes of shaking in a 50-cc. wide-mouthed bottle. The disintegration of tablets is of prime importance to their therapeutic use. Obviously tablets which disintegrate difficultly can pass unchanged through the digestive tract. The speed of disintegration is dependent upon the following factors: the pressure used, the addition of binders and disintegrators, the surface of the tablet and the influence of storage. After a general review of these factors, the methods of determining the solubility or disintegration of tablets is reviewed. The authors used the following method: 5 tablets of the same kind were placed in 50 cc. water contained in a 100-cc. Erlenmeyer flask in a thermostat at 37°, swirling the flask gently every 5 seconds and noting the time of disintegration or solution. If the tablets disintegrated in less than 1 minute, the test was repeated, using 1 tablet at a time. The results obtained with the same tablets as used earlier were tabulated, along with the effects of pressure, disintegrating materials and binders on the solubility of the tablets. The following conclusions are reached: (1) with increasing compression of the tablets, the disintegration decreases, (2) the addition of gelatin solution decreases the rate of disintegration especially in the higher concentrations and (3) corn starch is a good and inexpensive disintegrator for tablets.—H. SPENGLER and E. SCHENKER. *Pharm. Acta Helv.*, 12 (1937), 337–362. (M. F. W. D.)

NON-OFFICIAL FORMULÆ

Eucolor in Lipsticks. The prerequisites of a good lipstick are stated to be: (1) the stick should be applied as easily and smoothly in winter as in summer, (2) should not melt at body temperature, (3) shade must be correct, (4) it should color the lips uniformly and retain the color, (5) appearance of the stick should not change on aging and (6) should be harmless. These qualities and the value of "Eucolor" are discussed. The following formulas are offered: *Dark Shade.*—Vaseline 200 Gm., ceresine 100, beeswax 100, carnauba wax 100, Eucolor 250, dark lipstick color 130, castor oil 120. (2) *Light Shade.*—Vaseline 200 Gm. ceresine 100, beeswax 100, carnauba wax 100, Eucolor 250, light lipstick color 130, castor oil 120. For a medium shade (1) and (2) are mixed in equal proportions.—POLAK and SCHWARZ. *Riechstoff-Ind. Kosmetik*, 12 (1937), 254–255. (H. M. B.)

Face Powder. Raw materials and formulation are discussed and the following formulas offered: (1) Talc 77.0, zinc oxide 15.0, zinc stearate 7.0, colors and perfume 1.0. (2) Talc 60.0, kaolin 12.0, starch 12.0, zinc oxide 10.0, zinc stearate 5.0, colors and perfume 1.0. (3) Talc 70.0, kaolin 12.0, zinc oxide 6.0, titanium dioxide 2.5, precipitated chalk 5.0, zinc stearate 4.0, perfume and color 0.5. (4) Talc 58.0, kaolin 17.0, zinc oxide 15.0, zinc stearate 5.0, precipitated chalk 3.5, titanium dioxide 1.0, colors and perfume 0.5.—H. HELFER. *Drug and Cosmetic Ind.*, 42 (1938), 180–183. (H. M. B.)

Face Powders. Factors of importance in face powder manufacture are covering power, slip (lubricating power), adhesion and absorption and are discussed in detail. Covering agents must be pure white, with low lead and arsenic contents and of small size; talc is effective as a lubricant; zinc, magnesium and aluminium stearates may be used as adhesives which must be pure white, free from odor and stable. Precipitated chalk is added to assist in bulking and lessen the "shine;" starch is used to give a mat effect. Colors are usually in the form of extended colors consisting of lakes mixed with talc to insure thorough mixing; softeners for dry skin include lanolin, cetyl alcohol or mineral oil. Perfume is generally added after being mixed and aged with magnesium carbonate or calcium carbonate. The following tested formulas are given: (1) Zinc oxide 18.0, magnesium stearate 2.0, zinc stearate 2.0, precipitated chalk 5.0, cetyl alcohol 0.5, talc 72.5, color and perfume *q. s.* (2) Zinc oxide 5.0, titanium oxide 5.0, magnesium stearate 5.0, precipitated chalk 10.0, lanolin 0.5, talc 74.5, color and perfume *q. s.* (3) Titanium oxide 5.0, zinc stearate 2.0, powder base 3.0, magnesium carbonate 7.0, talc 83.0, color and perfume *q. s.* (4) Zinc oxide 15.0, zinc stearate 5.0, precipitated chalk 3.0, talc 77.0, color and perfume *q. s.*—JOSEPH KALISH. *Drug and Cosmetic Ind.*, 41 (1937), 630–632. (H. M. B.)

Make-up Preparations. The following colored preparations with only incidental cosmetic properties and whose major purpose is the tinting of the skin or hair are discussed on the basis of their composition: lipsticks, cream and paste rouges, eye-shadows and mascaras. The following tested formulas are offered: (1) *Lipstick.*—Beeswax 19.0, carnauba wax 5.0, paraffin 10.0, hydrogenated oil 6.0, castor oil 45.0, cocoa butter 7.0, bromo acid 2.0, pigment 6.0; (2) *Cream Rouge.*—Glyceryl monostearate 10.5, cetyl alcohol 1.5, stearic acid 2.0, potassium hydroxide 0.2, glycerin 7.0, water 70.8, dye 1.0, pigment 7.0; (3) *Eye Shadow.*—Petrolatum 75.0, paraffin 12.0, pigment 13.0; (4) *Cream Mascara.*—Gelatin 3.5, tragacanth 2.5, alcohol 10.0, pigment 2.5, preservative 0.1, water 82.4.—JOSEPH KALISH. *Drug and Cosmetic Ind.*, 41 (1937), 772–773, 777. (H. M. B.)

Preparations for Beautifying the Hands. Creams, solutions for cleansing the nails, nail creams, tobacco stain removers, nail polishes as powders, pencils and pastes, nail lacquers and lacquer removers are discussed. Twenty-two formulæ are offered.—EKMANN. *Riechstoff-Ind. Kosmetik*, 12 (1937), 224–228. (H. M. B.)

Sulfur Soaps and Their Preparation. Soaps and organic sulfur oils are discussed. The following formula is given for such a soap: soap base, superfatted 100 Kg., trisoap 5 Kg., organic sulfur paste 1–2 Kg. The dried base is superfatted in a mixing machine with the usual superfatting agents, neutralized and then mixed with the trisoap; when thoroughly mixed add the sulfur paste. Coloring and perfume may then be added.—EKMANN. *Riechstoff-Ind. Kosmetik*, 13 (1938), 12–15. (H. M. B.)

Suntan Preparations. Screens on the basis of their absorption of the sun's rays are discussed; the various commercial products are recommended. Formulas for the following tested products are offered: (1) *Oil.*—Mineral oil 52.3, vegetable oil 44, screen 3.0, perfume 0.5, color 0.1, preservative 0.1; (2) *Cream.*—Stearic acid 25.0, screen 4.0, triethanolamine 1.0, glycerin 8.0, perfume 0.5, water 61.5; (3) *Lotion.*—Alcohol 42.9, water 50.0, tannic acid 5.0, screen 2.0, color 0.1; (4) *Liquid Cream.*—Glyceryl monostearate 5.0, screen 3.0, sorbitol 5.0, perfume 0.5, water 86.5.—JOSEPH KALISH. *Drug and Cosmetic Ind.*, 42 (1938), 52–54. (H. M. B.)

DISPENSING

Cinchona Tincture—Preparation of, with Hydrochloric Acid and Sodium Bicarbonate. The extraction of a cinchona bark with dilute hydrochloric acid (as prescribed by the Italian Pharmacopœia, *i. e.*: 10 drops per 100 cc. of extract from 5 Gm. of bark), with water only, and with 1 Gm. of sodium bicarbonate (for the same quantities) gave, respectively, the following quantities of cinchona alkaloids: 0.3925, 0.2145 and 0.2055 Gm.—GIACINTO GARBARINO. *Fitoterapia*, 13 (1937), 68–70; through *Chem. Abstr.*, 31 (1937), 8821. (F. J. S.)

Collyria—Preparation of. The Pharm. Helv. V under "Collyria" requires the addition of boric acid to solutions containing alkaloidal salts and borax if the base tends to be precipitated. As the maintenance of the normal p_H of tears (7.15 to 7.35) is also involved, accurate data are needed by the dispenser to determine when addition of boric acid is necessary and the quantity to be added. A table shows the chemical behavior of alkaloidal salts mostly used in these liquids. Cocaine hydrochloride solutions are chiefly liable to precipitation by borax. With 5% borax,

concentrated solutions of homatropine hydrobromide, atropine sulfate and scopolamine hydrobromide are also precipitated. Physostigmine salicylate turned red in all cases. By systematic experiments recorded in a table and a graph, those quantities of boric acid were determined which may avoid the incompatibilities stated.—J. BÜCHI and E. BAESCHLIN. *Pharm. Acta Helv.*, 11 (1936), 103–111; through *Chimie & Industrie*, 38 (1937), 525. (A. P.-C.)

Dextrose Solution—Preparation of, for Intravenous Administration. Examination into the reputed causes of reactions following intravenous injection of dextrose solution reveals the following important factors: water not freshly distilled; the presence of particulate matter in the solution; improperly prepared rubber tubing; too rapid or irregular injection of the fluid; unskilled performance of the operation; susceptibility of the patient; and too high or too low temperature of the solution. While the following have been blamed for reactions, they are probably of little importance: the p_H of the solution; the age of the solution; and the use of glass other than pyrex. There is described a method for the preparation of a 50% solution of U. S. P. dextrose that is simple, inexpensive and effective in the production of a solution that is clear, colorless and sterile, and the use of which does not produce reactions. The essential features of this method are the use of only freshly distilled water, produced in a properly designed and operated still (double or triple distillation is not essential) and the accomplishment of clarification and sterilization of the soluton in one operation by filtration through a bacteria-proof filter (Berkefeld). The dextrose is at no time subjected to the action of heat which brings about changes in this material. The 50% solution has been demonstrated to possess bactericidal power against the vegetative forms of the commoner pathogenic bacteria, and such a solution, kept for two weeks before issue, may be confidently regarded as free from any living vegetative forms of bacteria. This method of preparation has been in use for eight years and in one year reported in detail the incidence of reactions was 0.15%. Forty-seven references.—*Am. J. Clin. Path.*, 7 (1937), 221, 307; through *Squibb Abstr. Bull.*, 10 (1937), A-2071. (F. J. S.)

Digitalis Preparation. A stable solution of digitalis extract is obtained by extracting the leaves with 95% ethyl alcohol-glycerol (4:1) and treating the solution with acetic acid (1) and sodium acetate (6%) or a similar buffer.—J. TORIGIAN, assignor to DRUG PRODUCTS CO., INC. U. S. pat. 2,052,150; through *J. Soc. Chem. Ind.*, 56 (1937), 1273. (E. G. V.)

Glycerite of Starch—Preparation of, in the Autoclave. The author states that this may be prepared by heating the mixture of glycerin, starch and water in the autoclave at 120° for 20 minutes. The mass is taken from the autoclave and thoroughly mixed by shaking or stirring. A more beautiful mixture results which has the further advantage of being sterile.—G. GANINO. *Boll. chim.-farm.* (1936), 465; through *Pharm. Weekblad*, 74 (137), 677. (E. H. W.)

Homeopathic Pharmacopœia—Suggestions for a New. Tinctures of valerian were studied. One table in which 3 commercial homeopathic tinctures, 3 by the method of the Swiss Pharmacopœia from fresh roots, 3 by the procedure of the German Pharmacopœia VI from partially dried fresh roots and one prepared by the author according to the present homeopathic pharmacopœia were examined on the basis of color, specific gravity, % dry residue, alcohol number, number of cc. 0.1*N* sodium hydroxide for 5 Gm. of tincture and the % free valerianic acid. The ten tinctures were also examined on the basis of the color of capillary streaks in daylight and ultraviolet light. The fractional maceration procedure is recommended.—W. PEYER and H. SCHÖLZEL. *Apoth. Ztg.*, 52 (1937), 1331–1333. (H. M. B.)

Lime Water. The author considers the following factors: (1) the lime used should be moistened with small quantities of water ($^1/_2$ part in all) in such a way that the excess water will be volatilized each time by the heat of the reaction. (2) The washing of the lime, eliminating alkali hydroxides and chlorides, should be made with 20 to 25 parts of water for 30 minutes. (3) The excess lime remains in the bottom of the flask and is resuspended from time to time to replace the lime which has been precipitated by carbon dioxide. The product obtained will have a concentration which varies with the temperature; at 25° it is 1.518–1.540. (4) Lime water of the Swiss Pharm. V which is to be prepared at 25° would be weaker than the concentration specified, namely, 1.59–1.66. (5) The fresh lime may be used for four successive lots of lime water of the correct strength; in using previously slaked lime, only two successive lots may be made. (6) It is necessary to check the alkalinity of each lot.—R. MONNET. *Bull. sci. pharmacol.*, 43 (1936), 204; through *Schweiz. Apoth.-Ztg.*, 75 (1937), 664. (M. F. W. D.)

Liquor Cresolis Saponatus B. P.—Preparation of. It was suggested that the failure of cresol to saponify in the preparation of Liquor Cresolis Saponatus, in a reasonable length of time, was due to loss of water during the heating process. However, the author found this not to be the case. The author recommends the following method for good saponification results: 4.2 Gm. of potassium hydroxide were added to 5 cc. of water in a conical flask, and 18 Gm. linseed oil weighed in. The mixture was allowed to stand in the cold for thirty minutes, then heated in a steamer for thirty minutes with mixing at fifteen-minute intervals. When cold the cresol was added and the mixture made up to volume (50 cc.) and subjected to the B. P. test. By this modified method, Liquor Cresolis Saponatus can be made in little over one hour's time.—G. R. MILNE. *Pharm. J.*, 140 (1938), 6. (W. B. B.)

Luctin. A Substitute for Tragacanth. Luctis in the trade name given by The Anglo-Gummiferous Co. (King's Cross, London) to a gum obtained from the endosperm of the seeds of *Ceratonio siliqua*. The gum is also known as Carob gum and has the following composition: gallactose 29.18; mannose 58.42; pentosans 2.75; albumins 5.29; nitrogen 0.83; cellulose 3.64 and a ferment (ceratoniase). It is a yellowish white powder which swells in water only above a temperature of 60–70°. Two moisture determinations (calcium chloride at room temperature) showed the moisture content to be 10.22 and 10.09%. Ash determinations showed 0.85 and 0.86% ash calculated on the undried sample. Viscosity determinations (Höppler method) on 0.025 and 0.05% mucilages gave 1.3 and 1.67 centipoise. Similar mucilages of tragacanth gave 1.46 and 1.85. The author describes his comparative studies between this gum and tragacanth for practical purposes. It was successful in the preparation of a cod-liver oil emulsion, the number of small oil drops (5 to 10 microns) being very large. As a pill mass the following formula gave excellent results: Carob gum 20 Gm.; glycerine 60 cc.; water 20 cc.; glucose 100 Gm. Pills containing 100 mg. of quinine sulfate could easily be made, the mass being plastic and easily handled and the pills relatively small. Pills of methyl salicylate, however, could not be made. The following formula is suggested for hand lotions: Carob gum 10 Gm.; glycerine 120 cc.; water 240 cc.; perfume 5 cc.; alcohol 90% 20 cc. and benzoic acid 0.5 Gm.—R. DEQUEKER. *Pharm. Tijdschrift*, 14 (1936), 158. (E. H. W.)

Manganese Butyrate—Effects of Sterilization by Heat on. It is shown, by experiment, that solutions of manganese butyrate of the strengths usually employed cannot be sterilized by any process involving the use of heat, and must therefore be sterilized by filtration. This is in contradiction to the contention of the British Pharmacopœial Codex, which states that solutions of manganese butyrate may be sterilized by heating in an autoclave, by tyndallization or by filtration. The Extra Pharmacopœia (British), on the other hand, states that the substance is hydrolyzed by boiling water with deposition of manganese hydroxide. The experiments of the author show that the amount of decomposition increases with the rise of temperature.—T. H. HOPPER. *Pharm. J.*, 140 (1938), 4. (W. B. B.)

Medicine—Volumetric Measurement of Previously Determined Drops of, with the M-Glass. The author shows the great discrepancies encountered in the size of drops for distilled water and 2% morphine hydrochloride solution when dropped from various types of devices and discusses the advantages of the M-glass of 1-cc. size graduated into 0.25 cc.—CL. THELEN. *Apoth. Ztg.*, 52 (1937), 1280. (H. M. B.)

Pharmaceutical Apparatus—Small Scale. Twelve Powder Dividing Apparatus. Two types of apparatus for small scale division of powders either for capsules or divided powders are described as to construction and method of use. A diagram of one type accompanies the article. Using the latter divider, it is possible to fill 1000 or more powder capsules in an hour.—BAÜMLI. *Schweiz. Apoth.-Ztg.*, 75 (1937), 661. (M. F. W. D.)

Powders—Cosmetic and Medicinal, Preparation of. (*Cont.*) A discussion of the preparation of powders, including the classification of powder bases; the composition of rice-powders, anti-sunburn powders, compact powders; and the perfuming of powders.—H. JANISTYN. *Pharm. Ztg.*, 82 (1937), 738–741. (N. L.)

Prescriptions—Correction of Incompatibilities in. Attention is directed to the possibility of correcting or avoiding incompatibilities and a number of prescriptions are given with discussion of how to handle them — WILLIAM J. HUSA and HERBERT M. WEBB. *J. Am. Pharm. Assoc.*, 26 (1937), 903. (Z. M. C.)

Resorcinol—Art of Combining, with Iodine. Resorcinol is dissolved in an inert combustible solvent in the proportion of about 1 Gm. of resorcinol per cc. of solvent, and about 0.5 Gm. of iodine is added to the solution. The latter is spread thinly over a suitable surface and ignited. After cooling, the mass is broken up with a nonmetallic implement, allowed to evaporate further in the air until it turns a deep orange, and dissolved in water to a substantially saturated solution, which is subsequently evaporated.—GEO. ROMANELLI. U. S. pat. 2,102,918, Dec. 21, 1937. (A. P.-C.)

Syrupus Cola Compositus—Preparation of. The author discusses the formulæ employed in Holland for the preparation of this syrup: that of the Rotterdam Supplement to the Pharmacopœia (1913) and that of the Association Book of Specialities (1927). These formulæ are given together with criticisms. In the formula of the Rotterdam Supplement an important part of the constituents is lost by filtration. In the preparation according to the specialty book the loss by filtration is somewhat less. The influence of p_H and the quantity of alcohol on the precipitation during the preparation is discussed. A new formula is proposed in which precipitation does not occur and in which simple straining suffices. The preparation suggested by the author is as follows: Mix Extract Cola liquid (10) with alcohol (5) and Ol. Aurantior. amar. (0.050); add this to a strained and nearly cooled mixture of acid citric (2.5); citr. ferric et Chinin (1); strychnine nitrate (0.030); water (5); solution sodium glycerophosphate 50% (20) and saccharine (51.5). Finally add alcohol (5) with constant stirring. The syrup contains 0.03% strychnine nitrate, 0.125% caffeine and 0.1% quinine. The alcohol content is about 12.5%.—J. A. C. PINXTEREN. *Pharm. Weekblad*, 74 (1937), 787. (E. H. W.)

Valerian Tincture of, By Several Methods. The odor accompanying tincture of valerian is given by the free valeric acid which is present in the dried roots as the result of enzyme action. Fresh roots contain esterified valeric acid which has a far more pleasant odor. The Swiss Pharmacopœia specifies that tincture of valerian be made with fresh roots in the proportion of 1000-Gm. to 1000-Gm. tincture. The authors have prepared and compared 18 tinctures made by the following methods from valerian of different sources: (*a*) maceration according to the direction of the German Pharmacopœia VI, (*b*) percolation according to the 2nd edition of the German Homeopathic Pharmacopœia, (*c*) the fractional maceration of the Italian Pharmacopœia, (*d*) the procedure of Keller which is a modified percolation and (*e*) the Swiss Pharmacopœial directions requiring the fresh roots. A table summarizes the following properties: method of preparation, color, specific gravity, dry residue, alcohol number, cc. of $N/10$ alkali/5 Gm. preparation and free valeric acid. No relationship between the free valeric acid and the dry residue could be shown. The table is discussed.—W. PEYER and H. SCHÖLZEL. *Scientia Pharm.*, 8 (1937), 101. (M. F. W. D.)

PHARMACEUTICAL HISTORY

Adelung, Alfred. Biographical.—ANON. *Apoth. Ztg.*, 52 (1937), 1280–1282. (H. M. B.)

Apothecaries—History of the, of the District of Königsberg in Neumark. VII. The Village of Alt-Reetz.—GEORGE EDMUND DANN. *Apoth. Ztg.*, 52 (1937), 1408–1409. (H. M. B.)

Apothecary—Altstädter, History of, in Itzehoe in Holstein. Historical.—ANON. *Apoth. Ztg.*, 52 (1937), 1563. (H. M. B.)

Botanical Gardens of the Middle Ages. A brief historical review of some contributions made to botany by monks with their monastery botanical gardens.—H. GASSER. *Pharm. Presse*, 42 (1937), 464. (M. F. W. D.)

Ergot. Historical discussion and a review with sixteen references.—M. A. LESSER. *Drug and Cosmetic Ind.*, 41 (1937), 639–641, 651. (H. M. B.)

Fromme, Johannes. Obituary.—SENFF. *Apoth. Ztg.*, 52 (1937), 1427–1428. (H. M. B.)

Himmelbaur, Dr. Wolfgang—In Memoriam for. Biographical.—R. WASICKY. *Pharm. Monatsh.*, 18 (1937), 165–167. (H. M. B.)

History of 160 Apothecaries in Wiesbaden—Contribution to. A historical account discussing the establishments (*a*) before 1414, (*b*) in the 15th, 16th and 17th centuries, (*c*) in the 18th and 19th centuries and (*d*) the new ones in the 20th century in (1) the region of Frankfurt on the Main

and (2) in the remainder of Wiesbaden. Twenty-five references are given.—C. DÖNGES. *Apoth. Ztg.*, 53 (1938), 40–41, 132–133. (H. M. B.)

International Pharmaceutical Federation. September (1937) marks the completion of the 25th year of the International Pharmaceutical Federation. The secretary, Dr. T. Potjewijd, briefly describes its organization in 1912 and discusses its accomplishments during the 25 years. The organization has accomplished much in committee work and reports and has been especially valuable in promoting good-will among pharmacists internationally. Presidents of the Federation include Prof. Dr. L. van Itallie (1912–1931), Dr. J. J. Hofman (1931–1935) and Dr. E. Höst Madsen (1935–1937). Dr. J. J. Hofman was secretary from 1912 to 1931 and Dr. Potjewijd from 1931 to the present time.—*Pharm. Weekblad*, 74 (1937), 670; also *Pharm. Tijdschrift*, 15 (1937), 37. (E. H. W.)

Molisch, Dr. Hans. Obituary.—ANON. *Pharm. Monatsh.*, 18 (1937), 209–210. (H. M. B.)

Pharmacy in Czechoslovakia—Developments of. WALDEMAR DORDA. *Apoth. Ztg.*, 52 (1937), 1467–1470. (H. M. B.)

Pharmacy in Haarlem. The author presents an interesting historical account of pharmacy in Haarlem (Holland) in which the renowned "Haarlem Oil" is discussed as are also the records of the Collegium Medico-Pharmaceuticum dating from 1692; the organization of the Hortus Medicus (1699); the Haarlem Pharmacopœia; the influence of Nicolaas Beets and the organization of the Haarlem division of the Dutch Pharmaceutical Association (1885).—P. VAN DER WIELEN. *Pharm. Weekblad*, 74 (1937), 787. (E. H. W.)

Prescriptions and Medicinal Preparations—Carrier Pigeon as a Transporter of. Historical and discussion of this method of transportation.—WILHELM NEUBRONNER. *Apoth. Ztg.*, 52 (1937), 1620–1624. (H. M. B.)

Saiko, Berta—In Memory of. A biographical sketch of this famous Austrian woman pharmacist.—R. WASICKY. *Pharm. Monatsh.*, 18 (1937), 199–200. (H. M. B.)

PHARMACEUTICAL EDUCATION

Biology—Teaching of, to Pharmacy Students. The author discusses the sort of botany that should be taught and the reasons therefor. Zoölogy is similarly discussed. Then the question of how much shall be taught, the cultural value of such courses and just what is meant by the cultural approach are considered. By either of the two common meanings, the biological sciences are cultural. The author believes that one of the weakest points in present curricula is inadequate training in biological sciences.—RICHARD A. DENO. *J. Am. Pharm. Assoc.*, 26 (1937), 934. (Z. M. C.)

Pharmacy Advertising—Practical Course in. A monthly article covering the various phases of advertising, including typography.—W. BERTRAND ASHBY. *Australasian J. Pharm.*, 52 (1937), 525, 628, 740. (E. V. S.)

Pharmacy in U. S. S. R. The New Period of Preventive Medicine. The most characteristic features of the Soviet health system are (1) Medical service is free and therefore available to all, (2) the prevention of disease is in the foreground of all health activities, (3) all health activities are directed by central bodies, the people's commissariat's of health, with the result that (4) health can be planned on a larger scale. Pharmacies are state institutions and pharmacists are civil servants like all other medical workers. Men and women between seventeen and thirty years of age, who have graduated from a seven-year school, are eligible to admission to one of the twenty-nine pharmaceutical "technicums," which offer a three-year course. Graduates of the "technicums" rank among the middle medical personnel, and serve as assistants in city or hospital pharmacies or are attached to rural medical stations. The curriculum includes general biology, microbiology, human anatomy and physiology, higher mathematics, mineralogy, and crystallography, physics, all branches of chemistry, pharmacology and pharmacy, history of pharmacy, experimental hygiene, social hygiene and vital statistics, military hygiene and chemical defense, organization of health protection, and a number of other subjects depending on the specialized work selected by the candidate. The salaries of pharmacists vary according to their education.—ANON. *Pharm. J.*, 140 (1938), 104. (W. B. B.)

Phytopharmacy in France—Present Position of the Problem of. An outline of instruction in Phytopharmacy (*i. e.*, vegetable pharmacy in contrast to human and animal pharmacy) is of-

fered under the following headings: (1) parasitology of the Cryptogams, (2) knowledge of the animal pests and the cultivation of injurious animals, (3) chief agents (inorganic and organic) for combating Cryptogams, (4) agents combating insects, (5) toxicology and (6) manipulations.—BARTHET. *Pharm. Monatsh.*, 18 (1937), 212–215. (H. M. B.)

Technical Literature—Indexing and Filing of. A system for the preparation of indexes and files is described. Sources of information are considered under the heads: (*a*) publications of learned societies, (*b*) periodicals, (*c*) abstracts and (*d*) trade publications.—H. N. BASSETT. *Chemistry & Industry*, 56 (1937), 463. (E. G. V.)

PHARMACEUTICAL LEGISLATION

Chemical Patent Laws of the Netherlands. A discussion.—ANON. *Riechstoff-Ind. Kosmetik*, 12 (1937), 251–253. (H. M. B.)

Drugs—Control of, in Hungary. A review of the control of drugs and pharmacies in Hungary.—K. REBER. *Schweiz. Apoth.-Ztg.*, 75 (1937), 725–730. (M. F. W. D.)

Drugs, Poisons and Sanitation Materials—Containers for. The following regulations are given for the dispensing of poisons and drugs: (1) Liquid pharmaceuticals for external use may be dispensed only in bottles which can be gripped on 3 surfaces and having 6 or 8 corners, and which shall bear the word "external;" (2) drugs for internal use shall never be dispensed in such bottles; (3) sanitation articles such as acids, alkalies, ammonia water, Javelle water, disinfectants, benzine, benzene, acetone, turpentine and similar materials may not be dispensed in bottles used for foods, drinks, wine, beer, mineral waters, etc. The above materials in quantities of less than 1 liter may be dispensed only in 8 cornered bottles or metal cans. The container must bear the word "poison" or "poisonous."—ANON. *Schweiz. Apoth.-Ztg.*, 75 (1937), 687. (M. F. W. D.)

Narcotics—Struggle against. The author gives a brief review of the report on narcotics sponsored by the Egyptian government, pointing out some accomplishments.—C. LECOULTRE. *Schweiz.-Apoth.-Ztg.*, 75 (1937), 685. (M. F. W. D.)

MISCELLANEOUS

Apothecary—Most Northern, in the World. A description of the apothecary in Honningsvaag, Norway.—HEINRICH DANNER. *Apoth. Ztg.*, 52 (1937), 1145. (H. M. B.)

Apothecary—Pests of the, and Their Control. Insects are divided into (1) apterygota and (2) the higher insects, Pterygota. In Group 1 the silver-fish, *Lepisma saccharina* and its habits are described. Heat is recommended as a combative measure. As poison bait mixtures of syrup and arsenic on small pieces of cardboard or wood are placed in the vicinity of the insect at night; or 9 parts of powdered sugar and 1 part of sodium silicofluoride has the advantage that it can be scattered directly in cracks, behind ledges and other frequented places.—W. MANDEL. *Apoth. Ztg.*, 52 (1937), 1054–1055. (H. M. B.)

Bath Preparations. Hardness of water is discussed and a study of water softening compounds offered. Sodium carbonate was found to be the most effective for temporary hard water, sodium carbonate and phosphate for the permanent hardness due to calcium salts and sodium metasilicate for removing the soluble magnesium salts. Bath salts should have water softening ability, have an attractive and fast color and perfume, easy solubility in water, attractive crystal structure, stability of structure, reasonable cost and mild action on the skin. Sodium sesquicarbonate appears to be the favored material for bath salts. Coloring is limited to the basic dyes and perfume should be added in alcoholic solution. Effervescent and oxygen-liberating salts, bath oils and foam baths are described.—JOSEPH KALISH. *Drug and Cosmetic Ind.*, 41, 348–349, 352. (H. M. B.)

Cetyl Alcohol—Pharmaceutical Applications of. Although the value of cetyl alcohol is now recognized in the cosmetic industry, its use in pharmacy has not received much attention in this country. Its main application would appear to be to increase the water-holding properties of fatty bases for creams and ointments. Pure cetyl alcohol, $C_{16}H_{33}OH$, is a white, odorless waxy solid; m. p. 48° to 49° C., acid value nil; ester value nil; acetyl value 197; iodine value nil. The best commercial samples are those which approximate most closely to these standards. The Swiss Pharmacopœia has officially recognized it as an ingredient in an ointment base, *Unguentum Cetylicus*, which contains cetyl alcohol, 4; wool fat, 10; white soft paraffin, 86. This has extremely good water-holding properties, and is useful when the drug is in aqueous solution. Ex-

periments with other fatty bases and cetyl alcohol indicate that the formula of the Swiss Pharmacopœia is the best available. It has been suggested that cetyl alcohol may be used with oils to form a satisfactory suppository basis. The proportions suggested are 17% of cetyl alcohol and 86% of arachis or almond oil. This gives a hard mass at normal temperatures; it melts at 37° C. and it does not stick to the moulds on cooling.—F. ATKINS. *Manufact. Chem.*, 8 (1937), 9; through *Quart. J. Pharm. Pharmacol.*, 10 (1937), 272. (S. W. G.)

Corn Remedies. The author reviews the action of salicylic acid as a corn remover and gives the formulas and procedures for the preparation of a corn plaster, a 10% collodium of salicylic acid, and a corn-remover ointment containing 8% salicylic acid. *Acetine* is a corn-remedy containing 30–50% of glacial acetic acid and colored red with fuchsin. Chromic acid is also marketed as a corn-remedy under the name of *Acetidux*. Gum resins such as ammoniacum and galbanum, are used as corn-removers in the form of plasters. *Alldahin* is a corn-remedy salve containing salicylic acid, tallow and ceresin. The German Pharmacopœia describes a salicylic-soap plaster prepared from soap plaster 8 parts, wax 1 part and salicylic acid 1 part.—HANS SCHWARZ. *Seifensieder Ztg.*, 64; *Der Parfümeur*, 11 (1937), 437–438. (N. L.)

Cosmetic Products—Manufacture of. Cosmetic soaps and products containing soaps are improved by addition of protein-degradation products, such as, lys- and/or prot-albinic acid, or their nitrogen substituted derivatives. Sulfonated oils may also be added.—CHEM. FABR. GRUNAU, LANDSHOFF AND MEYER. Brit. pat. 462,977; through *J. Soc. Chem. Ind.*, 56 (1937), 981. (E. G. V.)

Cholesterol and Oxycholesterol as Cosmetic Emulsifying Agents. A review.—H. S. REDGROVE. *Ind. Chemist*, 13 (1937), 264–265; through *J. Soc. Chem. Ind.*, 56 (1937), 979. (E. G. V.)

Cosmetic and Medicinal Powders—Preparation of. III. A discussion of various types of pigments and coloring agents used in the preparation of toilet and cosmetic powders is given under the following classification: (1) mineral pigments, (2) pigments of vegetable origin, (3) coloring agents of animal origin and (4) color lakes. Numerous examples of the substances in the above classes are listed. The various pigments, coloring agents and dyes are also classified according to color.—H. JANISTYN. *Pharm. Ztg.*, 82 (1937), 541–544. (N. L.)

Cosmetics for the Skin. V. Depilatories. A discussion on the various chemical depilatories, with special reference to the chemical and physical properties of sodium sulfide, sodium hydrosulfide, potassium sulfide and calcium sulfide.—H. JANISTYN. *Seifensieder Ztg.*, 64; *Der Parfümeur*, 11 (1937), 436–437. (N. L.)

Cosmetics for the Skin. VI. Depilatories. The chemical and physical properties of barium sulfide, strontium sulfide and arsenious sulfide are discussed. Arsenious sulfide is not a depilatory, but in the presence of lime forms calcium sulfide which hydrolyzes forming calcium hydrosulfide, $Ca(HS)_2$ which acts as a depilatory. Liquid depilatories consist generally of an aqueous solution of sodium sulfide or hydrosulfide, together with small amounts of glycerin, alcohol or the glycols, and a stabilizing agent as sugar, mannite or starch. Potash soap is sometimes used to thicken the mixture. The formulas for eight liquid depilatories are also given.—H. JANISTYN. *Seifensieder Ztg.*, 64; *Der Parfümeur*, 11 (1937), 454–455. (N. L.)

Derris—Method of Preparing a Mineral Oil Solution of. Plants of the genera *Deguelia*, *Lonchocarpus* and *Tephrosia* are extracted with benzol, ethylene dichloride or chloroform; the resulting solution is treated with absorptive clay and is then dissolved in mineral oil.—NICHOLAS A. SANKOWKSY, assignor to STANCO, INC. U. S. pat. 2,096,922, Oct. 26, 1937. (A. P.-C.)

Drying and Disinfecting Powder. A mixture of trioxymethylene, ammonium alum, magnesium sulfate, and suitable setting, hardening and moisture-absorbing agents is specified.—A. J. HETTEL. U. S. 2,047,323; through *J. Soc. Chem. Ind.*, 56 (1937), 1140. (E. G. V.)

"Engadina Sun-Tan." This preparation is a strong fluorescent aqueous liquid with an alkaline reaction, 18% alcohol, residue 4.45%, ash 0.73%, chiefly sodium carbonate. It was found to contain β-umbelliferon-acetic acid which Mannish (*Therapeut. Monatshefte*, 27 (1913), 2), has shown to be of value in the filtration of the sun's rays. Experiments show that this product is useful to protect the skin from sunburn.—BENNO REICHERT and HORST BÖHME. *Apoth. Ztg.*, 52 (1937), 1106–1107. (H. M. B.)

Flavoring Materials—Synthetic. A general discussion of the development and use of synthetic flavoring materials.—T. H. DURRANS. *Chemistry & Industry*, 56 (1937), 1129. (E. G. V.)

Flavors—Modern Trends in. The production of better flavors and the preservation of delicacy of flavors are discussed.—B. H. SMITH. *Food Research*, 2 (1937), 251–253; through *J. Soc. Chem. Ind.*, 56 (1937), 1128. (E. G. V.)

Flowers—Scent Factor of. Determinations of the volatile matter of 5 varieties of jasmin at night and morning are used for obtaining a factor which gives an indication of the perfume-yielding capacity of the flower.—J. N. RAKSHIT. *Perfumery Essent. Oil Record*, 28 (1937), 241–242; through *J. Soc. Chem. Ind.*, 56 (1937), 1133. (E. G. V.)

Fruit and Berry Juices—Use of, in Pharmacy. A review.—MAX WINCKEL. *Apoth. Ztg.*, 52 (1937), 1012–1013. (H. M. B.)

Fruit Juices—Concentration of, by Freezing. Processes of concentration are discussed. Although highly concentrated fruit juices, containing about 60% soluble substances will generally keep well at ordinary temperatures, this is not safe for commercial practice. The principle may be followed for fruit juices, as for fruits, that the lower the temperature of storage the better the result is likely to be.—T. N. MORRIS. *Chemistry & Industry*, 56 (1937), 615. (E. G. V.)

Fruit Juices and Syrups. Production and storage of citrus juices, soft fruit juices, apple, grape and other miscellaneous juices is discussed as well as syrups and concentrates made from these. An analysis for some 16 fruit juices for acidity, tannin, ash, ascorbic acid and sp. gr. is given.—V. L. S. CHARLEY. *Chemistry & Industry*, 56 (1937), 608. (E. G. V.)

Fruit Syrups—Commercial Production of. The manufacture of fruit juice syrup, sparkling fruit juices and fruit squashes is described. The vitamin-C contents of fresh fruit juices from various soft fruits are tabulated.—V. L. S. CHARLEY. *Food Manuf.*, 12 (1937), 192–195; through *J. Soc. Chem. Ind.*, 56 (1937), 975. (E. G. V.)

Grape Juice—Stabilization of. Known methods of preserving unfermented grape juice impair its flavor or its physiological action. Flocculation of certain constituents essential to fermentation offers a better means of preservation, and a new process on these lines is foreshadowed.—E. J. HUGEL. *Bull. assoc. chim. sucr.*, 54 (1937), 44–47; through *J. Soc. Chem. Ind.*, 56 (1937), 967. (E. G. V.)

Grape Juice—Uses and Manufacture of Unfermented. The juice, used for non-alcoholic drinks, infant food and medicine, has a density of 1.072, and contains dry matter 19, sugar 15.6 and ash 0.29%. The nutritive value saved by not fermenting into wine is stressed.—H. GACHOT. *Proc. 5th Intern. Cong. Tech. Chem. Agric. Ind., Holland*, II (1937), 445–451; through *J. Soc. Chem. Ind.*, 56 (1937), 975. (E. G. V.)

Gum—Manufacture of. Gum recipes are given. Chicle substitutes from rubber, latex, edible resins mixed with other resins and hydrogenated oils are discussed. The manufacture of pharmaceutical gum is also described.—H. BARRON. *Food Manuf.*, 12 (1937), 268–271; through *J. Soc. Chem. Ind.*, 56 (1937), 1127. (E. G. V.)

Hair Waving Solutions—Compositions for Making. A salt of sulfurous acid, such as potassium sulfite, is used with a salt of a weaker acid, such as ammonium carbonate, in such proportions that in solution the mixture is effectively substantially neutral.—PAUL R. STEINBACH, assignor to REALISTIC PERMANENT WAVE MACHINE CO. U. S. pat. 2,095,374, Oct. 12, 1937. (A. P.-C.)

Hydroquinone—Antoxidant Action of, and Its Usefulness for the Preservation of Drugs. A review with 25 references.—TH. SABALITSCHKA. *Apoth. Ztg.*, 52 (1937), 1202–1204. (H. M. B.)

Insecticidal Composition. A solid cuprous cyanide composition which is readily suspended in water is obtained by precipitating cuprous cyanide in presence of powdered kaolin, washing the precipitate to remove electrolytes, and mixing the moist precipitate with a protective colloid.—CHARLES DANGELMAJER, assignor to E. I. DU PONT DE NEMOURS & CO. U. S. pat. 2,101,704, Dec. 7, 1937. (A. P.-C.)

Insecticidal and Fungicidal Emulsion. A mineral oil and sulfurized mineral oil are used with a finely divided solid dispersing agent such as Fuller's earth, water, a gum emulsion-stabilizing agent such as gum arabic, a gum preservative such as formaldehyde, and an alkaline material such as sodium carbonate to give the emulsion a p_H of 8 to 9.—THERON P. REMY and WALDERSEE B. HENDREY. U. S. pat. 2,091,935, Aug. 31, 1937. (A. P.-C.)

Insecticidal Oil Spray. The product consists of a petroleum oil having a Saybolt viscosity of 40 to 100 sec. at 100° F., together with from 0.2 to 10% of a high molecular weight alcohol con-

taining at least 12 carbon atoms, suitably cetyl alcohol.—VANDERVEER VOORHEES, assignor to STANDARD OIL CO. U. S. pat. 2,096,947, Oct. 26, 1937. (A. P.-C.)

Insecticidal Product and Process. Cyclohexene oxide is used as the active ingredient.—ARTHUR A. LEVINE and ROBERT W. MCALLISTER, assignors to E. I. DU PONT DE NEMOURS & CO. U. S. pat. 2,101,587, Dec. 7, 1937. (A. P.-C.)

Insecticide. An insecticidal spray composition comprises an aqueous solution of nicotine and of polyvinyl alcohol.—IVAN L. RESSLER, assignor to E. I. DU PONT DE NEMOURS & CO. U. S. pat. 2,098,836, Nov. 9, 1937. (A. P.-C.)

Insecticide. A dialkylacridan is used as the essential active ingredient.—PAUL S. SCHAFFER and HERBERT L. J. HALLER, dedicated to the free use of the people of the U. S. A. U. S. pat. 2,099,826, Nov. 23, 1937. (A. P.-C.)

Insecticide. The essential active ingredient is a compound of the general formula $R(NO_2)$-(I)y where R is a benzene nucleus and y represents hydrogen, an alkyl group, nitro group or iodine.—LLOYD E. SMITH and HOUSTON V. CALBORN, dedicated to the free use of the public. U. S. pat. 2,100,493, Nov. 30, 1937. (A. P.-C.)

Insecticide and Fungicide. Sulfur nitride is used as the active ingredient.—ROBERT A. FULTON and WILLIS C. FERNELIUS, dedicated to the free use of the public. U. S. pat. 2,101,645, Dec. 7, 1937. (A. P.-C.)

Ligatures and Sutures—Surgical. The central portion of an animal tendon is softened lengthwise, and this portion is formed into a flat band while leaving the ends in an unflattened condition.—FRANCIS W. CARRUTHERS, assignor to DAVIS AND GECK, INC. U. S. pat. 2,093,145, Sept. 14, 1937. (A. P.-C.)

Medicinal Preparation. The product consists of an injectable, isotonic solution of a compound of an isolated nucleotide and a metal of the group consisting of mercury, calcium, iron, gold, silver and aluminum.—SIMON L. RUSKIN, assignor to FRANCES R. RUSKIN. U. S. pat. 2,098,976, Nov. 16, 1937. (A. P.-C.)

Mercurochrome Stains. Mercurochrome stains can be removed by washing in solution of sodium hypochlorite. After the stain has been satisfactorily bleached, the cloth should be well rinsed in water.—ANON. *Pharm. J.*, 139 (1937), 641. (W. B. B.)

Mothproofing Compositions. Major proportions of an alkali metal fluoride and sodium chloride are used with sodium silicate, sodium phosphate and "Nekal" in such proportions as to provide a composition forming an aqueous solution of a p_H slightly greater than 7.—BERNARD L. LANDERS, assignor to PHILIPP BROS. U. S. pat. 2,091,075, Aug. 24, 1937. (A. P.-C.)

Parasiticide. *2,097,114*—Diheptanol peroxide, $CH_3(CH_2)_5CHOH\text{-}OO\text{-}CHOH(CH_2)_5CH_3$, is used in a vermicide for internal administration. *2,097,115*—Ozonized ethyl oleate is used in a vermicide for internal administration.—LEWIS W. BUTZ and WM. A. LALANDE, JR., assignors to DR. D. JAYNE & SON, INC. U. S. pats. 2,097,114 and 2,097,115, Oct. 26, 1937. (A. P.-C.)

Perfumes and Cosmetics in Hungary.—ANON. *Riechstoff-Ind. Kosmetik*, 12 (1937), 169–170. (H. M. B.)

Perfumes and Other Volatile Compounds—Fixing Agents for. A material such as a perfume, *e. g.*, synthetic rose-blossom oil, is used with a fixing agent such as the monolauryl ether of glycerol or other ethers of primary aliphatic alcohols having eight or more carbon atoms in the molecule, or of alicyclic naphthenic, abietyl or hydroabietyl alcohols or glycerol or polyglycerol ethers of such alcohols or carboxylic acid esters of such ethers.—WALTHER SCHRAUTH, assignor to DEUTSCHE HYDRIERWERKE A.-G. U. S. pat. 2,091,162, Aug. 24, 1937. (A. P.-C.)

Pharmaceuticals—Some New. The following new synthetics are described as to chemical composition, manufacturer, physical and chemical properties, color reactions and precipitation tests: suprifen, surfen, cycliton, septazine and soluseptazine.—L. ROSENTHALER. *Scientia Pharm.*, 8 (1937), 149. (M. F. W. D.)

Rose and Rose Perfume. A discussion.—ANON. *Riechstoff-Ind. Kosmetik*, 12 (1937), 158–160. (H. M. B.)

Soap Manufacture—Progress in. A review.—BRAUN. *Riechstoff-Ind. Kosmetik*, 12 (1937), 166–169. (H. M. B.)

"Stora"—Skin Lotion. On the basis of spectrophotometric determination this preparation consisting of 5.4% tannin without fat or oil is suitable as a filter substance to protect from sunburn.—BENNO REICHERT and HORST BÖHME. *Apoth. Ztg.*, 52 (1937), 1039–1040. (H. M. B.)

Surface Anesthetic. The acetylsalicylic acid salt of ethyl aminobenzoate, $C_6H_4.NH_2.COO.C_2H_5$-$C_6H_4O(CH_3CO).COOH$, is claimed as new.—DAVID CURTIS. U. S. pat. 2,097,687, Nov. 2, 1937. (A. P.-C.)

Threads, Bands, Tubes, Etc.—Re-absorbable, Suitable for Surgical Threads, Etc. Cellulose or a cellulose derivative and polyvinyl alcohol are used together with a material such as oxalic, lactic or malic acid which promotes re-absorbability. Various other mixtures are also described.—WILLY O. HERRMANN, FRITZ HAMMER and WOLFRAM HAEHNEL, assignors to CHEMISCHE FORSCHUNGS-GES.M.B.H. U. S. pat. 2,092,512, Sept. 7, 1937. (A. P.-C.)

Tragacanth and Tragacanth Mucilages—Evaluation of. Report is made of experimental work undertaken to develop a method whereby an ephedrine jelly of the proper consistence can be prepared from any given lot of tragacanth. In order that it be practical for a retail pharmacist, standard viscosimeters were ruled out. Tragacanth is evaluated by preparing mucilages of different known concentrations and then under standardized conditions steel balls are timed as they fall through the mucilages for given distances and results are plotted. Comparison of curves indicates relative values. Details of experimental work are reported; results are shown by graphs and by tables. Application of the test to ephedrine jelly is discussed.—ADLEY B. NICHOLS. *J. Am. Pharm. Assoc.*, 26 (1937), 823. (Z. M. C.)

Vermifuge. A composition in a finely divided condition, suitable for use with the feed of fowls and animals, comprises a normally lethal dose of a toxic substance such as nicotine sulfate and kamala incorporated in a colloidal material such as agar-agar which holds the toxic substance so as to afford protection against the lethal effect of such dose.—GROVER D. TURNBOW. U. S. pat. 2,091,162, Aug. 24, 1937. (A. P.-C.)

Vermin—Process and Compounds for Destroying. The essential active ingredient consists of sulfides containing the SC_2 group and obtained from unsaturated aliphatic or alicyclic hydrocarbons or their derivatives.—N. V. DE BATAAFSCHE PETROLEUM MAATSCHAPPIJ. Belg. pat. 421,081, May 31, 1937. (A. P.-C.)

PHARMACOLOGY, TOXICOLOGY AND THERAPEUTICS

PHARMACOLOGY

Ascorbic Acid and Thyroid Function. The administration both of thyroxin and anterior hypophysis extracts produced a substantial increase in the ascorbic acid content of the adrenals. In the case of thyroxin the percentage was from 153–256, while the controls had 73–94. Cortidyn had no influence, but when administered after thyroxin or hypophyseal extracts it lessened the increase due to these hormones. Similar effects were found in the liver. Rats on a standard diet with McCollum or Mendel salt mixtures reacted in a similar manner. Tyrosine increased in rats the synthesis of ascorbic acid. The results of thyroxin in guinea pigs were similar; the thyrotropic hormone produced no increase, but with large doses a decrease in the adrenal ascorbic acid. No effect on the liver was observed.—H. PAAL and K. BRECHT. *Klin. Wochschr.*, 16 (1937), 261–264; through *Physiol. Abstr.*, 22 (1937), 951. (F. J. S.)

Atropine and Eserine—Action of, on Adrenaline Secretion Caused by Potassium Chloride and Calcium Chloride. The introduction into the suprarenal vessels of 1.25 mg. of potassium chloride causes a rise of blood pressure due to liberation of adrenaline. After the intravenous injection of 0.2 mg. atropine it was found that this effect was diminished for about five minutes, while the effects of injected adrenaline were unaffected. Similar experiments with eserine gave inconstant results.—G. KATZ and G. KATZ. *Proc. Soc. Exptl. Biol., N. Y.*, 36 (1937), 848–851; through *Physiol. Abstr.*, 22 (1937), 955. (F. J. S.)

Caffeine—Action of, and Related Substances on the Effects of Autonomic Nerve Stimulation. Caffeine (3–5 mg./Kg.) increases the response of the cat's heart to maximal vagal stimulation; it potentiates the vasodilatation of the dog's penis obtained by similar quantitative stimulation of its cholinergic parasympathetic nerve supply; the anticholinesterase activity of caffeine (C.) is very low; the sensitization of the isolated frog's muscle is with C. nearly instantaneous, while on the same preparation the action of eserine is maximal only after 30 minutes; the action of C. persists after full eserinization; C. in larger doses (50–200 mg./Kg.) has a depressing effect on adrenergic stimulation; C. may diminish the amount of adrenalin liberated by each impulse at the periphery. Theobromine and theophylline have the same action as C.—Z. M. BACQ and H. FREDERICQ. *J. Physiol.*, 90 (1937), 55 P; through *Physiol. Abstr.*, 22 (1937), 977. (F. J. S.)

Camphor—a Comparative Study of the Pharmacological Action of Natural and Synthetic. Experimental work covered relative toxicities of synthetic and natural camphor, action of natural camphor on the normal frog heart, action on the isolated perfused rabbit heart, action on the mammalian circulation and respiration. The authors found the minimum lethal dose of synthetic camphor is smaller than that of the natural, white rats being the test animal. Both act chiefly on the central nervous system, death being due to respiratory paralysis. Both depress the normal frog heart and both primarily depress the perfused isolated mammalian heart. Neither is of value in overcoming effect of chloral hydrate on the frog heart. The effect of intravenous and subcutaneous injections of both on the circulation is chiefly depressant. Both markedly stimulate mammalian respiration. The differences in action between synthetic and natural camphor are chiefly quantitative, the synthetic being the more powerful. It seems logical to substitute synthetic camphor for natural for medicinal purposes.—B. V. Christensen and Harold J. Lynch. *J. Am. Pharm. Assoc.*, 26 (1937), 786. (Z. M. C.)

Cinchonine and Cinchonidine—Biliary Elimination of. Intravenous injection of cinchonine (I) and cinchonidine (II) into dogs was followed within one-half hour by appearance of I and II in the bile. The maximum biliary elimination of I and II was generally reached in six hours and was more pronounced in animals subjected to the cholagogic action of chloralose.—F. Caujolle. *Bull. sci. pharmacol.*, 44 (1937), 425; through *Squibb Abstr. Bull.*, 10 (1937), A-2003. (F. J. S.)

Colchicine—Regression of the Tumor of Shope of the Rabbit under the Action of. Colchicine applied locally as well as injected causes an almost complete regression of the tumor of Shope in rabbits. Care must be exercised to prevent toxic effects produced by the absorption of colchicine by the skin.—Albeot Peyron Bernard Lafay and Guy Poumeau-Delille. *Compt. rend.*, 205 (1937), 378. (G. W. H.)

Ergine—Action on Diuresis. Intramuscular injection of small doses of ergine reduces the quantity of urine formed during fasting or after taking water, sodium chloride solution or urea solution. In moderate doses, ergine increases diuresis; in still higher doses ergine again diminishes urinary flow. The injections exaggerate the diminution in the chloride excretion and in the urea excretion after taking water, provided that the quantity of urine does not vary or decrease.—E. Zunz and O. Vesselovsky. *Arch. intern. pharmacodynamie*, 54 (1937), 297; through *Quart. J. Pharm. Pharmacol.*, 10 (1937), 284. (S. W. G.)

Ergot Alkaloids—Flow and Concentration of Blood as Influenced by, and as Influencing Migraine. Parenteral administration of ergotamine tartrate (I) to 27 subjects, ergonovine (II) to 28 and epinephrine (III) to 21 produced increases in the average oxygen saturation of venous blood from the arm of 12.7, 18.6 and 8.9%, respectively, and produced combined arterial and venous increases in oxygen capacity of 4.8, 4.4 and 0.6%, respectively. Thus I and II, like III, increase the rate of blood flow through the peripheral tissues, while I and II, unlike III, concentrate the blood. The specific effect of I and the lesser effect of II in relieving migraine may be partially explained by their action in increasing arterial tone.—W. G. Lennox and H. C. Leonhardt. *Ann. Internal Med.*, 11 (1937), 663; through *Squibb Abstr. Bull.*, 10 (1937), A-2069. (F. J. S.)

Ergot Preparations—Commercial, Assay of, by Smith's Colorimetric Method. The reagent used in the Smith is a sixtieth-normal solution of *p*-dimethylaminobenzaldehyde in concentrated sulfuric acid. When ergot alkaloids are mixed with this reagent and exposed to sunlight for 15 to 30 minutes, there develops a violet-blue coloration, the intensity of which is proportional to the amount of alkaloid; it is compared with that obtained by means of a standard solution of ergotamine tartrate. This method cannot replace the bioassay for the following reasons: (1) Inactive alkaloids give the reaction as well as the active alkaloids; (2) The pharmacological potency of ergotoxine is higher than that of ergotamine, but the method does not show this; (3) The reaction is not specific. The method can be useful as a preliminary test; exposure to sunlight may be avoided by addition of an oxidizing agent. When applied to a few samples of commercial extracts of ergot, it was found that most of them contained no alkaloids and the remainder very little.—A. Novelli. *Rev. farm. (Buenos-Aires)*, 78 (1936), 5–8; through *Chimie & Industrie*, 38 (1937), 316. (A. P.-C.)

Estrogenic Substances—Biological Assay of. Previous reports of other authors as well as the present results of the examination of 3000 vaginal smears from rats injected with International Standard estrogen (ketohydroxyestrin) demonstrate that the vaginal smear method is not reliable

as a means for comparing products of unknown strength with the International Standard. It is often stated that the vaginal smear method should yield results with an error not greater than ±20%; however, the present study showed variations by several hundred per cent at times. Considerably more reliable results were obtained on 187 mice by Fluhmann's histologic test [*Endocrinology*, 18 (1934), 705] for estrin, depending upon proliferation of the epithelium in the vaginal mucosa of recently castrated mice, and the formation of mucin cells. About 0.08γ of the International Standard proved a desirable amount for the assays. Although the mucification method with groups of four animals could not be depended upon to give an error as low as ±20%, it was not subject to as wide fluctuations as the vaginal smear method on rats. The personal factor, causing so great an error in the vaginal smear method, is eliminated to a large extent in the Fluhmann technic by examination of the tissue itself, rather than a smear.—E. DECKERT, E. MULHALL and C. SWINEY. *J. Lab. Clin. Med.*, 23 (1937), 85; through *Squibb Abstr. Bull.*, 10 (1937), A-2006. (F. J. S.)

Gallic Acid—Action of, on Frog Heart. The isolated heart is depressed by concentrations of 1 in 40,000 to 1 in 20,000, and reversibly stopped by concentrations of 1 in 2500. The corresponding action of tannic acid is irreversible.—A. LEVI. *Arch. farmacol. sper.*, 61 (1936), 81–87; through *Chem. Abstr.*, 31 (1937), 7113. (F. J. S.)

Glandular Products—Examination of, by Non-Physiological Methods. In the author's opinion, biological assay of glandular products is of itself not sufficient to establish their purity. He reviews the various microscopic, chemical and physical tests which may be applied either to the gland products or their active principles such as insulin, thyroxin, pepsin, etc., to detect adulteration and degree of purity. A list of 35 references is appended.—R. FREUDWEILER. *Pharm. Acta Helv.*, 12 (1937), 85. (M. F. W. D.)

Glycogen and Hypophysis. In hypophysectomized dogs the amount of glycogen is normal or nearly so after recent feeding. In fasting the loss is greater than in normal animals. Injection of alkaline pituitary extract caused increase of glycogen in hyperglycemic animals, not in those with slight hyperglycemia. Glycogenolysis is rapid in fasting. During the action of insulin and of adrenalin the loss of glycogen is slower. After pancreatectomy the glycogen increases.—B. A. HOUSSAY, A. BIASOTTI and R. G. DAMBROSI. *Compt. rend. soc. biol. Paris*, 125 (1937), 542–544; through *Physiol. Abstr.*, 22 (1937), 957. (F. J. S.)

Histamine and Atropine—Relation between, in Gastric Secretion. The action of histamine in a dose of 0.03 mg. on the gastric secretion (acidity) was completely inhibited by 1 mg. of atropine, however administered, in a dog with the Heidenhain pouch. In a gastrostomy dog, 1 mg. completely inhibited the effect of 0.1–0.2 mg. of histamine. Since in the first case the vagi were cut and in the second were intact, it is suggested that the inhibition is produced, not by paralysis of the nerve endings of the vagus, but by lowered susceptibility to histamine of the secretory cells of the gastric mucosa.—P. H. LEE and M. S. KIM. *J. Severance Union Med. Coll.*, 3 (1937), 74–80; through *Physiol. Abstr.*, 22 (1937), 925. (F. J. S.)

Iodine—Hypophyseal and Thyroid Effects of. There is a close relationship between the supply of iodine and the structure and functions of the thyroid. Guinea pigs were used to test the hypothesis that the iodine acts on the anterior hypophysis. They were first given injections of hypophyseal extract for several days, then, in addition, iodine for a further period. In the animals treated with hypophyseal extract alone, the acidophil cells of the hypophysis practically disappeared, also the cyanophils, while chromaphobe cells were numerous. In those treated also with iodine, the cyanophil cells were normal in number and the acidophil cells rather less numerous than normal. Corresponding with this was a greater power of the thyroid to store colloid, which function is subserved by the cyanophil cells of the hypophysis. Through these latter elements the action of iodine on the thyroid is indirect.—S. FRANCK. *Compt. rend. soc. biol. Paris*, 125 (1937), 569–573; through *Physiol. Abstr.*, 22 (1937), 958. (F. J. S.)

Kukoline—Some Physiological Effects of. Kukoline is extracted from the roots of *Cocculus diversifolius*. A small quantity suppresses the hypotensive action of minute doses of ethylaminated derivatives resembling adrenalin. Its action resembles that of bulbocapnine.—RAYMOND-HAMET. *Compt. rend. soc. biol. Paris*, 125 (1937), 509–512; through *Physiol. Abstr.*, 22 (1937), 982. (F. J. S.)

Liver Extracts—Standardization of. It is claimed that the occurrence of a marked leucocytosis in animals (pigs and sheep are best), following the injection of anti-pernicious anemia liver

extracts, forms a reliable test for the presence of this principle. In pigs the dosage is 4 Gm. of liver or its equivalent per Gm. of body weight. The leucocytosis is "released" from the bone marrow and the liver participates in the process, since it does not occur in cases of liver damage.—J. DEDICHEN. *Acta med. Scand.*, 90 (1936), 195–206; through *Physiol. Abstr.*, 22 (1937), 979. (F. J. S.)

2-Methylallyl Group—Some Barbituric Acids Containing. A number of malonic esters were prepared containing the 2-methylallyl group. Eighteen new barbituric acids and four new thiobarbituric acids containing the 2-methylallyl group were also prepared. Their physical and pharmacological properties are tabulated.—W. J. DORAN and H. A. SHONLE. *J. Am. Chem. Soc.*, 59 (1937), 1625. (E. B. S.)

Piperidine—Effect of the Purification, on the Activity of Derived Local Anesthetics. The chemical properties and pharmacological activities of a group of compounds of piperidine and 2-methylpiperidine, one of the contaminants present in commercial piperidine, are discussed. Piperidino-propyl benzoate made from pure piperidine was found to be only slightly less active than the 2-methyl-piperidino derivative. The unmethylated homologs were more active in the phenylurethan series.—T. H. RIDER and E. S. COOK. *J. Am. Chem. Soc.*, 59 (1937), 1741. (E. B. S.)

Piperidine—Purification of, and Its Physiologic Significance. The increase in anesthetic activity of diothane is attributed to the intensive purification of the piperidine used in the manufacture. The purification of the piperidine is given in detail.—E. S. COOK and T. H. RIDER. *J. Am. Chem. Soc.*, 59 (1937), 1739. (E. B. S.)

Purgatives—Drastic, Physiological Action of. I. Resins of Convolvulaceas. The dissolving power of bile and bile salts on lecithin increases up to nineteen times if convolvulin or jalapin is added. The hemolytic power of bile salts is increased by these resins from 400 to 2800 times. The acids from the resins show both actions at a lesser degree. The action of the resins seems to be identical with that of castor oil. This group of purgatives is named "lipolytic purgatives."—G. VALETTE. *Bull. sci. pharmacol.*, 44 (1937), 328–340; through *Chem. Abstr.*, 31 (1937), 7118. (F. J. S.)

Rhubarb and Rhaponticum—Report on. The following method is suggested for the biological evaluation of rhubarb and rhaponticum, in particular, and for laxative drugs in general. The preparation to be tested is dissolved or suspended in amounts of 0.1 Gm. in 10, 50 and 100 cc. of culture water of p_H 7.8–8.1, filtered, and the test solution added in 0.5-cc. quantities to the test animals, using Daphnia with 100% filled food canal. The speed and extent of evacuation are observed at low magnification (6–10) and checked if desirable with higher magnification (100) and the time of approximately 50 and 100% evacuations recorded. Similar experiments are carried out with a standard elaterin solution, and the concentration determined of the test and standard solutions producing the same degree of response.—A. VIEHOEVER. *J. Assoc. Official Agr. Chem.*, 20 (1937), 562; through *Squibb Abstr. Bull.*, 10 (1937), A-2122. (F. J. S.)

Sodium Bismuthate, Soluble. A solution of sodium bismuthate has been used as a new method for the treatment of syphilis, by both intramuscular and oral administration. The solution is prepared by adding 3 Gm. of sodium bismuthate to 10 cc. of propylene glycol and 8 Gm. of tri-isopropanolamine, heating the whole to 80° C. with constant stirring. At 80° C. the bath is removed and the temperature controlled not to exceed 100° C. When solution is complete 40 cc. of propylene glycol is added, the whole cooled, water added to 100 cc. and filtered. A mortality of 100% is produced by the following doses in mg. $NaBiO_3$ per Kg. of animal; intramuscular, 250 (200 white rats), more than 100 (15 rabbits); intravenous, 25 (rats), 12 (rabbits). Detailed pharmacological results are described and the low toxicity, toleration, absorption, relative freedom from side reactions and effectiveness in early and late syphilis warrant extended clinical trials.—P. J. HANZLIK, A. J. LEHMAN and A. P. RICHARDSON. *Am. J. Syphilis*, 21 (1937), 1; through *Quart. J. Pharm. Pharmacol.*, 10 (1937), 251. (S. W. G.)

Strophanthus Kombé Seed—Chemical and Pharmacological Studies of. Fresh seeds, or seed dried at 60° for 30 minutes, were soaked in water at 40°, to separate into various portions. Each portion was extracted with water, then with 70% ethyl alcohol at room temperature (15–20°), and the extract evaporated to dryness at 37°. Extracts of the whole seed contained a mixture of amorphous and microcrystalline substances, reduced Fehling's solution on warming and gave a greenish yellow color with concentrated sulfuric acid. On injection to frogs it was the least toxic. Extracts of the endosperm were most toxic, mostly crystalline, did not reduce Fehling's solution

and gave a bright emerald-green color with concentrated sulfuric acid. Extracts of the embryo and cotyledon were almost entirely amorphous, did not reduce Fehling's solution, gave an emerald-green color with concentrated sulfuric acid and were somewhat less toxic than extracts of the endosperm.—BRUNO SANNA. *Studi sassar.*, 12 (1934), 727–735; through *Chem. Abstr.*, 31 (1937), 7538. (F. J. S.)

Testicular Extracts—Principal Active Constituents and Methods of Bioassay of. The presence of androsterone and of dehydroandrosterone in urine, on the one hand, and of testosterone, on the other, justify the supposition that there exist two forms of the male sexual hormone, one excreted by the urine, and the other, more active and present in the testicles, representing the true hormone. There is no specific and accurate method of determining the male sexual hormone in mammals, or any method which is more rapid and practical than the cocks' comb method. Only by the development of such a method would it be possible to solve the problem of evaluating the male hormone content of various normal or pathological organisms.—R. CAHEN. *Bull. sci. pharmacol.*, 43 (1936), 239–301, 424–431; through *Chimie & Industrie*, 38 (1937), 239. (A. P.-C.)

Tikitiki—Standardization of Extract of. Tentative standard and assay for vitamin B, potency of tikitiki extract. Because of antineuritic property, used extensively to prevent and cure beriberi. Has been studied and used since 1913. Eleven brands of tikitiki extract tested on native pigeons weighing 200 to 320 Gm. each. Pigeons made polyneuritic by diet of polished rice and powdered lean meat from which vitamin B, had been boiled out, were fed on basal diet plus tikitiki extract; amount of extract for curing and maintenance recorded. Albino rats also used with similar procedure, curative dose established as between 20 and 30 mg. Extract of tikitiki should contain in each Gm. at least 33 U. S. P. units of vitamin B (30 mg.—1 unit).—A. J. HERMANO. *Rev. Filip Med. Farm.*, 28 (1937), 343. (G. S. G.)

5-Triphenylmethylbarbituric Acid. Triphenylmethyl malonic ester reacted with urea after only four hours refluxing on the water-bath in the presence of sodium ethylate. The triphenylmethylbarbituric acid thus obtained was a white crystalline substance, easily soluble in alcohol and alkali, melting at 197.6°. The triphenylmethylmalonic ester was prepared by the use of the magnesio-malonic ester alcohol complex. Pharmacologically, the 5-triphenylmethylbarbituric was inactive.—H. W. COLES. *J. Am. Chem. Soc.*, 59 (1937), 2468. (E. B. S.)

Vitamin B_1 and Carbohydrate Metabolism. The intravenous injection of dogs and rabbits with vitamin B_1 (400 pigeon units for the dogs) produced a fall of blood sugar in fasting animals. Alimentary hyperglycemia is not as high and insulin hypoglycemia is lower when the vitamin is administered.—R. TISLOWITZ. *Klin. Wochschr.*, 16 (1937), 226–228; through *Physiol. Abstr.*, 22 (1937), 934. (F. J. S.)

Vitamin D_2, Thyroid and Arterio-sclerosis. Calciferol was administered to dogs in different doses. In daily doses of 110–230γ/Kg. the action on healthy animals was physiological. In daily doses of 720γ/Kg. it caused lesions of the media of certain arteries in part reversible. In doses on 1.5 mg./Kg. five or six times it caused toxic symptoms in about 20 days, such as loss of weight and diarrhea. Debility and renal lesions were observed. After thyroparathyroidectomy the animals which received 600γ/Kg. showed increase of calcemia and greater renal lesions than normal dogs similarly treated, but no arterial sclerosis in the kidney. After thyroidectomy alone the dogs resisted very badly and showed symptoms like those of parathormone poisoning. Arterial lesions were pronounced. The parathyroid favors necrosis of the arterial coats, the thyroid protects against it. Differences observed between aortic and arteriolar lesions are discussed.—H. HANDOVSKY and N. GOORMAGHTIGH. *Arch. intern. pharmacodynamie*, 56 (1937), 376–418; through *Physiol. Abstr.*, 22 (1937), 934. (F. J. S.)

Xysmalobium Undulatum R. Br.—Uses and Actions of. Two glucosides have been extracted from the root, which have a digitalis-like action on the heart, and stimulate smooth muscle and salivary secretion. The action is peripheral to nerve endings in the muscle and at parasympathetic endings with secretion. A diuretic effect on the rabbit and cat was also noted.—J. M. WATT. *S. African J. Med. Sci.*, 1 (1935), 4–11; through *Chem. Abstr.*, 31 (1937), 7114. (F. J. S.)

TOXICOLOGY

***l*-Camphor—Artificial, Toxicity and General Effects of, on Guinea Pigs.** Toxicity by intraperitoneal injection of the 3 isomeric camphors decreases in the order: *l*-camphor, artificial racemic and *d*-camphor. In the same order, symptoms of poisoning develop, respectively, with

0.20, 0.30 and 0.70 Gm. per kilo body weight; adjoining strongest doses permitting survival are, respectively, 0.20 to 0.30, 0.30 to 0.40 and 0.60 to 0.70 Gm.; adjoining weakest doses causing death are 0.70 to 0.80, 1.60 to 1.70 and 1.90 to 2.0 Gm. per kilo. The *l*- and racemic isomers cause more intense convulsions than does *d*-camphor. Hence, the *l*-camphor content of the racemic isomer is considered to be the cause of its greater toxicity as compared with that of *d*-camphor.—R. HAZARD and R. LARDÉ. *J. pharm. chim.*, 24 (1936), 118–120; through *Chimie & Industrie*, 38 (1937), 318. (A. P.-C.)

Carbon Monoxide—Chronic Intoxication by. In order to ascertain the effects of regular inhalation of small quantities of carbon monoxide, rabbits were placed for 8 hours a day during 65 days in atmospheres containing 1.5% of carbon monoxide, and the resulting modification in weight, composition of the blood, etc., were carefully controlled. Weight at first increases slightly, and then becomes stabilized at a value below normal. The hair becomes dull. In most cases there is a notable increase in the number of white corpuscles, a slight initial increase in the number of red corpuscles, and finally a very appreciable decrease in globular resistance. Post-mortem examination revealed an appreciable cardiac hypertrophy. These results would seem to confirm the existence of a "chronic" form of carbon monoxide intoxication.—P. VALCHERA. *Medicina Lavoro*, 27 (1936), 355–359; through *Chimie & Industrie*, 38 (1937), 58. (A. P.-C.)

Flavins—Toxicity of. A number of flavins were tested by intraperitoneal injection of their sodium salts in white mice, and in some instances on rats deprived of vitamin B_2, to determine relationships between their chemical constitution and toxicity. The lethal doses in mg. per Kg. were: 9-methylflavin 125 (60 mg. in the light), 9-phenylflavin 17, 9-benzylflavin 50, 9-cyclohexylflavin 50, 9-β-hydroxyethylflavin 280, 9-β-γ-dihydroxypropylflavin 200, 6,8,9-trimethylflavin 310, flavin-9-acetic acid 130. Nontoxic were 6,9-dimethylflavin 350, 6,7,9-trimethylflavin (lumiflavin) 330, 9-tetrahydroxyamyl-6,7-dimethylflavin (lactoflavin) 340, 6,7-dimethyl-9-carboxymethylflavin 775 mg. per Kg. Introduction of hydroxyl groups in the side chain at the 9-position diminishes the toxicity. Methyl groups diminish toxicity, as does also carboxyl. The toxicity of lactoflavin is so low that the amount present in 20,000 liters of milk could be taken safely in a single dose by a person of 70 Kg. weight.—R. KUHN and P. BOULANGER. *Hoppe-Seyler's Z. physiol. Chemie*, 241 (1936), 233–238; through *Chimie & Industrie*, 38 (1937), 526. (A. P.-C.)

Madar Juice Poisoning. A description of the post-mortem findings in 13 cases and the following description of madar juice. The juice, which is used by local application as an abortifacient, has sp. gr. about 1.021, and contains about 14.8% of total solids. It has an acid reaction, and when left for some time, separates into a white coagulum and a clear straw-colored serum which contains about 3% of total solids and about 0.7% of mineral matter. The exact nature of the organic acid or acids in madar juice has not been determined, but the ethyl ester or esters have a distinctive odor. An alkaline alcoholic extract of the coagulum when treated with petroleum spirit yields a white crystalline extract identifiable by its color reactions, and by the fact that it does not yield a digitonide. The residual alkaline alcoholic extract after evaporation of the alcohol, treatment with water, acidification with dilute sulfuric acid, and extraction with ether, yields a yellowish brown resin. The white crystalline extract of madar juice is insoluble in water and non-poisonous to animals, even when injected in oily solutions. The resin also is only slightly toxic to frogs, but the serum is very poisonous, 0.05 cc. killing a frog in a few minutes; the symptoms and post-mortem appearances suggest that it probably acts as a cerebrospinal poison. —ANNUAL REPORT OF THE CHEMICAL EXAMINER, GOVERNMENT OF MADRAS, FOR THE YEAR 1936. *Analyst*, 62 (1937), 740. (G. L. W.)

Morphine Sulfate, Toxicity of, and the Pressor Episodes.—A. J. NEDZEL. *J. Lab. Clin. Med.*, 22 (1937), 1125; through *Squibb Abstr. Bull.*, 10 (1937), A-1656. (F. J. S.)

Natural, Racemic and *l*-Camphors—Comparison of Toxicity and General Action of, upon the Rat. In experiments on the white rat with *l*-, racemic and *d*-camphor, the minimum active doses (*i. e.*, when symptoms are first noted) are, respectively, 0.10, 0.30 and 0.60 Gm. per kilo body weight; the two maximum adjacent doses permitting survival of 4 out of 4, are 0.05 to 0.10, 0.30 to 0.40 and 0.60 to 0.70 Gm. per kilo; the two minimum adjacent lethal doses for 4 out of 4 are 1.20 to 1.30, 1.30 to 1.40 and 1.70 to 1.80 Gm. per kilo. Comparable results can be obtained only with rats of the same stock. The poisonous symptoms are of the same nature for the three isomers, except that *l*-camphor causes a more intense convulsant action on the rat. Compared with the guinea pig, the rat is more sensitive toward *l*-camphor at the minimum active and the

maximum tolerated doses; but the lethal dose for the guinea pig is much lower, 0.70 Gm. per kilo.—R. HAZARD and R. LARDÉ. *J. pharm. chim.*, 24 (1936), 149–154; through *Chimie & Industrie*, 38 (1937), 318–319. (A. P.-C.)

Pharmacology and the Poisons List (British). Statistics show that during recent years a considerable proportion (roughly 10%) of the persons accidentally poisoned in England owe their deaths to substances such as aspirin, methylated spirit, boric acid, phenacetin, etc., which are not in the British Poisons List. On the other hand some of the substances in this list, such as insulin, thyroxin and adrenalin, are essential to life. The question of toxicity is bound closely to that of dosage. Instead of being satisfied with stating a minimum lethal dose for any given poison, we have now to determine (*a*) the average lethal dose, (*b*) the range of the minimum lethal dose found in different animals in the same species and (*c*) the average therapeutic dose in the same species of animals. When such information is obtained there will be a possible basis for a classification of poisons based on quantitative pharmacological results.—F. WOKES. *Pharm. J.*, 140 (1938), 99. (W. B. B.)

Phenol—Fate and Action of, in the Animal Organism. Phenol added *in vitro* can be estimated spectrographically in tissues and urine. The reaction with dibromoquinochlorimide permits detection of minute quantities. The organs do not destroy phenol *in vitro*. Combination with phenol is a property of tissues in the absence of the liver, and is not to be relied upon a test of hepatic function. After injection, phenol is distributed generally, and is most abundant in skeletal muscles. Combination with sulfur greatly reduces the toxicity. Absorption is rapid from the gastro-intestinal mucous membrane. The hemoglobin in an animal poisoned with phenol is capable of combining with oxygen. Calcium salts do not check the convulsions caused by phenol. This acts directly on the heart.—G. BARAC. *Arch. intern. pharmacodynamie*, 56 (1937), 427; through *Physiol. Abstr.*, 22 (1937), 980. (F. J. S.)

Poisons—Organic, Comparison of the Physicochemical Properties of Some, and the Products of Their Transformation in the Animal Body. The chemical changes (oxidation, hydrolysis, conjugation with acids, etc.) which 30 more or less toxic compounds, chiefly simple benzene derivatives, undergo in the animal organism are discussed. In every case the new product formed has a higher boiling point and melting point than the original compound. In almost every case the change results in increase in polarity, dielectric constant and solubility in water. The lipide-water partition coefficient is decreased, making the new compound less able to enter the cells and exert a narcotic action.—N. W. LAZAREW and T. W. SSTARYZYNA. *Bull. soc. chim. biol.*, 18 (1936), 723–740; through *Chimie & Industrie*, 38 (1937), 523. (A. P.-C.)

Salicylate Poisoning. An Explanation of the More Serious Manifestations. No serious symptoms are produced in dogs by salicylate as long as the intake of fluid is adequate and there is no interference with the processes of elimination of heat. When the ability to dissipate heat is interfered with experimentally, otherwise harmless doses cause death as a result of hyperpyrexia and exhaustion. Marked symptoms of salicylate poisoning develop in patients when dehydration causes a similar inability to become adapted to the action of the drug.—KATHARINE DODD, ANN S. MINOT and JAY M. ARENA. *Am. J. Diseases Children*, 53 (1937), 1435–1446; through *Chem. Abstr.*, 31 (1937), 7532. (F. J. S.)

Sambucus Calicarpa—Investigation of the Fruit of. Unestablished statements that this fruit is poisonous led to the study now reported. Selective extractions were made and the products tested. Six albino rats were fed the ground air-dried fruit for 20 days and suffered no ill effects. It was also administered with canned dog food to two dogs with a third dog as a control. At the end of seven days no variation could be noted in the appearance of the three dogs, thus conclusive evidence that it lacks toxicity to animals.—RICHARD H. COOK and FOREST J. GOODRICH. *J. Am. Pharm. Assoc.*, 26 (1937), 1252. (Z. M. C.)

Spongia Fluviatilis Seu Lacustris L. A commentary on this Brazilian plant as applied to the dog to eliminate tapeworms and other intestinal parasites, and as a poison to man.—F. W. FREISE. *Pharm. Zentralhalle*, 77 (1936), 488–489; through *Chimie & Industrie*, 38 (1937), 318. (A. P.-C.)

Toxic Gases in Industry—Methods for the Detection of. I. Hydrogen Sulfide. An abstract of the first of a series of leaflets describing standard methods for the detection of toxic gases in industry published by H. M. Stationery Office, June 18, 1937. *Poisonous Effects.*—In concentrations of 1 in 1000 by volume or higher, hydrogen sulfide will cause immediate unconsciousness

and will result in death unless artificial respiration is immediately applied. In such concentrations it is nearly as toxic as hydrogen cyanide. In 1 in 2000 concentration it is very dangerous if inhaled 15 to 30 minutes; 1 in 5000 dangerous if inhaled for 1 hour; 1 in 10,000 symptoms of local irritation of eyes and respiratory tract after 1 hour exposure. *Method of Detection.*—Known volumes of suspected air are drawn through a prepared lead acetate test paper and the stain compared with a series of standards. *First Aid.*—Fresh air, warm, artificial respiration with oxygen for an extended period.—ANON. *Analyst*, 62 (1937), 607. (G. L. W.)

Toxicity—Variations in, of Some Races of Derris Elliptica. Diethyl ether extracts of the roots, on a 10% moisture basis, are: Changi Numbers 1 and 2, 19.55%; Changi Number 3, 24.05%; Singapore Number 1, 14.60%. While individual variations exist in rotenone content and diethyl ether extract, Changi Number 3 is clearly superior to the other races.—C. D. V. GEORGI, J. LAMBOURNE and G. L. TEIK. *Malay. Agri. J.*, 25 (1937), 187–200; through *J. Soc. Chem. Ind.*, 56 (1937), 959. (E. G. V.)

Veronal—Distribution of, in a Case of Fatal Veronal Poisoning. Following the method of Van Itallie and Steenhauer (*Pharm. Weekblad*, 58 (1921), 1062) the author examined organs and other parts of the viscera from a fatal case of veronal poisoning. He found a (calculated) total of 6.290 Gm. of unabsorbed veronal (stomach, large and small intestine and duodenum) and 4.270 Gm. of absorbed veronal (urine, gall, brain, liver, spleen, kidney and blood).—J. F. REITH. *Pharm. Weekblad*, 74 (1937), 649. (E. H. W.)

THERAPEUTICS

Di-(*p*-acetylaminophenyl)-Sulfone—Chemotherapy of Pneumococcic Infections with. This compound which is a white crystalline powder melting at 282° was first synthesized by Wittmann (*Ber.*, 41 (1908), 2264). It is only fairly toxic, 200 mg. per 20 Gm. administered orally not producing toxic symptoms in rats; which is in contrast to the non-acetylated compound which produces toxic symptoms in doses of 5 mg. per 20 Gm. and is also less toxic than *p*-aminophenylsulfamide of which the toxic dose is about 50 mg. per 20 Gm. It has a much more powerful protective action against pneumococcic infections than aminophenylsulfamide. The results obtained in controlling experimental pneumococcic infections are very promising.—ERNEST TORNEAU, JACQUES TREFOUEL, TEDERICO NETTI and DANIEL BOVET. *Compt. rend.*, 205 (1937), 299. (G. W. H.)

Acetylsalicylic Acid (Aspirin)—Allergic Reactions from. Sixty-two cases of hypersensitivity to aspirin are reported; of these approximately seventy per cent had asthma. The hypersensitivity is acquired, not congenital. Forty-two patients manifested hypersensitivity by asthmatic symptoms, exceptionally severe, prolonged and resistant to epinephrine and morphine; 16 urticaria and angioneurotic edema; 5 vasomoter rhinitis; 3 abdominal cramps; and 2 purpura. The incidence of nasal polyps is high among patients sensitive to aspirin. Use of skin tests for diagnosis is not advised. The remedy is strict avoidance of the drug.—H. F. BUCHSTEIN and L. E. PRICKMAN. *Proc. Staff Meetings Mayo Clinic*, 12 (1937), 616; through *Squibb Abstr. Bull.*, 10 (1937), A-1989. (F. J. S.)

Acridine Derivatives—Preparation and Therapeutic Properties of. Anils were prepared by heating 2:8-diaminoacridine with the appropriate aldehyde in alcohol or ethylene glycol monoethyl ether, with the addition of six drops of piperidine as catalyst. 2:8-*Bis*-benzylideneaminoacridine and other anils of this type were found to be too sparingly soluble in water and their salts too readily hydrolyzed for biological tests. Condensation of acridine-5-aldehyde with α-picoline alkiodide gave styryl derivatives, and of these *s*-(2-pyridyl methiodide)-5-acridylethene and its hydrochloride, *s*-2-pyridyl-5-acridylethene dimethiodide, and *s*-(2-pyridyl ethiodide)-5-acridylethene were moderately antiseptic toward staphylococcus in dilute peptone water, but in serum all suffered some diminution in activity. For *B. coli* the antiseptic activity was much weaker than for staphylococcus, but in this case the action was intensified somewhat in serum. The compounds were only moderately toxic for mice and devoid of trypanocidal action. Condensation of acridine-5-aldehyde with quinaldine alkiodide gave styryls of which *s*-2-quinolyl-5-acridylethene dimethosulfate and *s*-(2-quinolyl ethiodide)-(5-acridyl methiodide) ethene had properties similar to those given above, except the last which was distinctly more active. *s*-(2-Pyridyl ethiodide)-(5-acridyl methiodide)ethene, *s*-(2-quinolyl methiodide)-5-acridylethene and *s*-2-quinolyl-5-acridylethene dimethochloride and dimethiodide were also prepared.—W. L. GLEN,

M. M. J. SUTHERLAND and F. J. WILSON. *J. Chem. Soc., Lond.* (1936), 1484; through *Quart. J. Pharm. Pharmacol.*, 10 (1937), 252. (S. W. G.)

Aloe Vera—Leaf of, in Treatment of Roentgen Ray Ulcers. Two cases of roentgen ray ulcers, which had not improved despite the trial of many of the recommended treatments, were completely healed by the use of the fresh whole leaf of *Aloe vera*. In the first case there was no relief from pain for 2–3 weeks but in the second, despite the necessity for the use of opiates previous to this treatment, there was a remission of pain within 48 hours after the beginning of this therapy. The fresh whole leaf proved to be much more efficacious than the ointment in the treatment of the ulcer. The latter was fairly satisfactory in treating some of the smaller keratoses and in improving the general tone and texture of the skin. During the treatment with the fresh whole leaf verrucous lesions developed in both cases.—A. B. LOVEMNA. *Arch. Dermatol. Syphilol.*, 36 (1937), 838; through *Squibb Abstr. Bull.*, 10 (1937), A-1990. (F. J. S.)

Anesthetics—Inhalation, Action of, on Dehydrogenase. Lactic acid dehydrogenase of brain tissue is not inactivated by the common inhalation anesthetics. The stimulation of adrenalin by the anesthetics may account for the glycogenolytic activity. No inactivation of luciferase of a lampyrid occurs at anesthetic or sublethal concentrations of inhalation anesthetics.—G. A. EMERSON. *Current Res. Anesthesia Analgesia*, 15 (1936), 134–136; through *Chimie & Industrie*, 38 (1937), 527. (A. P.-C.)

Antiseptic for the Treatment of Genito-Urinary Infections. A basic aniline dye selected for its affinity for, and capacity to stain the bacteria of genito-urinary infections, is mixed dry with a soluble inorganic silver salt, and the mixture is dissolved in water to form a stable aqueous solution of desired strength.—RAYMOND T. KAUPP. U. S. pat. 2,100,781, Nov. 30, 1937. (A. P.-C.)

Avitaminosis, Purpura Hemorrhagica and. Report of a case presenting complete syndrome of purpura hemorrhagica. Had eliminated fruit from diet for more than a month. Treated with juices of lemon, orange and tomato, fresh fruits and vegetables. Recovery was rapid, and in 3 months has had no recurrence. Author draws no conclusions but draws attention to use of ascorbic acid in hemorrhagic syndromes.—A. SA and A. PRESTERA. *Semana méd.* (July 30, 1936); through *Rev. sud-americana endocrinol. inmunol. quimioterap.*, 20 (1937), 492. (G. S. G.)

Barbituric Acid Derivatives—Comparative Study of Two Short Acting. Previously, report was made that the action of "Seconal" (sodium propyl-methyl-carbinyl allyl barbiturate) was of shorter duration and that its minimal anesthetic dose (M. A. D.) and minimal lethal dose (M. L. D.) were smaller than those of "Sodium-Amytal" (sodium isoamyl ethyl barbiturate). The present paper reports more extensive comparison. Frogs, mice, rats, guinea pigs, rabbits, cats, dogs and monkeys were used as experimental animals. Details of results are tabulated. In all animals the M. A. D. and M. L. D. are distinctly smaller for "Seconal" than for "Sodium Amytal." Except in mice, "Seconal" has a shorter duration of action than "Sodium Amytal." As the size of the animal increases, the duration of the action of "Seconal" diminishes more significantly than that of "Sodium Amytal."—EDWARD E. SWANSON and WILLIAM E. FRY. *J. Am. Pharm. Assoc.*, 26 (1937), 1248. (Z. M. C.)

Benzoates. The uses and actions of the official benzoates and benzoate-bearing drugs are discussed. Seventeen references.—M. A. LESSER. *Drug and Cosmetic Ind.*, 42 (1938), 46–48, 60. (H. M. B.)

Burn—Treatment of the Industrial. Of primary consideration is the treatment of shock and the replenishing of fluids. The importance of surgical treatment, *e. g.*, debridement, is greatest in the first eight hours after burning, and complete resection is necessary in electric burns. The fixation method for treating burns by tannic acid is described along with modifications of this method through the use of silver nitrate and gentian violet. The use of skin grafts is an important part in the regime.—J. J. WITTMER. *New York State J. Med.*, 37 (1937), 1931; through *Squibb Abstr. Bull.*, 10 (1937), A-2142.

Carcinogenesis—Chemical Aspect of. Biochemical classification of neoplasma based on abnormal biochemical structural formulæ of dynamic nucleic acid molecules. Carcinogenesis due to irritation, may be caused by cells in process of regeneration and excess of nuclein derivatives. Repeated cycles of functional activity predispose to carcinogenesis, especially in stomach, uterus and breast. Dietary excess leading to abnormal excess of nuclein derivatives, also a factor.—M. M. GALLARDO. *Rev. Filipina De Med. y Farm.*, 28 (1937), 257. (G. S. G.)

Carrion's Disease—Anemia of, Therapeutic Problem of. Earliest treatment of verruga peruana consisted in various herbs producing a sweat, beneficial in cases of eruption. Chemotherapy is modern approach. But anemia accompanying disease is of pernicious type, and this form studied by Carrion and to which he succumbed is almost always fatal. Anemic form caused by bartonella, a blood parasite, and is best attacked early, while still in circulation. Some cases, complicated by lues, aggravated by use of salvarsan. Describes course of disease and treatment of 27 cases, arseno-stibium-benzol being the agent found most beneficial.—BELISARIO MAURIQUE. *Reforma Medica*, 23 (1937), 661. (G. S. G.)

Cholesterin Bodies and the Origin of Cancer. A discussion.—I. GUTTSCHMIDT. *Apoth. Ztg.*, 53 (1938), 54–55. (H. M. B.)

Cholesterol and Hypercholesterinemia. Gall-stones are the usual clinical indication of hepatic insufficiency. In most types of icterus, cholic acid in the blood rises sharply in the course of illness. Observation indicates no parallelism between blood cholesterol of infectious icterus and of cirrhosis. Majority of cancers of pylorus originate as peptic ulcers. May be interrupted in early stage by operative procedure, but too many cases present themselves too late for remedy. Radiology plus definite symptoms may discover malignancy in time.—MAX. ARIAS SCHREIBER. *Reforma Medica*, 23 (1937), 635. (G. S. G.)

Cyclotropin in Eye Diseases. Good results were obtained in cyclitis, iridocyclitis, severe perforating injuries of the eye, postoperative irritations and infections, and sympathetic inflammation upon intramuscular or intravenous injections of hexamethylenetetramine mixture with sodium salicylate and caffeine (cyclotropin) every 8–10 days.—ZDRAVKO NIZETIE. *Klin. Monatsbl. f. Augenh.*, 98 (1937); through *Squibb Abstr. Bull.*, 10 (1937), A-1650. (F. J. S.)

7-Dehydrocholesterol—Antirachitic Irradiation Product from. Irradiation of 7-dehydrocholesterol in benzene with the magnesium spark gave a product with high antirachitic activity. The crude product was purified by conversion into the crystalline 3,4-dinitrobenzoate (melting point 129° C.) and the crystalline allophanate (melting point 173° to 174° C.). Saponification of these esters regenerated the vitamin as a non-crystallizing oil. It gave a spectrum with the same characteristic absorption maximum at 265 mμ as vitamin D_2 (calciferol). The activity was 24,000 international units per mg. as compared with 40,000 units for vitamin D_2. The substance differs from vitamin D_2 only in the structure of the side chain where the double bond between C_{22} and C_{23} and the methyl group at C_{24} are lacking. The name vitamin D_3 is proposed for this substance.—A. WINDAUS, FR. SCHENCK and F. WERDER. *Hoppe-Seyler's Z. physiol. Chemie*, 241 (1936), 100–103; through *Chimie & Industrie*, 38 (1937), 320. (A. P.-C.)

Dermatitis—Some Forensic Aspects of. The cost of dermatitis to industry is very large when one considers the damages which have been paid to the public in respect of articles of apparel, cosmetics, hair dyes, etc. Cosmetics are very difficult preparations from the dermatitis point of view; many of their ingredients though stimulating and useful in small quantities are irritant in large quantities or even in small quantities to a few people; sometimes an inappropriate vehicle is used for their applications.—H. E. COX. *Chemistry & Industry*, 56 (1937), 568. (E. G. V.)

Diabetes and Endocrine Glands. Antagonism of suprarenal capsule and pancreas, object of much study and experiment. Diverging opinions as to superiority of ligating adrenals over injection of insulin as treatment for diabetes.—L. HEDON. *Bruxelles Med.*, 16 (1936); through *Rev. sud-americana endocrinol. inmunol. quimioterap.*, 20 (1937), 480. (G. S. G.)

Disinfective and Antiseptic Compound for the Treatment of Ulcers, Sores, Etc. The product consists of anhydrous colloidal silver oxide of an average particle size smaller than one micron, dispersed in an inert, oily, anhydrous vehicle. When brought into contact with a moist body such as the human skin, the silver particles migrate to the contact boundary and pass into solution as silver hydroxide without leaving any substantial surface marking of reduced silver.—JOHN H. MÜLLER, assignor to SILVER OXIDE PRODUCTS CO. U. S. pat. 2,103,999, Dec. 28, 1937. (A. P.-C.)

Dye Composition for the Treatment of External Burns in Human Beings. The product consists of: (1) crystal violet, (2) neutral acriflavine and (3) either brilliant green or basic fuchsin.—ROBERT H. ALDRICH and DAVID A. BRYCE, assignors to CALCO CHEMICAL CO., INC. U. S. pat. 2,103,309, Dec. 28, 1937. (A. P.-C.)

Gas-Attack Protection—Task of the Pharmacist in. The author discusses the task of the pharmacist in the protection and treatment of the public in the event of gas attacks. Reports of committees on drugs for the treatment of gas poisoning; preparation and keeping of gas masks; disinfectants and methods of application and gas identification and detection are discussed.—D. H. WESTER. *Pharm. Weekblad*, 74 (1937), 42. (E. H. W.)

Granulin—New Medicament. Granulin, containing 25 Gm. Mochorka tobacco plus 2 Gm. salicylic acid in 100 cc. 70% alcohol, is an active local therapeutic agent for sycosis, staphlococcic impetigo, furunculosis, acne, hyperhidrosis, superficial blastomycosis, etc. The preparation, however, aggravates streptococcic lesions. It is toxic, but no symptoms of poisoning have been noted upon external use.—S. I. SCHASCHIN. *Acta Dermato-Venereologica*, 17 (1936), 178; through *Chem. Abstr.*, 32 (1938), 302. (F. J. S.)

Hexamethylenetetramine—Calcium Bromide Compounds. Hexamethylenetetramine (I) and calcium bromide form a stable crystalline compound, $2C_6H_{12}N_4.CaBr_2.10H_2O$, which is used in medicine. In aqueous solution the compound shows the same properties as a mixture of iodine and calcium bromide, hence is probably completely dissociated.—R. BOZZOLA. *Farm. ital.*, 5 (1937), 411–414; through *Chem. Abstr.*, 31 (1937), 8824. (F. J. S.)

Hops—Hypnotic Properties of. The therapeutic properties (sedative and hypnotic) of hops are due principally to the acid bitter constituents, which, however, are gradually resinified and lose their activity. Essential oil of hops possesses no therapeutic activity.—W. RUSIECKI. *Farm. Wspolczesna*, 5 (1936), 101; through *Chimie & Industrie*, 38 (1937), 319. (A. P.-C.)

Insulin Shock in Treatment of Catatonic Schizophrenia. Administered 10 to 15 units of insulin daily in progressive doses to comatose state, on several cases of dementia precox. All gave favorable results, but require careful watching. Treatment produces mental as well as general improvement.—MARIO JAHN and JOY ARRUDA. *Arq. Assist. Geral. a Psicopatas de S. Paulo*, 2 (1937); through *Laboratorio Clinico*, 17 (1937), 315. (G. S. G.)

Isothiocyanates—Neutralizing Action in Vitro of, upon Tetanus Toxin. Addition of phenylisothiocyanate to tetanus toxin enables the injection of a quantity corresponding to 2000 lethal doses of the original toxin into guinea pigs. Combination with allyl isothiocyanate likewise causes tetanus toxin to lose its toxic properties. Isothiocyanate-tetanus toxin combinations injected three times at 2-week intervals in amounts equivalent to 2 cc. of the toxin allowed 400 guinea pigs to withstand 4000 lethal doses of pure toxin 15 days after the last injection. The author believes that the sulfides inactivate the tetanus toxin by action upon the amino groups and the formation of corresponding sulfides of urea.—L. VELLUZ. *Compt. rend. acad. sci.*, 203 (1936), 498–500; through *Chimie & Industrie*, 38 (1937), 319. (A. P.-C.)

Malaria—Monkey, an Acridine Compound (Acr. X) in the Treatment of. The acridine compound (Acr. X) and atebrin were tested in cases of monkey malaria. The strain of monkey malaria was *Plasmofium knowlesi*. In the production of cures, rate of sterilization of the peripheral blood, and prevention of relapses they behave in a manner which appears to be identical so far as could be judged by the small numbers of animals experimented with. None of the experimental animals showed any untoward symptoms such as hæmoglobinuria, hæmaturia or jaundice in the case of either drug. It is the opinion of the authors that Acr. X is almost certainly derived from the same base as atebrin.—H. E. SHORTT and K. P. MENON. *Records Malaria Survey India*, 7 (1937), 253. (A. C. DeD.)

Malaria—Treatment of, with Atebrin Followed by Plasmochin. In thirty-one cases of malaria the combined treatment with 2-chloro-5-(δ-diethylamino-α-methylbutylamino)-7-methoxy-acridine-2HCl (atebrin, I) followed by 8-[N-(δ-diethylamino-α-methylbutyl)amino]-6-methoxy-quinoline (Plasmochin, II) proved safe, and the per cent of relapses (6.45) was less than that (23.3) of a similar group treated with quinine (III) in the previous year. I was given in 0.2-Gm. doses in a capsule three times a day for four days. After the end of the I-course, II was given in 0.02-Gm. doses in a capsule three times a day for four days. Of the thirty-one cases, three had abdominal epigastric pain attributed to II; no other subjective or objective symptoms were attributed to II. Two cases developed a yellowish discoloration of the skin probably due to I. Patients remaining flat on their backs in bed during the II course were all free from abdominal pain.—C. R. BALL. *U. S. Naval Med. Bull.*, 35 (1937), 418; through *Squibb Abstr. Bull.*, 10 (1937), A-1996. (F. J. S.)

Nucleotides—Therapeutic Manganese Compounds of, and of Their Hydrolytic Decomposition Products. Combinations of manganese with lower hydrolytic decomposition products of nucleoproteins (various details of the production of which are given) have a powerful stimulating effect upon the reticulo-endothelial system, and are suitable for use in the treatment of affections such as agranulocytosis, benzene poisoning, X-ray poisoning and various leucopenias incident to exhaustion of the reticulo-endothelial system.—SIMON L. RUSKIN, assignor to FRANCES R. RUSKIN. U. S. pat. 2,101,099, Dec. 7, 1937. (A. P.-C.)

Physiological Immunity. Nutrition as Modifying Factor in Infectious Diseases. Special importance of nutrition in arresting tuberculosis, or maintaining immunity. Similarly leprosy is chiefly endemic in locations of poverty and dirt. Typhoid responds to proper feeding and typhus and relapsing fever are less menacing if vitamin B is an essential part of diet. Chagas' disease, yellow fever, polioencephalitis and brucellosis have been studied with notes on dietary influence; vitamin B being important here also. This vitamin is especially necessary for maintaining immune equilibrium in bartonelosis.—MAXINE H. KUCZYNSKI-GODARD. *Reforma Medica*, 23 (1937), 609. (G. S. G.)

Pneumonia—Cinchona Alkaloids in. V. Alkyl Ethers of Apocupreine. The authors have prepared some of the higher alkyl ethers of apocupreine by alkylation of apocupreine with the appropriate alkyl *p*-toluenesulfonate. All these substances have strong action against the pneumococcus. Although the alkyl ethers themselves may not be of any immediate practical use, the authors state that the results are believed to be of value as a guide in the preparation of further antipneumococcus substances which may have lower toxicity.—C. L. BUTLER, M. HOSTLER and L. H. CRETCHER. *J. Am. Chem. Soc.*, 59 (1937), 2354. (E. B. S.)

Puerperal Infection—Immunotransfusion in. Use of donors previously immunized by polyvalent antipyogenic vaccine, and in some instances by convalescent serum. Transfusions used in cases of thrombophlebitis and localized septicemia. Contraindicated in endocarditis. Action is rapid and therapy considered superior to surgical intervention.—RICARDO DUBROSKY. *Rev. sud-americana endocrinol. inmunol. quimioterap.*, 20 (1937), 458. (G. S. G.)

Salicylates. A review of the action and uses of salicylic acid and the official salicylates with thirteen references.—M. A. LESSER. *Drug and Cosmetic Ind.*, 41 (1937), 768–771. (H. M. B.)

Sodium Perborate—Chemical and Clinical Aspects of. Wide use of sodium perborate has shown that there are some undesirable effects such as irritation and chemical burns. These effects have been ascribed to impurities, to sodium hydroxide formed by hydrolysis, to contact of undissolved salt, to flavoring agents. Implication of most allusions to therapeutic application is that oxygen lost in gaseous form is responsible for its value rather than the active oxygen but this is not in accord with known facts about hydrogen peroxide. The decomposition to yield hydrogen peroxide is accelerated by acids or acid salts. Proportion and concentration of perborate and acid brings the p_H of the aqueous solution into limits for use in mouth. The present investigation was to determine flexibility of perborate-phosphate composition in relation to p_H and to solubility and to study the effects on oral tissues. Experimental work is reported in detail, by graphs and tabulations. Study of its effects on oral tissues is described. The following conclusions were reached: 1. Monocalcium phosphate has been shown to reduce effectively the alkalinity of sodium perborate, thereby removing a common objection to its use in the treatment of Vincent's infection and allied conditions. 2. Neutralization is sufficiently rapid to be of practical importance in dental therapeutic applications. 3. Insoluble phosphates of calcium are formed by reaction between sodium perborate and monocalcium phosphate which are of value in a dentifrice because of their mechanical cleansing properties. 4. Monocalcium phosphate augments the solution rate and the apparent solubility of sodium perborate so that the benefits of the potential water-soluble available oxygen may be more quickly and more fully realized. 5. If stored under conditions approximating the maximum humidity and temperature of any climate, sodium perborate tetrahydrate (U. S. P.) has been shown to be less stable than sodium perborate in the form of monohydrate when 30 parts of the latter are mixed with from 20 to 37.5 parts of dehydrated monocalcium phosphate and sufficient tricalcium phosphate to make 100 parts. 6. Sodium perborate tetrahydrate (U. S. P.) has been shown to cause harmful effects when applied to the gums of normal healthy human subjects. 7. Similar harmful effects were caused by a mixture of 30 parts of sodium perborate monohydrate and 70 parts of inert tricalcium phosphate. 8. No harmful effects were caused by a mixture of 30 parts of sodium perborate

monohydrate, 45 parts of dehydrated monocalcium phosphate and 25 parts of inert tricalcium phosphate.—L. L. MANCHEY and S. LEE. *J. Am. Pharm. Assoc.*, 26 (1937), 890. (Z. M. C.)

Squill—Optical Activity of. Preparations of. Tincture of Squills B. P. 1932 has an average optical activity of −2.0°, Vinegar of Squills, B. P. 1932 one of −3.5°. A sample of a tincture when treated with 1% of hydrochloric acid increased its rotation from −1.8° to −4.3° in two weeks. A test on the treated sample indicated a lowered physiological activity with increasing optical activity.—L. MCGRAGHAN. *Analyst*, 62 (1937), 539. (G. L. W.)

Stomach and Intestinal Disorders—Agents for the Treatment of, in 1936. A review of new advances with 18 references.—K. KOCH. *Apoth. Ztg.*, 52 (1937), 1066–1067. (H. M. B.)

Strontium Chloride—Action of, on the Diuretic Properties of Sodium Sulfate. Small and moderate doses (0.0005 to 0.00250 Gm. equivalent per Kilo) of strontium chloride increased the diuresis caused by intravenous injection of hypertonic sodium sulfate into rabbits, while larger doses of strontium chloride inhibited it.—E. MATTEUCCI. *Arch. farmacol. sper.*, 62 (1936), 157–170; through *Chimie & Industrie*, 38 (1937), 313. (A. P.-C.)

Sulfamido-Chrysoidin, a New Derivative of, Very Active against Streptococcic Infection. Chrysoidin has only weak bactericidal action, but a sulfamide group in the para position, added to it, enormously increases its therapeutic activity. This compound, sulfamido-chrysoidin, has German name prontosil, and is active in experimental streptococcic infections. French investigators found active nucleus to be para-amino-benzene-sulfamide. A new carboxyl derivative is found even more efficacious in experiments with rats, sulfamido-phenyl-azobenzoic acid. Still being studied.—P. GLEY and A. GIRARD. *Presse méd.*, 91 (1937); through *Reforma Medica*, 23 (1937), 728. (G. S. G.)

Sulfur Dioxide—Asthma Following Prolonged Exposure to. A case is reported in which asthma developed after prolonged exposures to refrigerator sulfur dioxide in a person with a past history of asthma in childhood. Other workers exposed to the same gas coughed only on contact with the fumes and had no other symptoms. According to a personal communication from Veder, no permanent damage was produced in animals exposed to low but noticeable concentrations of sulfur dioxide for six months.—H. F. DOWLING. *Med. Ann. Dist. Columbia*, 6 (1937), 299; through *Squibb Abstr. Bull.*, 10 (1937), A-2092. (F. J. S.)

Sulfur Soap Paste in the Treatment of Scabies. A method of treatment and prophylaxis of scabies is described, consisting of the application for three days of a sulfur soap paste lather. The soap paste contains 18% sulfur but only 4 Gm. are required for satisfactory coverage in comparison to the 85 Gm. of the 15% sulfur ointment necessary. This soap paste diminishes the likelihood of sulfur dermatitis production, and damage to clothing and discomfort due to ointment-base vehicles are absent in this method of treatment.—R. A. NOLAN. *Arch. Dermatol. Syphilol.*, 36 (1937), 846; through *Squibb Abstr. Bull.*, 10 (1937), A-2026. (F. J. S.)

Suprarenal Cortex—Therapeutic Uses of the Hormone of. On normal subjects the injection of the cortex hormone produces sleepiness and a sense of well-being, sleep on the succeeding night is deeper and on waking the subject is more rested than usual. It increases the appetite and, if continued for several days, increases the capacity for work from 50 to 500%. In Addison's disease results are somewhat uncertain, but in most cases, especially if given early, it relieves many of the symptoms and prolongs life. It has been tried in many different cases of glandular disease, of injective conditions, of maladies of the digestive tract and of the nervous system, as well as other conditions, with very variable results. It can be expected to give good results when clinical signs point to a shortage of secretion of the hormone, in acute infections (in conjunction with vitamin C), especially when accompanied by toxic symptoms such as collapse, and particularly in serious cases of diphtheria, in many forms of aesthenia, in toxic conditions of pregnancy and in psoriasis. In cases of doubtful diagnosis of Addison's disease very rapid improvement of the symptoms after the injection of the hormone is a confirmation of the presence of this malady.—A. CIONINI. *Onnia Med.*, 15 (1937), 1; through *Quart. J. Pharm. Pharmacol.*, 10 (1937), 294, 295. (S. W. G.)

Therapeutic Material for Combating Anemia. By a treatment involving, *e. g.*, use of an aqueous sodium chloride or acid solution, there is derived from stomach or duodenum tissue (such as that of hogs) a product effective in combating anemia, which contains a thermolabile, water-soluble, active principle. It has not less than approximately 4 times the antianemic potency of desiccated defatted hog stomach, is free from large amounts of animal tissue and when in solid form is soluble in water and has a weight less than 5% of the original animal tissue from which it was

derived.—ELWOOD A. SHARP, assignor to PARKE, DAVIS & Co. U. S. pat. 2,099,708, Nov. 23, 1937. (A. P.-C.)

Therapeutic Preparations—Manufacture of, Containing Carbonic Acid. To prevent premature liberation of carbon dioxide from mixtures of solids which interact to liberate the gas, the substances are coated separately with a fatty material containing lecithin.—J. G. WALDENMEYER. Brit. pat. 463,035; through *J. Soc. Chem. Ind.*, 56 (1937), 981. (E. G. V.)

Therapeutic Remedies—Production of. Preparations for the treatment of disorders of the vegetative nervous system (bronchial asthma, hay fever, arterial hypertension and all spastic disorders of the abdominal organs) are made by inoculating *B. coli* or yeast fungi originating from the species for which the remedy is intended (human viscera) on to a nutrient substratum of the same species (human ascitesagar or blood-beerwort-agar) and the resulting culture is transferred to a nutritive substratum of the same species (human blood, ascites transudate or exudate fluid), diluted with physiological saline, incubated at 37° for 24–48 hours, and filtered from germs. For internal use the product is heated to the boiling point and the coagulated albumin removed.—J. VORSCHUTZ. Brit. pat. 469,447; through *J. Soc. Chem. Ind.*, 56 (1937), 1273. (E. G. V.)

Tonka-Bean Oil—Therapeutic Value of, in Human Tuberculosis. A case is recorded of a cure of tuberculosis pulmonary lesions by internal administration and injections of oil of *Dipterix odorata* Willd.—PENIDO SOBRINHO. *Rev. flora med.*, 3 (1937), 531; through *Squibb Abstr. Bull.*, 10 (1937), A-2028. (F. J. S.)

Vitamin B_1—Utilization of, from Fuller's Earth Adsorbates. A solution of the vitamin, a Fuller's earth adsorbate, and a quinine extract of the adsorbate were compared by administration to polyneuritic rats. The Fuller's earth adsorbate had only 60% of the effectiveness of its quinine extract which contained as much as the original solution.—J. C. KERESZTESY and W. L. SAMPSON. *Proc. Soc. exptl. Biol. Med., N. Y.*, 36 (1937), 686–687; through *Physiol. Abstr.*, 22 (1937), 933. (F. J. S.)

Zinc Peroxide—Use of, in Oral Surgery. Zinc peroxide is more rapid and more effective than sodium borate, potassium chlorate or potassium permanganate in minimizing or eliminating anærobic organisms from the mouth. It may be used in twenty-five per cent suspension as a mouth wash and in forty per cent suspension for coating infected tissues after surgery. Only the "medicinal grade" of zinc peroxide should be used, and the preparation should be tested to determine its ability to liberate oxygen when suspended in distilled water, as not all samples possess this requirement. Sterilization of this compound in small quantities at 140° dry heat is recommended.—FRANK L. MELENEY. *Inter. J. Orthodontia*, 23 (1937), 932–940; through *Chem. Abstr.*, 31 (1937), 8825. (F. J. S.)

NEW REMEDIES

SYNTHETICS

Abracyl (A. Boake, Roberts and Co., Ltd., Stratford, London) is a mixture of isomeric methyl tertiary butyl phenols, issued as "Abracide" skin lotion dusting powder and ointment for fungus infections of the skin. It is marketed in 6- or 8-oz. cartons as a dusting powder, in 12-oz. bottles as lotion and 4-oz. ointment jars as ointment.—*Australas. J. Pharm.*, 52 (1937), 649. (E. V. S.)

Argidal Ointment (C. F. Boehringer Sons) contains acetyl-acid-hexamethylenetetramine-silver. The ointment serves in the treatment of wounds and ulcerations.—*Pharm. Weekblad*, 74 (1937), 322. (E. H. W.)

Barbidal Astra is diallylmalonylurea of diallylbarbituric acid.—*Pharm. Weekblad*, 74 (1937), 635. (E. H. W.)

Barbiphen Astra is phenylethylbarbituric acid.—*Pharm. Weekblad*, 74 (1937), 635. (E. H. W.)

Benetol preparations contain α-naphthol in the form of a glycerite (benetol) and are employed as general antiseptics. A few persons possess an idiosyncrasy to benetol, especially if they are affected by glycerin. The preparations are incompatible with oxidizing and chlorination agents, chlorides or acids. The liquid preparation may be employed as a gargle or it may be taken internally, and an ointment, a nasal unguent, a powder, a tooth cream, and vaginal and rectal suppositories are available, also a camphorated oil containing benetol.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 154. (S. W. G.)

Benzedrine or Isomyn is β-phenylisopropylamine, $C_6H_5.CH_2.CH)NH_2)CH_3$, a sympathomimetic compound structurally related to ephedrine and adrenaline. It stimulates the central nervous system, and in large doses causes considerable rise in blood-pressure. It also relaxes the smooth muscle of the gastro-intestinal tract, and relieves spasm. Benzedrine controls the sleep attacks of narcolepsy. In conjunction with stramonium or hyoscine it may help to control the subjective symptoms of a post-encephalitic Parkinsonism. Benzedrine is an aid to the X-ray visualization of the gastro-intestinal tract, and may prove beneficial in spastic colitis and constipation. Large doses have a marked pressor effect and it should be used with the utmost caution in high blood-pressure cases. Coronary disease should be regarded as a contra-indication. Overdosage causes dilatation of the pupils, and excitability. Sedatives such as bromides or barbiturates are recommended as antidotes and, in acute poisoning, the treatment of shock and collapse should be applied. The initial dose should be small, a quarter of a tablet (2.5 mg.), the dose being increased until the optimum effect is obtained. In narcolepsy doses up to 3 tablets three times a day have been given. For X-ray visualization, 1 to 4 tablets are given. The dose in depression or fatigue may vary from one-half to 2 tablets. Benzedrine is issued in 10-mg. tablets grooved so that halves and quarters may easily be broken. They are issued in bottles of 50.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 299–300. (S. W. G.)

Carbadal Astra is diethylobromoacetyl urea.—*Pharm. Weekblad*, 74 (1937), 635. (E. H. W.)

Causyth is described as the cyclohexatriene-pyridine-sulfonate of a pyrazolone derivative, of the formula $C_{22}H_{24}N_4O_6S$. Causyth is not easily soluble in water but a 10% solution can be prepared at body temperature. Tests on animals show that it is non-toxic taken orally or by injection. It is suggested as an anti-rheumatic, antipyretic and analgesic remedy, for the treatment of rheumatism, arthritis, influenza and all fevers. The dose is 1 to 4 tablets of 7.5 grains three times a day or an enema of 45 to 90 grains in 50 cc. of water once a day. Causyth is supplied in tubes of 10 and 20 tablets, and as a powder in 150 grains, 1-oz. and 2-oz. packages. It is also prepared in the form of 15-grain suppositories in packages of 10.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 155. (S. W. G.)

Dettolin is a non-poisonous, antiseptic mouthwash containing dimethylchlorphenyl hydrate 1.02; menthol 0.12; sapo vegetalis 0.5; aromatic tincture of rose 64.9; elixir of gluside B. P. C. 6.0; distilled water ad 100. This mouthwash, containing a halogen derivative of xylenol, is claimed to have a Rideal-Walker coefficient of 0.5. It is recommended for the treatment of ulcerative conditions of the mouth, and as a mouthwash and deodorant in dental surgery. Dettolin is supplied in bottles containing 3 fluidounces.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 156. (S. W. G.)

Erysipan (Chemifa-Chemische Fabriek, Amsterdam) is *p*-aminobenzolsulfonamide appearing on the market in the form of 0.3-Gm. tablets. They are used in the treatment of erysipelas, angina, arthritis, pyelitis, cystitis and in general in the treatment of infectious diseases.—*Pharm. Weekblad*, 74 (1937), 636 and 374. (E. H. W.)

Hebaral-Sodium (Parke, Davis & Co., London) is sodium hexyl-ethyl-barbiturate, sold in capsules of 0.2 Gm.—*Pharm. Weekblad*, 74 (1937), 375. (E. H. W.)

Hormodyn Ampuls (Nordmark Werke, Hamburg) contain (according to the statement on the label) a 1% stabilized solution of Hydrochloras Cysteini with Vitamins B and C.—*Pharm. Weekblad*, 74 (1937), 636. (E. H. W.)

Hypnocaine Ointment (Barfred Research Lab., Newark, N. J.) contains 3% of Hypnocaine (N-propanol-*p*-aminobenzylcarboxylate) synergistically activated by the Barfred process and combined with the natural lipoid soluble vitamins A and D as they occur in cod liver oil. The whole is incorporated in a soft, stable and emollient ointment base, consisting of isocholesterins and petrolatum. It is indicated as a local application for the relief of pain due to burns, ulcers, sunburn, scalds and for the alleviation of irritability and pruritis associated with acne, dry eczema, pruritis ani and vulvæ, hemorrhoids and similar conditions. The ointment is supplied in collapsible 1-oz. tubes.—*Drug. Circ.*, 81, No. 10 (1937), 43. (E. V. S.)

Isofen Astra is a solution of barbituric acid derivatives having the approximate composition of Solutio Barbamini.—*Pharm. Weekblad*, 74 (1937), 636. (E. H. W.)

Lenigallol (Knoll) (John Bell and Croyden, London) is pyrogallol triacetate used for eczema, especially weeping forms. It is supplied as an ointment of 3 to 10% and as powder.—*Australas. J. Pharm.*, 52 (1937), 649. (E. V. S.)

Navigan (Roche Products, London), an antispasmodic sedative for sea sickness, is a combination of syntropan (3-diethylamino-2:2-dimethylpropanol ester of tropic acid) and a sedative dioxodiethylhexahydropyridine. Each tablet contains 10 mg. of syntropan and 50 mg. of the sedative, while suppositories are also supplied containing four times the tablet dose. The dose is 3–6 tablets at least half an hour before sickness is likely to occur; 2 or 3 tablets $2^1/_2$ or 3 hours afterward and 2 tablets after another four hours. The suppositories are for cases where oral administration is unlikely to be of benefit. Navigan is supplied in bottles of 25 and 100 tablets, and boxes of 6 suppositories.—*Australas. J. Pharm.*, 52 (1937), 548. (E. V. S.)

Prontosil Album (Bayer, I. G. Farben.-A. G., Leverkusen a. Rhein) is para-amino-phenylsulfonamide which is found on the market in tablets containing 0.3 Gm. of this material. It is used in streptococcus infections.—*Pharm. Weekblad*, 74 (1937), 323. (E. H. W.)

Salyrgan Suppositories (Bayer, I. G. Farben.-A. G., Leverkusen a. Rhein) contain in each 0.40 Gm. of the complex mercury compound of salicylallylamide-*o*-acetic acid sodium, 0.20 theophylline in sufficient suitable suppository base to make 2.50 Gm. The packages contain 5 suppositories.—*Pharm. Presse*, 43 (1938), 32. (M. F. W. D.)

Soletter (Chemische Fabriek "Astra," Södertelje and Amsterdam) are little tablets of saccharoidine to be used in replacing sugar. They are put up in neat bakelite boxes.—*Pharm. Weekblad*, 74 (1937), 637. (E. H. W.)

Streptocide. A proprietary brand of para-aminobenzene-sulfonamide. It is issued as compressed tablets of 0.25 Gm. in bottles of 25, 100 and 250. (See also Sulfonamide.)—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 159. (S. W. G.)

Targophagine (Van Goedecke & Co.) is a combination of targesine with two anesthetics not named in the prospectus. It is a therapeutic agent and prophylactic for mouth and throat affections.—*Pharm. Weekblad*, 74 (1937), 376. (E. H. W.)

Trasentine (Ciba, Gesellschaft für chemische Industrie at Basel) is a new synthetic antispasmodic. It is the hydrochloride of diphenylacetyl-2-diethylamino-ethanol ester. It is found on the market in tablets with 0.075 Gm., in suppositories with 0.1 Gm. and in 1.5-cc. ampuls containing a 5% solution. One tablet or injection is used in pain attacks; for continued use 1 tablet 3–4 times a day or one suppository 3 times a day. It is used in ulcus ventriculi and in kidney- and gall-stone colic.—*Pharm. Weekblad*, 74 (1937), 324. (E. H. W.)

Urazine (May & Baker, Ltd., Dagenham, England) is a piperazine ectro-salicylate in effervescent granule form. It is indicated for chronic forms of rheumatism. The dose is one teaspoonful with a little water, twice daily for 8 to 15 days; resumed, if necessary, after an interval of 1–2 weeks.—*Australas. J. Pharm.*, 52 (1937), 433. (E. V. S.)

Specialties

Acigen is an effervescent granular compound of mandelic acid for the treatment of urinary infections. It contains mandelic acid, sodium bicarbonate, ammonium biphosphate and flavoring agents. The equivalent of 3 Gm. of mandelic acid is contained in 2 teaspoonfuls of the granules, which is the adult dose. It should be taken in a small quantity of water while effervescing, three or four times a day. Acigen is supplied in bottles of 6 fluidounces.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 153. (S. W. G.)

Adrianol-Emulsion (C. H. Boehringer Son, Nieder-Ingelheim) in a previous communication (*Pharm. Weekblad*, 74 (1937), 322), it is stated that this emulsion swells the mucous membrane whereas it should have been stated that the swelling is reduced. It should also be noted that a ten times greater dose of this emulsion is necessary to bring about the same action as adrenalin, which is an indication of the safety of the preparation.—*Pharm. Weekblad*, 74 (1937), 634. (E. H. W.)

Aglucosol (Associatie Aglucosol, Haarlem) is a remedy for diabetes mellitus composed of various vegetable drugs. According to the statement of the manufacturer it consists of extracts of cortex syzygii, flores cinæ, folia myrtilli, folia sennæ, folia eucalypti, fructus cardamomi, fructus juniperi, herba centaurii, radix gentianæ, rhizoma tormentillæ and 0.2% phloridzinum. The dose is dependent upon the individual case and varies from four teaspoonfuls to four tablespoonfuls per day.—*Pharm. Weekblad*, 74 (1937), 373. (E. H. W.)

Akrotherm (Desitinwerk, Carl Klinke, Hamburg) consists of organ-extracts which are related to histamine, acetylcholine and adenosine-phosphoric acid. Akrotherm is used for chilblained hands and other skin affections caused by irregularities in the blood-vessel system.—*Pharm. Weekblad*, 74 (1937), 322. (E. H. W.)

Aluzyme Tablets contain yeast, freed from extraneous matter and almost completely dehydrated, the finished product containing 95% of living cells. The vitamin B_1 potency is 1140 international units per ounce, and the B_2 and nuclein content is high. The tablets are of value in B-avitaminosis, furunculosis, and as a general adjuvant in all affections of the skin. The dose is 2 to 3 tablets three times a day, but this may be increased considerably; for children under 12 years, half the adult dose, or less according to age, may be given. Aluzyme tablets are supplied in bottles containing 500 or 1000, 5-grain tablets.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 153. (S. W. G.)

Apicur is a 1.5 in 1000 solution of toxin prepared from natural bee stings and contains the venom free from impurities. It is recommended for the treatment of rheumatic conditions, neuralgias and neuritic affections. Apicur is given by intracutaneous injection into the affected part, commencing with 0.05 cc. and followed after intervals of three to five days with increasing doses up to 0.25 cc. or in severe cases up to 0.5 cc. A course of 5 to 8 injections is usually necessary. A local reaction occurs, and it is advisable to distribute the injection over a large number of punctures. The irritation continues for two or three days. Apicur is supplied in 1-cc. rubber-capped vials.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 154. (S. W. G.)

Arantil Pearls (Bayer, I. G. Farben.-A. G., Leverkusen a. Rhein) contain pyramidon, novalgine and a compound of pyramidon with diethylacetamide. Arantil Pearls are used in toothache, nuralgia, migrane and headache.—*Pharm. Weekblad*, 74 (1937), 322. (E. H. W.)

Arlcaps (Arlington Chemical Co., Yonkers, N. Y.) contain in each 5-grain capsule ephedrine hydrochloride $^2/_5$ gr., phenobarbital $^2/_5$ gr., acetylsalicylic acid 2 gr. and alkaline bases *q. s.* Each 3-grain capsule contains ephedrine hydrochloride $^1/_4$ gr., phenobarbital $^1/_4$ gr., acetylsalicylic acid $1^1/_5$ gr. and alkaline bases *q. s.* They are used as a therapeutic aid to the specific treatment of asthma, hay fever and other allergic conditions. Contraindicated in patients exhibiting an idiosyncrasy to the coal tar, phenobarbital and ephedrine. Arlcaps are marketed in bottles of 25 and 500 for the 5-grain, and in bottles of 35 and 500 for the 3-grain capsules.—*Drug. Circ.*, 81, No. 10 (1937), 43. (E. V. S.)

Asthmolysin is a combination of the extracts of suprarenal and pituitary glands in sterile solution for hypodermic or intramuscular injection. It is recommended for the relief of asthma and when administered during an attack it is claimed that the bronchial spasm is alleviated within sixty to ninety seconds. Even severe attacks subside within five to fifteen minutes. The dose is 1 cc. (the contents of 1 ampul) given hypodermically. If given intramuscularly care must be taken to avoid penetration of a blood-vessel. The dose may be repeated in ten to twenty minutes. For chronic asthma a regular course of 20 to 30 injections should be given. Asthmolysin is issued in boxes of 10 1-cc. ampuls.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 154. (S. W. G.)

Benerva is a standardized preparation of vitamin B_1 supplied in 1-cc. ampuls containing the equivalent of 500 international units or 1.25 Gm. of the pure crystalline substance obtained from natural sources. It is administered by hypodermic or intramuscular injection for the treatment of various forms of polyneuritis. Benerva is a specific in beri-beri, and is recommended for use in convalescence, and in certain skin diseases. The dose varies from 1 to 3 ampuls a week, to 1 to 2 or more daily. Benerva ampuls are supplied in boxes of 6 and 50.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 154. (S. W. G.)

Boldine Houdé-Granules (Laboratorie Houdé, Paris) contain 1 mg. boldine, the alkaloid of the leaves of *Pneumus Boldo*, and are sold in packages of 20 granules.—*Pharm. Presse*, 43 (1938), 32. (M. F. W. D.)

Calcivitan Tablets contain calcium gluconate $7^3/_4$ grains and vitamin D 600 international units, in a chocolate base. It is recommended as a palatable method of adding extra calcium to the diet with the necessary supplementary intake of vitamin D. Calcivitan can be given during pregnancy and lactation. It is also suggested for the treatment of chilblains and rickets, and other diseases due to vitamin D deficiency. Calcivitan tablets are supplied in bottles of 50, 100 and 1000.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 155. (S. W. G.)

Carbosan Granulatum (Chemische Fabriek "Astra," Södertelje and Amsterdam) is a granulated active carbon of which the adsorptive capacity has been determined. This amounts to 0.33 Gm. of antipyrine and 85 cc. of 0.1*N* Iodine per Gm. One gram of the granulated product contains 0.55 Gm. carbon and 0.45 Gm. bolus alba.—*Pharm. Weekblad*, 74 (1937), 635. (E. H. W.)

Catronal Tablets (Chemische Fabriek "Astra," Södertelje and Amsterdam) contain per tablet: theocine-calcium acetate 0.5 Gm.; phenylethylbarbituric acid 0.010 Gm.; atropine sulfate 0.1 mg. They are used in hypertension and vasomotor disturbances. Dose 2–3 tablets, 2–3 times a day dissolved in water.—*Pharm. Weekblad*, 74 (1937), 635. (E. H. W.)

Celex Verbandmull (Dr. Krober) is a bandage material prepared by the bandage factory of Paul Hartmann. It possesses strong absorptive properties.—*Pharm. Weekblad*, 74 (1937), 635. (E. H. W.)

Choleocaps (Carroll Dunham Smith Pharmacal Co., Orange, N. J.) capsules contain in each organic iron compound $^3/_4$ gr., *Jateorrhiza miersii* $^3/_4$ gr., matricaria $1^5/_8$ gr., polygonacia $1^5/_8$ gr. and sodium glycocholate compound $^3/_8$ gr. They are indicated in the treatment of cholelithiasis and cholecystitis, also in cases of hypertension. Choleocaps are marketed in bottles of 100, 500 and 1000.—*Drug. Circ.*, 81, No. 10 (1937), 42. (E. V. S.)

Collotone contains in each fluidounce colloidal iron 1 grain, equivalent to iron and ammonium citrate 6 grains; vitamin B in the form of yeast extract, international units 25; sodium, potassium and calcium glycerophosphates of each 12 grains; nux vomica $2^1/_2$ min.; caffeine citrate 2 grains. Small quantities of manganese and copper are also present. It is recommended as a pleasantly flavored iron tonic for general use. The dose is 1 to 2 teaspoonfuls twice or thrice daily. Collotone is issued in 4-oz. bottles.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 155. (S. W. G.)

Curcunat Dragees contain in each 0.1 Gm. of a dye-stuff isolated from *Curcuma longa* and 0.1 Gm. of calcium cholate. They are indicated in the treatment of infections of the liver and gall bladder, and in intestinal sepsis. The dose is about 1 dragee three times daily. Curcunat is supplied in tins of 30 dragees.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 155. (S. W. G.)

Durosellan (Dr. Starke & Max Biering, Dresden) is a cod-liver oil ointment made from cod-liver oil with a high vitamin content. It is used in decubitus, ulcus cruris, etc.—*Pharm. Weekblad*, 74 (1937), 322.

Endothyrin Tablets contain in each, $^1/_2$ grain of desiccated thyroid having an iodine content of $2^1/_2$ times the official standard, with 5 grains of a powder containing magnesium phosphate 2; calcium gluconate 8; calcium glycerophosphate 8; potassium bicarbonate 32; sodium bicarbonate to 100. It is indicated for the treatment of hypothyroidism, myxoedema and allied disorders. The dose suggested is one or more tablets three times a day. Endothyrin tablets are supplied in packages of 100, 500 and 1000. It is also supplied as a concentrated glycerinated solution, 1 drop being equivalent to 1 grain of fresh thyroid gland. The dosage is 1 to 10 drops three times daily. Endothyrin guttæ is supplied in 25-cc. dropper bottles.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 156. (S. W. G.)

Examen (Glaxo Laboratories Ltd., Greenford, Middlesex, Eng.) is the active hemopoietic factor obtained from 100 Gm. of fresh liver and containing 10–15 mg. of solids in each 2 cc. It is used in pernicious anemias in the treatment of relapse and maintenance of normal blood level, other macrocytic anemias, used prior to X-ray or radium therapy and as an empirical tonic in delayed convalescence and as preoperative routine. The dose is 4 cc. initial, then 2 cc. every two weeks until blood level normal, intramuscularly in pernicious anemia, then every 3 to 5 weeks for maintenance. In extreme cases, it may be used intravenously. Examen is supplied in 2-cc. ampuls, boxes of 3 and 6.—*Australas. J. Pharm.*, 52 (1937), 760. (E. V. S.)

Foligan (Dr. G. Henning, Berlin) is a cardiac medicament obtained in crystalline form from *Digitalis lanata*. These glucosides are found on the market in solution, in ampuls; also as suppositories and tablets. 1 cc. of foligan solution contains 0.5 mg. foligan; the suppositories also contain 0.5 mg., the tablets 0.25 mg. The ampuls (2 cc.) contain 0.4 mg. foligan.—*Pharm. Weekblad*, 74 (1937), 374. (E. H. W.)

Haliverol (Parke, Davis & Co., London) is the oil obtained from halibut livers, with viosterol. The vitamin A content is 60 times and the vitamin D content 250 times that of cod liver oil. It is found on the market in 5-Gm. bottles and in small capsules. The dose for nursing

children is 15 to 20 drops and in definite rickets 20–30 drops.—*Pharm. Weekblad*, 74 (1937), 374. (E. H. W.)

Harmine (E. Merck) is an alkaloid of *Peganum harmala* used for the rigors of encephalitis lethargica and paralysis agitans. The dose is 0.02 to 0.04 Gm. subcutaneously once or twice daily if required. It is supplied in powder form.—*Australas. J. Pharm.*, 52 (1937), 548. (E. V. S.)

Hepafer Astra-Tablets (Chemische Fabriek "Astra," Södertelje and Amsterdam) are light blue candied tablets containing liver extract equivalent in amount to 20 Gm. of fresh liver and also 0.1 Gm. of reduced iron. They are used in the treatment of anemia, the average dose being 2–4 tablets, three times a day and in serious cases 4–6 tablets.—*Pharm. Weekblad*, 74 (1937), 636. (E. H. W.)

Iberin (Abbott Lab.) capsules contain in each iron and ammonium citrates 5 gr.; vitamin B_1 22 International units; vitamin G (including all the factors of this complex) approximately 12 Sherman Units; and liver concentrate (1 part equivalent to 20 parts of fresh liver) 4 gr. It is indicated in the prophylaxis and treatment of secondary anemia. Iberin is supplied in bottles of 100 and 500 capsules.—*Drug. Circ.*, 81, No. 10 (1937), 42. (E. V. S.)

Jecovitol Ointment (N. V. Brocades & Stheeman and Pharmacia) contains as the active constituent jecovitol-cod liver oil. The ointment has a pleasant odor due to the addition of essences. It is used in the treatment of infected wounds.—*Pharm. Weekblad*, 74 (1937), 375. (E. H. W.)

Karlsbader Pills (Chemische Fabriek "Astra," Södertelje and Amsterdam) are candied pills of which 100 tablets contain: aloe 10 Gm.; extract cascara sagrada 5 Gm.; sodium sulfate (exsiccated) 2 Gm.; medicinal soap 2 Gm.; gentian root 1 Gm. and oil of fennel 5 drops.—*Pharm. Weekblad*, 74 (1937), 636. (E. H. W.)

Leotamin Ointment (Lovens Kemiske Fabrik, Denmark, through C. H. W. Hasselriis, New York) contains Danish insulin and Danish vitamin extract (A and D) freshly made and incorporated in a sterilized vaseline base. It is indicated in the treatment of all kinds of wounds, which are difficult to heal in patients suffering from anemia, asthenia, hemophilia and diabetes. The ointment is marketed in tubes of 15 gr.—*Drug. Circ.*, 81, No. 10 (1937), 42. (E. V. S.)

Manetil is a hemostatic extract of spinal cord. It is biologically standardized by observing the bleeding time in white mice. One biological unit of manetil is $^1/_{30}$ of the total dose which shortens the bleeding time in a mouse by 40%. One ampul of manetil contains 10 biological units in the form of a dry sterile powder, which is dissolved in 1 to 2 cc. of sterile water for injection. It has been used for pulmonary, nasopharyngeal, gastro-intestinal and urinary tract hæmorrhage. The usual dose is 1 to 3 ampuls injected during 24 hours. In grave cases 5 to 6 ampuls can be administered. Manetil is issued in boxes of 5 ampuls, with 5 ampuls containing 2 cc. of sterile water.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 157. (S. W. G.)

Multitraan (Chemische Fabriek "Astra," Södertelje and Amsterdam) is the oil from the livers of the halibut and tuna. The liver-oil of the tuna is richer in Vitamin D than in Vitamin A. Therefore if the two oils are mixed a mixture may be obtained which contains 15,000 units of Vitamin A and 7500 units of Vitamin D (Sherman and Oslo units) per cc. or 21,000 A and 4500 D international units. The standardization is carried out biologically according to the method of the U. S. P. or spectrocolorimetrically. Multitraan (known in England as Jecototal) appears on the market in drops of which the following doses are suggested: children (6 months) 2–4 drops; children (6 months to 1 year) 5–10 drops; and older children 8–12 drops. Capsules are also found on the market of which a dose of 2–4 per day is suggested. An ointment also appears on the market which contains 10 Gm. Multitraan, 15 Gm. olive oil, 45 Gm. petrolatum, 30 Gm. lanolin, 0.15 Gm. *p*-oxybenzoic acid-ethyl ester and 0.05 Gm. oxybenzoic acid-propyl ester.—*Pharm. Weekblad*, 74 (1937), 636. (E. H. W.)

Myokombine (C. F. Boehringer & Sons, Mannheim-Waldhof) is the name given to 1-cc. ampul containing 0.5 mg. kombetine (strophanthine Boehringer) and 0.07 Gm. novocaine.—*Pharm. Weekblad*, 74 (1937), 323. (E. H. W.)

Neurosedine (Associatie Aglucosol, Haarlem) is a preparation found on the market in liquid form and as tablets. It contains $3^1/_4$% bromides, $^1/_2$% sodium diethylobarbiturate, $^1/_4$% phenyldimethylpyrazolone and 0.1% sodium phosphate. It is used as an analgesic. Dose of the liquid is 1 dessertspoonful three times a day; for the tablets, 1 tablet three times a day.—*Pharm. Weekblad*, 74 (1937), 375. (E. H. W.)

New Remedies. Perandren is the propionic acid ester of testosterone artificially prepared; it is recommended for trial in physical and mental fatigue, convalescence, incipient prostatic affections, delayed puberty and premature senility. **Ventron Capsules** each contain 5 gr. concentrated Ventriculin, equivalent to 15 gr. Ventriculin (stomach extract); 2 gr. Naferon (iron and sodium citrate, neutral); vitamin B_1 twenty International Units, and vitamin B_2 five Sherman units. **N. P. S. (Nerve Pain Specific)** contains acetophenetidin 2.15 gr., sodii hydroxy-benzoas 1.75 gr., quinine sulfate 0.46 gr., methyltheobromine 0.25 gr., acid hydroxybenzoic 0.15 gr., acid citric 0.24 gr., amylum *q. s.* **Seconal** is sodium propyl-methyl-carbinyl allyl barbiturate in $1^1/_2$-gr. "Pulvules" brand filled capsules. **Zant Antiseptic Lubricant** is a nongreasy, water-soluble jelly, containing 1% "Zant" germicide. It is used for lubrication of catheters, sounds, cystoscopes and for digital examinations.—ANON. *Pharm. J.*, 139 (1937), 142. (W. B. B.)

New Remedies. Iotab is a compound tablet formula containing iodine 1–10 gr., dried milk 4 gr., flavoring *q. s.*; used as a prophylactic against colds and influenza, and for treatment of rheumatism and hypothyroidism. **Folinerin** is a cardiac stimulating glucoside obtained from *Nerium oleander* in 0.1-Gm. tablets. **Testoviron** is a pure synthetic preparation of the male hormone, used in controlling the vitality and functional power of the prostate and seminal vesicles. —ANON. *Pharm. J.*, 139 (1937), 242. (W. B. B.)

New Remedies. The following new remedies are reported: **Amphoteric Gel,** a palatable colloidal suspension of 5% aluminum oxide ($Al_2(OH)_6$), for treatment of hyperacidity and gastric and duodenal ulcer; **Anticoman,** tablets containing 0.175 Gm. of deca-methylene-diguanide, for the treatment of mild or medium cases of diabetes; **Picragol,** silver picrate 1%, in kaolin—also in the form of pessaries, for the treatment of non-specific vaginitis; **Serenol,** containing camphosulfonate of sparteine 6 Gm., camphosulfonate of ephedrine 2.5 Gm., extract of boldo 10 Gm., extract of cratægus 20 Gm., extract of salvia 10 Gm., tincture of marrubium 10 Gm., glycerin extract of thyroid (1–1 of fresh gland) 0.10 Gm., valerian 50 Gm., hexamethylenetetramine 10 Gm., vehicle *q. s.* to 1000 cc. used as a sedative.—ANON. *Pharm. J.*, 139 (1937), 567. (W. B. B.)

Oktyron (Knoll, A. G.) is now also found on the market in suppositories. They are used in headache, menstrual disturbances, etc.—*Pharm. Weekblad*, 74 (1937), 323. (E. H. W.)

Orvitol Ampuls (Oesterreichische Serum-G. m. b. H., Vienna, 9th dist.) are put up in 0.5-cc. ampuls containing in each cc. 0.0002 Gm. sapotoxin I, 0.005 Gm. sapotoxin II, 0.04 Gm. glucose, etc., in distilled water; 5 ampuls to the package. **Orvitol Ointment** is put up in 10- and 20-Gm. packages containing 0.50 Gm. sapotoxin in ointment base.—*Pharm. Presse*, 43 (1938), 32. (M. F. W. D.)

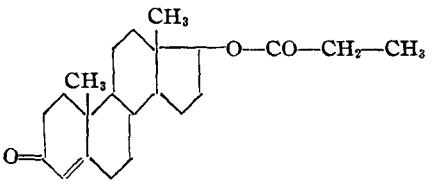
Padutine (Bayer, I. G. Farben.-A. G., Leverkusen a. Rhein) is now also found on the market in the form of dragées.—*Pharm. Weekblad*, 74 (1937), 323. (E. H. W.)

Paracascar (Evans, Sons, Lescher and Webb, Ltd., Liverpool, England) is a petroleum emulsion with liquid paraffin and aromatic cascara. It is a laxative combining the lubrication of the intestinal tract and the stimulation of peristalsis. The dose is one teaspoon to one tablespoonful once or twice daily. Paracascar is packaged in 4, 8, 16 and 80 oz.—*Australas. J. Pharm.*, 52 (1937), 433. (E. V. S.).

Pellidol Ointment (Boyer Products, Ltd., London), a non-irritant scarlet red ointment, contains 2% diacetylaminoazotoluol in a soft paraffin base. It is used for burns, wounds, extensive epithelial deficiencies, eczema, ulcers, skin affections of children, chilblains, frost-bite and similar other conditions. It is marketed in tubes of 25 Gm. and tins of 250 Gm.—*Australas. J. Pharm.*, 52 (1937), 433. (E. V. S.)

Pitocine (Parke, Davis & Co., London) is the oxytocic constituent from the posterior lobe of the pituitary gland that is standardized physiologically to 10 international units per cc. It appears in ampuls of 0.5 and 1 cc. Pitocine may be used in cases of inertia uteri and also when this appears in combination with high blood pressure.—*Pharm. Weekblad*, 74 (1937), 375. (E. H. W.)

Perandren is synthetic, chemically pure testicular hormone. It is testosterone propionate and has the formula



It forms colorless crystals melting at 121–123° C.; insoluble in water, but readily soluble in oils and fat solvents. One milligram of perandren corresponds in activity to about 50 international units. It is recommended for trial in cases of disturbed sexual development, testicular insufficiency, and affections of the prostate. Perandren is supplied in 1.1-cc. ampuls, each cc. containing 5 mg. of perandren in sterile oily solution. The dose suggested is 1 ampul once or twice a week, given intramuscularly or subcutaneously. Perandren is supplied in boxes of 4 ampuls.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 158. (S. W. G.)

Protamine Insulin (with Zinc)—Suspension. A suspension of insulin, with added protamine and zinc, which is readily and evenly diffused on shaking prior to administration. It is more slowly absorbed than unmodified insulin and is of particular use in cases where several administrations daily are necessary. Care is necessary if reactions are to be avoided due to unfamiliarity with its use or deviations from a properly balanced dietary. It is issued in 5-cc. and 10-cc. phials, each cc. containing 40 units. The packings are distinct in color from packings of unmodified insulin.—*Lancet*, Lond., 232 (1937), 596; through *Quart. J. Pharm. Pharmacol.*, 10 (1937), 158. (S. W. G.)

Rheuma Vasogen contains salicylic acid 10.0; camphor 6.0; chloroform 14.0; ext. capsici 1.0; ol. sinapis 0.1; vasogen to 100.0. Vasogen is a petroleum oil which has been chemically treated to reduce its surface tension. Rheuma vasogen is recommended as a local percutaneous medication for the treatment of rheumatism and allied conditions. It is applied to the affected parts and massaged for ten to fifteen minutes. Rheuma vasogen is issued in 1-oz. and 3-oz. bottles.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 158. (S. W. G.)

Sangostop-Hæmozalf (Brocapharm) is a combination of the hemostatic "sangostop" with the customary constituents of pile salve. It is put up in tubes of 30 Gm. with an anus canula.—*Pharm. Weekblad*, 74 (1937), 323. (E. H. W.)

Silantox (Silica Gel, London) is a colloidal silica used internally as an intestinal absorbent and externally as a dusting powder.—*Australas. J. Pharm.*, 52 (1937), 548. (E. V. S.)

Spirobismol (Chemisch-Pharm. Fabrik Bad Homburg) is now also found on the market in the form of suppositories which contain 0.2 Gm. of this bismuth-quinine-iodine preparation.—*Pharm. Weekblad*, 74 (1937), 323. (E. H. W.)

Streptocide Ointment (Evans Sons, Lescher & Webb, Ltd., Liverpool) is *p*-aminobenzenesulfonamide incorporated in the form of an ointment. The use of *p*-aminobenzenesulfonamide is limited due to its low solubility in water, so far as local application is concerned. In Streptocide Ointment, however, a special non-toxic and non-irritant solvent is used with more effective results. The ointment is recommended for use in certain infective conditions of the skin, in chronic ulcerative conditions and rashes of the scarlatinal type. It is supplied in 2-oz. tubes.—*Chemist and Druggist*, 127 (1937), 182. (N. L.)

Sulfonamide-P. The name used by two makers for para-aminobenzene-sulfonamide. It is issued as compressed tablets of 0.5 Gm. in bottles of 25 and 100. (See also Prontosil, Colsulanyde and Streptocide, THIS JOURNAL, 9 (1936), 560, 609, 758, 762, 767; 10 (1937), 143.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 160. (S. W. G.)

Takazyma (Parke, Davis & Co., London) is an acid-combining and starch-dissolving preparation made from taka-diastase. One hundred grams contain 8.33 Gm. taka-diastase, 16.67 Gm. magnesium carbonate, 9.58 Gm. bismuth carbonate, 1.67 Gm. powdered ginger and *q. s.* calcium carbonate. Takazyma is used in hyperacidity. The dose is one teaspoonful (about 2 Gm.).—*Pharm. Weekblad*, 74 (1937), 376. (E. H. W.)

Theeline (Parke, Davis & Co., London) is the ovarian follicle hormone first separated in crystalline form by Dr. E. A. Doisy at St. Louis. It contains no nitrogen and therefore does not possess the character of albumins. Theeline is standardized by tests on rats and possesses 200 in-

ternational units (60 rat units) per cc. It appears in 1-cc. ampuls. A solution of theeline in oil is also available containing 100, 200 and 10,000 international units. It is sold in ampuls of 1 cc.—*Pharm. Weekblad*, 74 (1937), 376. (E. H. W.)

Vegemucin Powder consists of a mixture of vegetable mucins flavored with chocolate, and is effective in controlling hyperchlorhydria by absorbing, by purely physical action, excessive gastric secretion, the material being evacuated unchanged. It is also of value in the treatment of ulcers, as the vegetable mucins form a protecting layer on the gastric membrane. The dose for heartburn and hyperacidity is $^1/_2$ to 1 teaspoonful 2 to 3 times a day placed on the tongue and washed down with water, and for ulcers, $^1/_2$ to 1 teaspoonful every 2 to 3 hours. Vegemucin is supplied in 4-, 8- and 16-oz. tins.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 160. (S. W. G.)

Vulnovitan is an ointment, or sterile oily solution of vitamin A for the treatment of wounds. The ointment contains 1000 units of vitamin A in each Gm. Vulnovitan oil contains 2000 units of vitamin A in each cc. of sterile liquid paraffin. It is recommended for use on all open wounds either from injury or surgical operation. The oil is supplied in 10-cc. ampuls and the contents are poured into the wound and on to gauze placed on the wound. After six to eight days the treatment can be continued either with ointment or oil. Vulnovitan is supplied in boxes containing one 10-cc. sterile ampul.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 160. (S. W. G.)

BACTERIOLOGY

Anatoxins—Flocculating and Immunizing Properties of, Purified by Trichloroacetic Acid. By means of trichloroacetic acid true exotoxins and their anatoxic derivatives can be purified by separating them from the glucido-lipidic endotoxins and the foreign substances contained in the culture medium. The precipitate formed by the action of trichloroacetic acid is redissolved in weakly alkaline medium. The resultant solution still possesses the characteristic biological properties of the crude toxin or anatoxin. In the case of diphtheric anatoxin, if the precipitate is dissolved in a phosphatic solution of p_H 8 and then brought to the original volume of the anatoxin by means of: (1) physiological salt solution, or (2) the culture medium used in preparing the toxin, with (1) the resultant product is definitely more potent than the crude anatoxin, while with (2) it is considerably less potent.—G. RAMON, A. BOIVIN and R. RICHOU. *Compt. rend. acad. sci.*, 203 (1936), 634–636; through *Chimie & Industrie*, 38 (1937), 933. (A. P.-C.)

Antiseptic Mixtures—Thermal Analysis and Fermentative Action of. Mixtures of 30% of methyl salicylate with 70% of camphor and 40% of propyl salicylate with 60% of camphor form eutectics at 59.9° and 32° C., respectively. Graphs of the melting-point curves are given. The determinations of the anti-fermentative action carried out by adding 1 cc. of the above antiseptic mixtures to 0.714 Gm. of yeast emulsified with 24 cc. of nutrient solution showed no correspondence with the eutectic point since the activity increased regularly with the percentage content of the antiseptic.—A. MOSSINI. *Boll. chim. farm.*, 75 (1936), 493–494; through *Chimie & Industrie*, 38 (1937), 936. (A. P.-C.)

Disinfection, Wound Treatment, Etc.—Medium for, Production of. Disinfecting media are obtained by treating a solution of tannin and silver-albumin compound with cresol-containing soaps, water solution glyceroborates, formaldehyde or double salts of antipyrine (that is, with caffeine citrate). Vitamin-A and/or -D may be added. The product may be a liquid or a grease.—H. G. HAMMER. Brit. pat. 467,631, through *J. Soc. Chem. Ind.*, 56 (1937), 981. (E. G. V.)

Disinfection and Disinfectants in the Fermentation Industries. The nature of disinfection and the action of various physical and chemical means of disinfection are discussed. The disinfecting value for different purposes of various chemical agents and their actions on metal and wood have been compared, neutral formalin being apparently the most generally useful.—V. PREININGER. *Bohm. Bierbrauer* (1936), 325; *Z. Spiritusind.*, 60 (1937), 242, 244–245; through *J. Soc. Chem. Ind.*, 56 (1937), 1258. (E. G. V.)

Ethyl Alcohol—Sterile. Commercial ethyl alcohol often contains bacteria, which are best removed by filtration through sterile asbestos.—K. E. JENSEN. *Dansk Tids. Farm.*, 11 (1937), 197–207; through *J. Soc. Chem. Ind.*, 56 (1937), 1259. (E. G. V.)

Immunity—Active and Passive, Problems in. A detailed study was made of the blood antitoxin (I) curves (and their mathematical formulæ) resulting in rabbits from injections of diphtheria toxin (II) and anatoxin (III). In animals actively immunized by subcutaneous injection of III one month previously, intravenous injection of II caused a slight decrease in the

blood titer for I, followed by a sharp increase to a maximum and a more gradual decrease. In animals passively immunized by a single intravenous injection of I, intravenous injection of II caused a sharp decrease in the blood I followed by a slight increase and a gradual decrease. The significance of the various phases is discussed in detail.—T. MADSEN, C. JENSEN and J. IPSEN. *Bull. Johns Hopkins Hosp.*, 41 (1937), 221; through *Squibb Abstr. Bull.*, 10 (1937), A-2012. (F. J. S.)

Paragenin—New Antiseptic. Para-oxybenzoate of methyl-propyl-diftenol is a powerful antiseptic and harmless to tissue. May be used in powdered form directly on mucosa, without irritation.—*Rev. quím. farm.*, 2 (1937), 95. (G. S. G.)

Staphylococcus Toxin—Action of Poppyseed Oil on, with and without Cholesterol. The toxin was shaken for six hours in an atmosphere of nitrogen with an equal volume of poppyseed oil (previously washed with alcohol to remove sterols), then separated by centrifuging. The recovered solution was almost devoid of toxic, hemolytic and necrosis-producing action. Another portion of the toxin shaken in the same way with poppyseed oil containing 3% of added cholesterol was changed very little if at all.—J. SCHWARTZ. *Compt. rend. soc. biol.*, 122 (1936), 1006–1009; through *Chimie & Industrie*, 38 (1937), 523. (A. P.-C.)

Therapeutically Active Substances—Obtaining. Proteolytic microörganisms, such as *B. histolyticus* or *B. subtilis*, are grown in media containing proteins taken from an animal or human body, such as carcinoma, cataractous or tuberculous tissue, and from the products are prepared sterile liquids which contain active substances specific for the decomposition of such proteins.—H. C. CONNELL. Brit. pat. 466,029; through *J. Soc. Chem. Ind.*, 56 (1937), 1273. (E. G. V.)

Thiocol Articles—Occupational Hygiene in the Manufacture of. Sanitation in this industry can be improved by the following means: (1) standardization of the product, particularly as regards the proportion of volatile matter; (2) washing the thiocol with water for 2 to 3 hours after sprinkling; (3) systematic control of the volatile content of the product, the method to be used consisting in heating 1 Kg. of thiocol at 130° to 140° C. and condensing the volatile products given off.—I. I. LIFSH'UTS. *Hig. Truda*, 14 (1936), No. 5, 37–38; through *Chimie & Industrie*, 38 (1937), 685. (A. P.-C.)

Triethanolamine—Some Properties of. The addition of 0.25% of commercial triethanolamine (neutralized with hydrochloric, phosphoric or acetic acid) to the media had no inhibiting action on the growth of any of the numerous bacteria tried. Some species seem to be able to utilize it as a source of nitrogen.—A. BERTHELOT, MLLE. G. AMOUREAUX and F. VAN DEINSE. *Bull. soc. chim. biol.*, 18 (1936), 652–655; through *Chimie & Industrie*, 38 (1937), 523. (A. P.-C.)

Tuberculin—New Nutrient Medium for the Preparation of. The hydrolysis of potatoes by means of sulfuric acid converts practically all the nutrient material into a soluble form containing the optimum combination of organic and inorganic nutrients for the culture of tubercle bacilli.—D. A. TSUVERKALOV and A. KH. SARKISOV. *Z. Microbiol. Epidemiol. Immunitätsforsch. (U. S. S. R.)*, 17 (1936), 697–706 (in German 706); through *Chem. Abstr.*, 31 (1937), 7085. (F. J. S.)

Vaccine—Hog Cholera. Virulent defibrinated virus blood from swine sick with hog cholera is mixed with from $^1/_{50}$ to $^1/_{17}$ of its volume of a 1% aqueous solution of crystal violet, and the mixture is maintained at near 37.5° C. for approximately two weeks, until the material becomes incapable of transmitting hog cholera when injected into susceptible swine.—MARION DORSET, assignor to the SECRETARY OF AGRICULTURE OF THE U. S. A. U. S. pat. 2,102,235, Dec. 14, 1937. (A. P.-C.)

BOTANY

Butyl Alcohol—Use of, in the Paraffin (Infiltration) Method.—A. G. LANG. *Stain. Tech.* 12 (1937), 113–117; through *Chem. Abstr.*, 31 (1937), 7077. (F. J. S.)

Cherry (Prunus Avium L.)—Wax-Like Constituents of the Cuticle of. The skins of Bing cherries, *Prunus avium L.*, have been examined with respect to the constituents soluble in petroleum ether and in ether. From the petroleum-ether extract there have been isolated or identified solid fatty acids consisting of a ternary mixture of palmitic, stearic and a small amount of acid higher than C_{18}; liquid fatty acids, linoleic and oleic; a small amount of glycerol; and a hydrocarbon fraction consisting predominantly of nonacosane, admixed with a hydrocarbon of

longer chain length. The ether extract yielded *d*-glucosidylsitosterol and ursolic acid. The yields of the petroleum-ether and ether extracts amounted to 0.8 and 0.1%, respectively, of the dried skins which are much less than the yields from apple and pear cuticles and may account for the less efficient protective surface coating of the cherry.—K. S. MARKLEY and CHARLES E. SANDO. *J. Biol. Chem.*, 119 (1937), 641–645; through *Chem. Abstr.*, 31 (1937), 7090. (F. J. S.)

Eucalyptus Radiata (E. Numerosa)—Varieties of, as Determined by Chemical Analysis of the Essential Oils. In the course of their investigation into the varieties of *Eucalyptus radiata* (*E. numerosa*) as determined by the constituents of their essential oils, the authors have raised a number of plants from seeds. The essential oils obtained from the leaves and terminal branches from these confirm the constancy of the several forms or varieties, but a remarkable observation was made upon a tree from the seed of the form called "Variety A." Two stems grew from the one-root system of this. The oils separately distilled from each stem differed in chemical composition; that from one stem No. 2 contained 50% of piperitone, with a considerable quantity of piperitol, resembling what is regarded as the type. The odors of the two oils differ; and the weight of foliage and yield of oil obtained was considerably greater from stem No. 2 than that from stem No. 1. Attention has already been drawn to undesirability of describing new species or varieties of plant from very slender morphological characters, yet Blakeley has described the author's "Variety A" as *E. Lindleyana* var. *stenophylla*, probably using the authors' chemical data as a basis for this definition. The authors' investigations have shown that it is dangerous to use chemical data alone as a basis of classification. The evidence submitted shows that *E. radiata*, *E. numerosa* and Blakeley's variety *stenophylla* have been found growing together on the same plant, therefore the latter does not exist as a distinct variety.—A. R. PENFOLD and F. R. MORRISON. *Proc. Roy. Soc. N. S. W.*, 70 (1937), 375; through *Quart. J. Pharm. Pharmacol.*, 10 (1937), 555. (S. W. G.)

Food Content and Active Principles of Cultivated Plants—Reverse Effect of Fertilization on. The author reviews the work to determine the effect of various fertilizers on the carbohydrate content or active principle content of alkaloids, volatile oils, etc., of the plants. While fertilization sometimes reduces the percentage of active ingredient over that in the unfertilized plant, the weight of the fertilized plants increases to such an extent that the total available active constituent is much greater. The point in question in drugs is whether one uses the drugs as such when the highest active constituent content is desirable or whether the plant is worked up for active constituent when the highest overall yield is desirable. This last consideration would apply also, for example, to the cultivation of the sugar beet for sugar or of potatoes for starch.—T. SABALITSCHKA. *Scientia Pharm.*, 8 (1937), 104. (M. F. W. D.)

Lignin, Its Existence in Woods. Other investigators claim the isolation of lignin from the carbohydrate of the wood of beechnut tree by hydrolysis with strong acids. The author, however, isolated the lignin from the wood by using Schweizer's reagent; this yield, when examined, proved to be no different than the lignin obtained by former investigators. The author also suspects the presence of lignin in most of the grasses. Consequently he isolated a compound dioxylignin which exhibited the same reaction as lignin; using Schweitzer's reagent again on straw, a compound was obtained which was identical with the lignin obtained by other investigators using other methods of extraction.—E. WEDEKIND. *Chem. Zentr.*, 108 (1937), 97. (G. B.)

Parasiticidal Spray Compound. A horticultural spray compound consists of a mixture of hydrocarbon oil and tung oil in a proportion effective to retard penetration of the hydrocarbon oil into the pores of plants.—FRANK F. LINDSTAEDT. U. S. pat. 2,101,373, Dec. 7, 1937. (A. P.-C.)

Sandoricum Koetjape (Burm. f.) Merrill—Anatomical and Microchemical Studies on the Fruit of. Glucose, fructose and sucrose were found in the santol fruit and were most abundant in the inner part of the pericarp, while malic, tartaric and formic acids were most abundant in the outer portion and before the ripening of the fruit. Neither of these groups was present in the embryo. Tannin, fixed oil, fat, gum-resin, resin and protein were detected and their location was described. Starch was found only in the embryo. Anatomical descriptions of the fruit are given in detail.—TRINIDAD S. VILLEGAS. *Univ. Philippines Nat. and Applied Sci. Bull.*, 5 (1937), 293–316; through *Chem. Abstr.*, 31 (1937), 7092. (F. J. S.)