PHARMACEUTICAL ABSTRACTS

EDITOR: A. G. DUMEZ, 32 S. Greene Street, Baltimore, Maryland.

CONTENTS

PHARMACY

MISCELLANEOUS (*Continued*)

Make-Up Preparations. I. Lipsticks. The essential features of a good lipstick are as follows: (1) It must be completely harmless and free from any tendency to irritate. (2) It must spread easily, imparting a pleasant smoothness to the lips and either a matt or shiny effect, but it must never be greasy. (3) It must not sweat, "bloom," shrink, bend or crumble. (4) The coloring matter must be uniformly employed, thoroughly dispersed in the mass and reasonably permanent. (5) It must be stable under a normal range of temperatures and humidities. (6) It should be available in a fashionable attractive series of shades. The potential ingredients of a lipstick base are legion, comprising practically all the cosmetic oils, fats and waxes as well as cetyl alcohol, butyl stearate and diethylene glycol. Various formulæ are given as guides to compounding. The importance of a really attractive lipstick perfume is frequently overlooked. A good perfume for a lipstick must also be a flavor. It must in many cases cover the odor of lanolin, cocoa butter and castor oil. The author gives the formula for a perfume which he has tried with success.—S. P. JANNAWAY. *Perfumery Essent. Oil Record*, 28 (1937), 292. **II. Cream, Paste and Compact Rouges.** The paste or salve type of rouge is the simplest of all to prepare. The important factor in compounding is to arrive at a salve that goes smoothly on the skin, forming a thin, non-greasy film. Paste rouge must therefore be easy to apply; the fatty base should be rendered capable of producing a matt effect on the skin, by the judicious incorporation of substances such as cetyl alcohol, beeswax, spermaceti, and insoluble fillers such as talc, titanium dioxide, zinc oxide, etc. Other potential ingredients include stearic acid, lard, lanolin, spermaceti, cocoa butter. An emulsified rouge base—whether it be of the cold cream or vanishing cream type—has certain advantages over the salve type of rouge. Typical formulæ are given for the cold cream type, vanishing cream type and the triethanolamine cream type of rouge. *Compact Rouge.*—An efficient rouge in compact form should be characterized by smooth texture, perfectly distributed color and ease of application of the skin. It should not flake, crack or crumble—neither should it be too hard, nor of that cement-like consistency that shows that too much binding agent has been employed. The raw materials that enter into the manufacture of compact rouges are as follows: (1) Inert face powder bases such as chalk, talc, zinc oxide, titanium dioxide, china clay; magnesium, zinc and aluminium stearates, starch, strontium sulfate and magnesium carbonate. (2) Binding agents such as gum mucilages, *i. e.*, tragacanth, quince seed, karaya, gum arabic and carrageen. (3) Coloring agents (including soluble dyestuffs and insoluble lakes); and perfumery compounds. The dry materials are thoroughly mixed together, the binding agents sprayed in and the compacts stamped out either by means of machinery or with a suitable hand press.—S. P. JANNAWAY. *Ibid.*, 28 (1937), 316. (A. C. DeD.)

Mothproofing Composition. The product comprises a mixture of an alkali metal fluoride and sodium chloride in major proportions; and sodium silicate, sodium phosphate and "Nekal" in proportions to provide a composition having a p_H value slightly greater than 7 in aqueous solution.—BERNARD L. LANDERS, assignor to PHILIPP BROS., INC. U. S. pat. 2,091,075, Aug. 24, 1937. (A. P.-C.)

Ointment Jars—Light Penetration of, Further Remarks on the Question of. Since previous papers on this subject (*Schweiz. Apoth.-Ztg.*, 74 (1936), 113, 329), two other brands of jars have appeared on the market. Using the previously described technic with strips of film, the black ointment jars with black screw caps, trade-marked "Remco" and "Salvis" cannot be accepted as impenetrable to light. They are therefore not comparable in value to porcelain jars coated black on both the inside and outside. The results of the test with film were also confirmed by exposing sample jars containing glass tubes of ointment of yellow oxide of mercury to diffuse daylight for periods of 6 to 8 days. Only the doubly blackened porcelain jars or ordinary jars wrapped in black paper showed no penetration of light. Any jar not blackened inside and outside should not be used for dispensing official ointments directed to be protected from light unless wrapped outside with black paper.—J. THOMANN. *Schweiz. Apoth.-Ztg.*, 75 (1937), 469. (M. F. W. D.)

Pyroxylin and Pharmaceutical Collodions—Observations on. The following summary is given: (1) The nitrogen determination of Pyroxylinum B. P. is not really necessary and only serves as a very rough check on the solubility in ether-alcohol. (2) An upper limit for the viscosity of a 3% solution in acetone should be fixed at not more than 7 poises (860 centistokes) at

20° C. (3) The statement as to the effect of varying the conditions of nitration in the B. Pharm. Codex monograph for pyroxylin should be amended. (4) A colorless, mild-odored substitute for the B. Pharm. Codex acetone collodion is given (pyroxylin 50 Gm., castor oil 25 cc., ethylene glycol mono-ethyl ether 100 cc., acetone *q. s.* to 1000 cc.). (5) Investigation of the medicated collodions of the B. Pharm. Codex shows most of them to be very uncertain in their action, and since they are all replaceable by more reliable preparations, their omission from subsequent editions is recommended.—H. BERRY and L. G. GOODWIN. *Quart. J. Pharm. Pharmacol.*, 10 (1937), 23–39. (S. W. G.)

Shampoos—Soapless. Soapless shampoos are based upon the so-called "sulfonated alcohols," of which one of the most widely employed is sodium lauryl sulfate. However, this is not suitable for the production of liquid shampoos owing to its low solubility and insolubility in alcohol. For making the liquid type of shampoo the sodium salt is usually replaced by the ammonium or more frequently, the triethanolamine salt of lauryl hydrogen sulfate. Sodium lauryl sulfate, used in either acid, neutral or alkaline solution, is a highly effective detergent. It is perhaps most effective when the p_H is slightly above 7. It produces a very showy lather, and is not precipitated by the calcium and magnesium salts present in hard waters. Soapless shampoos have not escaped criticism. It has been said that they do not cleanse the hair thoroughly—a criticism which is without foundation. More important is the criticism that they are too thorough in their cleansing action, and decrease the hair grease too drastically —ANON. *Pharm. J.*, 139 (1937), 546. (W. B. B.)

Shaving Creams. A lathering shaving cream is a soap mixture which may be worked into a lather to facilitate shaving and should possess the following properties: (1) white, with or without sheen, (2) soft enough to be readily squeezed out of a tube, (3) a true creamy soap rather than a pasty soap which mixes easily with water, (4) lather rapidly producing a thick, small bubbled lather capable of holding considerable water, be persistent and not dry on the face, (5) must support the hairs of the beard and (6) must not irritate the skin. The materials entering into these preparations are discussed and experiments carried on with formulas using free fatty acids rather than fats. These deal with combinations of seven different types of fatty acids—coconut, olive, oleic, myristic, palm, stearic and tallow with potassium hydroxide (A), sodium hydroxide (B) and triethanolamine. (C) The following conclusions are drawn: (1) In general the (C) soaps are the softest and (B) the hardest. (2) (C) Soaps are red-brown in color which is objectionable although they are extremely soluble and mild. (3) (B) soaps are quite hard especially the stearate, light in color and soluble with difficulty. (4) (A) soaps are intermediate between these two soaps. (5) (A) and (B) coconut oil fatty acid soaps are both liquids with (A) lighter in color. (6) The olive oil fatty acid soaps resemble petroleum jelly in appearance and consistency; the (C) combination is soft and red, (B) yellow and medium-hard and (A) browner and softer. (7) Sodium oleate is a clear red jelly and the other two similar to the olive oil fatty acid combination. (8) Potassium myristate is semi-liquid and very creamy, (B) soap is quite hard and the (C) soap is a reddish jelly. (9) The soaps with (A) and palm fatty acids look like a finished shaving cream although somewhat harder. (10) Potassium stearate has a beautiful pearly appearance with the consistency of a good cream but lathers poorly, (B) soap is too hard, (C) soaps are the lightest compound in the triethanolamine series. (11) The soap from tallow fatty acids and (A) has good color and consistency, (B) soap is hard lumpy and (C) another of the reddish petrolatum types.—JOSEPH KALISH. *Drug and Cosmetic Ind.*, 40 (1937), 658–659, 665. (H. M. B.)

Soap and Cosmetic Industries—New Methods of Measurement and Aids for the Determination of p_H in. A review with illustrations.—A. KARSTEN. *Riechstoff-Ind. Kosmetik*, 12 (1937), 131–134. (H. M. B.)

Soaps. From the Notebook of the Soap Manufacturer. The following are discussed: (1) primary soaps (*a*) with stearin or solid fats (six formulas) and (*b*) with oils or soft fats (six formulas), (2) new soap systems, (3) alloy steels and nickel in the soap industry, (4) costs of manufacture of soaps, (5) Bentonite soaps, (6) the applications of Margosa oil and Ucuhuba fat in soaps, (7) toilet, cocoanut oil, transparent and liquid soaps.—KARL PFAFF. *Riechstoff-Ind. Kosmetik*, 11 (1936), 162. (H. M. B.)

Soaps—Refined, Formation of Spots in. Spots are stated to be due to the following factors: (1) dry soaps undergo this change easily, (2) soaps containing cottonseed and linseed oils are subject to this change, (3) bacteria, (4) dyestuffs, (5) rancid fats, (6) metal impurities and

formation of metallic soaps and (7) perfumes.—H. BRAUN. *Riechstoff-Ind. Kosmetik*, 12 (1937), 124–125. (H. M. B.)

Soaps—Refined, Preservation and Improvement of. A good preserving agent must meet the following requirements: (1) the color of the soap and odor of the perfume should not be changed, (2) the lathering power should be lowered as little as possible, (3) it should not cause the soap to become hard or brittle, (4) be cheap, (5) non-toxic and (6) it should not react with the fatty acid alkalis. Commercial stabilizers are reviewed.—EKSCHNAM. *Riechstoff-Ind. Kosmetik*, 12 (1937), 113–116. (H. M. B.)

Sunburn and Sun Tan Preparations—Evaluating. The author contends that artificial sources of ultraviolet light are not sufficiently like sunlight to be of value in accurately evaluating the effects of sunburn and sun tan preparations. The wave-length 2967 Å. is most efficient in producing erythema. Evaluation of other waves is given as follows (2967 Å. = 1): 3150—0.00, 3130—0.03, 3025—0.55, 2967—1.00, 2800—0.06, 2700—0.13, 2650—0.25, 2537—0.55. A quartz mercury arc lamp produced only 6.7% of rays equivalent to summer sunlight (3200–2893) and 4% of short ultraviolet (2893–1849) which causes only mild sunburn.—HERRMAN GOODMAN. *Am. Perfumer*, 34 (1937), 47–48. (G. W. F.)

Surgical Threads, Bands, Tubes, etc. Articles which, when sterile, cannot cause suppuration or fistular formation, are formed of esters, ethers or acetals of polyvinyl alcohol or esters of polyacryl acid or polyitaconic acid or polystyrene.—WILLY O. HERMANN, FRITZ HAMMER and WOLFRAM HAENEL, assignors to CHEMISCHE FORSCHUNGSGES.M.B.H. U. S. pat. 2,072,303, March 2, 1937. (A. P.-C.)

Surgical Threads of Polymerized Vinyl Alcohol. Threads are formed which, when sterile, cannot cause suppuration and fistular formation.—WILLY O. HERRMANN, ERICH BAUM and WOLFRAM HAENEL, assignors to CHEMISCHE FORSCHUNGSGES.M.B.H. U. S. pat. 2,072,302, March 2, 1937. (A. P.-C.)

Water—Distilled, in the Pharmacy. The most rational and simple method of ensuring the safety of distilled water used for injections is to prepare it freshly and immediately sterilize by boiling it for thirty minutes or by heating it in an autoclave. An improved method consists of the use of the "Minorstill," a compact still designed for pharmacists. The "Minorstill" occupies a space 7 inches square, and is made of copper heavily tinned on the inside. It thus complies with the requirements of the Addendum to the British Pharmacopœia. It consists of three main portions: A still head which functions as a condenser, a constant level boiler and a set of rings, which fit either the still head or the boiler, thus enabling the whole apparatus or the boiler alone to be used as a constant level water-bath. The still head is so designed that the minimum of refluxing occurs, most of the steam formed being delivered as distilled water. The feed water passes through the external condenser to the top container, next *via* a small diameter pipe to the sub-condenser, and then through a larger pipe back to the top container, finally overflowing into the constant level of the boiler. The design ensures a continuous circulation around this system.—ANON. *Pharm. J.*, 137 (1936), 345. (W. B. B.)

PHARMACOLOGY, TOXICOLOGY AND THERAPEUTICS

PHARMACOLOGY

Adrenaline—Antagonism between, and Some Isoquinoline Derivatives: Cotarnine and Anhydrocotarnine-N-Methyloxindol. The following summary is given: (1) Some aspects of the physiological actions of anhydrocotarnine-N-methyloxindol chloride (I) and of cotarnine chloride (II) have been investigated. (2) The minimum lethal dose of (I) for mice by intraperitoneal injection is about 0.26 Gm. per Kg. Death is produced by respiratory failure. (3) (I) does not modify the blood pressure of decapitate cats. It produces a fall of blood pressure in decerebrate as well as anesthetized cats. In doses of 30–50 mg. per Kg. intravenously it neutralizes, or greatly reduces, the pressor action of adrenaline on decapitate and decerebrate cats. In chloralosed cats it does not modify the salivary secretion provoked by adrenaline. (4) (I) relaxes the isolated rabbit's and cat's small intestine. It stimulates the isolated rat's and rabbit's uterus and the pregnant cat's uterus *in situ*. (5) (II) in doses of 5–50 mg. per Kg. produces a drop of blood pressure in chloralosed, decerebrate and decapitate cats. (6) (II) in doses of 35–50 mg. per Kg. greatly reduces the pressor action of adrenaline. Stronger doses neutralize the adrenaline

action on blood pressure. (7) The isolated rabbit's and cat's uterus, pregnant or non-pregnant, always give motor response with solutions of (II) of 1 in 20,000 or stronger. Small doses (5 mg. per Kg.) have a variable effect on non-pregnant cat's uterus *in situ*. Stronger doses (20–50 mg. per Kg.) have a stimulant action.—F. P. LUDUENA. *Quart. J. Pharm. Pharmacol.*, 10 (1937), 67–80. (S. W. G.)

Amines—Pressor Action of Some, Related to ω-Aminoacetophenone. The following amines were studied: ω-Aminoacetophenone (1), 4-chloro-ω-aminoacetophenone (2), 4-bromo-ω-aminoacetophenone (3), 3-chloro-ω-aminoacetophenone (4), 3-bromo-ω-aminoacetophenone (5), 3-chloro-4-hydroxy-ω-aminoacetophenone (6), phenylethanolamine (7), α-aminopropiophenone (8), 4-chloro-α-aminopropiophenone (9), 4-bromo-α-aminopropiophenone (10), 3-chloro-4-hydroxy-α-aminopropiophenone (11), phenylpropanolamine (12). All exhibited some sympathomimetic properties, producing rise of blood pressure, increased amplitude of beat of isolated auricles, dilation of the pupil, inhibition of isolated intestine, relaxation of non-pregnant cat uterus and contraction of pregnant uterus. With (7) and (12) there was no evidence of any contrary action, but with certain of the halogenated amines (4), (10) and (9) there was some evidence that while small doses produced sympathomimetic effects, larger doses produced opposite effects. The author attaches little significance to numerical results obtained in the pressor experiments when checked against adrenaline, and he states that they further demonstrate that methods utilizing the blood pressure of an entire animal as the sole indicator are very unreliable.—M. R. GURD. *Quart. J. Pharm. Pharmacol.*, 10 (1937), 1–22. (S. W. G.)

Barbituric Derivatives—Postmortem Study of the Transformation of, into Hydrocyanic Compounds. The organs of dogs killed by intoxication with barbituric acid derivatives were analyzed for hydrocyanic acid derivatives. In no case either in fresh organs or in organs after putrefaction were hydrocyanic acid compounds found. This is contrary to Kohn-Abrest's theory that barbituric derivatives were converted postmortem into hydrocyanic compounds. It is possible that the large amounts of thiocyanates present in the saliva of smokers and of persons accustomed to eat foods that are highly spiced (especially with mustard) may have deceived certain authors who claimed to have found hydrocyanic compounds after ingestion of barbituric compounds.—P. R. ORELLA. *Rev. facultad cienc. quím.* (Buenos-Aires), 10 (1935), 51–60; through *Chimie & Industrie*, 38 (1937), 104–105. (A. P.-C.)

Benzedrine Sulfate—Stimulating Action of. Comparative study of responses of normal and depressed patients. Study undertaken because central stimulating action suggested usefulness in psychiatric cases. Drug given to normal persons and patients in varying types of depression. Each received from 10 to 30 mg. orally daily, for period of 10 days to two weeks except in instances where undesirable reactions were produced. Each subject carefully studied before period of tests. Normal subjects reported elevation of mold increased activity and irritation, also lassitude, and varying uncomfortable physiological symptoms. Alcoholic psychoses gave better response-increased activity, than functional psychoses. Some possibility of habit formation, since several relished the symptoms produced. Therefore its promiscuous use is contraindicated. Contraindication also in hypertension, coronary artery disease and manic excitement. Useful as local astringent, and internally in narcolepsy, and as adjuvant in types of medication where elevation of blood pressure and increased activity is desired. It may accelerate improvement when recovery is obvious. Still needs further careful study.—EUGENE DANDOFF and EDWARD C. RERFENSTEIN, JR. *J. Am. Med. Assoc.*, 108 (1937), 1770. (M. R. T.)

Brazilian Mate—Contribution to Its Study. Report of studies of species of Ilex effect on vascular caliber and on heart action, including cardiographic and manometric records on heart *in situ*, and isolated. 1. Brazilian mate elevates arterial pressure when infused into heart *in situ*. 2. It dilates blood vessels. 3. Proves useful antidote to heart partially paralyzed by chloral. In studies made on decerebrate animals mate at no time produced vaso-constriction. It may be likened to caffeine in tonic and diuretic activity.—DR. ARCHIMEDED CRUZ. *Sep. Da Rev. Med. Do Parana* (Dec. 1936); through *Tribuna Farmaceutica Parama*, 5 (1937), 69. (G. S. G.)

Calcium—Effect of, on the Digitalized Heart. In the normal unanesthetized rabbit heart the effects of calcium and digitalis are not additive.—L. H. NAHUM and H. E. HOFF. *Proc. Soc. Exptl. Biol. Med.*, 36 (1937), 860. (A. E. M.)

Catuaba—Physiological Action of. Watery and alcoholic extracts of the steam and leaves of the Brazilian plant Catuaba were tested pharmacologically. An alcoholic extract, of which

1 cc. corresponds to 1 Gm. of plant, kills a guinea pig in a dose of 3 cc. per Kg. injected subcutaneously. After intravenous injection of 1 cc. per Kg. the dog dies in a few minutes with arrest of heart beat. The vascular effects of the drug include arterial hypotension, renal vaso-constriction and vaso-dilation in the limbs. Bradycardia, enfeebled action and arrest in diastole are cardiac effects according to dosage. Increased frequency of respirations is seen during the hypotensive stage. The drug seems to have no action on the isolated intestine of the rabbit.—A. CLERC, R. PARIS and M. H. JANOT. *Compt. rend. soc. biol. Paris*, 125 (1937), 430–431; through *Physiol. Abstr.*, 22 (1937), 725. (F. J. S.)

Chloride Ions—Osmotic Regulation in Rana Esculata by Active Absorption of. Records show the exceedingly low urinary loss of calcium and chloride ions in frogs subjected to spraying with distilled water. Ability to conserve these ions enables frogs to withstand distilled water treatment over many weeks, at the end of which period they contain very little blood. Some chloride ion is lost through the skin in the spraying, which is retained in spraying with tap water (0.037 mg. chloride ion per cc.) instead. After depletion by distilled water, chloride or bromide ions can be actively absorbed through the skin from solutions as weak as Ringer/100; bromide and chloride ions in the undepleted frog, and iodide ions in the depleted are not absorbed, but, like all other ions, penetrate the skin slowly by diffusion. Tadpoles do not possess the same absorptive power. The protective mechanism inhibiting the loss of chloride ions by urine or in spray only becomes operative after certain depletion has already occurred.—A. KROGH. *Skand. Arch. Physiol.*, 76 (1937), 60–74; through *Physiol. Abstr.*, 22 (1937), 670. (F. J. S.)

Corpus Luteum Hormone—Biological Assay for. The following summary is given: A method is described for the biological assay of the corpus luteum hormone based on a modification of the Clauberg test, the histological material being determined after the principle positive (maximal) or negative (submaximal) reaction. A pre-pregnant transformation of the mucous membrane of the uterus is characterized as positive, when it cannot be made stronger even by a considerably increased dose of hormone. By taking a not too small number of animals for each dose a relation is ascertained between dose and the percentage of positive reactions in each group. On the basis of such group reactions a characteristic biological curve of reaction has been worked out with such steepness that it may be used with satisfactory accuracy in a biological assay.—J. T. CHRISTENSEN. *Quart. J. Pharm. Pharmacol.*, 10 (1937), 52–58. (S. W. G.)

Cyanide and Adrenalin. Injections of sodium cyanide produces in healthy rabbits hyperglycemia of similar course to that following liberation of adrenaline. In adrenalectomized animals it produces no change or a hyperglycemia.—K. O. MØLLER and K. STEFANSSON. *Skand. Arch. Physiol.*, 76 (1937), 115–118; through *Physiol. Abstr.*, 22 (1937), 684. (F. J. S.)

Cyanides—Effects of, on Respiration. Intravenous injection of cyanide-ringer in the cat causes first increase in depth and frequency with occasional gasps, then a phase of slow shallow breathing with more frequent gasping. The first picture reappears if infusion is stopped before total arrest of respiration, and is rapidly followed by a period of deep regular breathing. The relative prominence of the phases depends on the dose. The first two stages are attributed to oxygen-want, the third, a stimulation which persists after bilateral denervation of the carotid sinuses, to accumulation of acid products.—U. S. v. EULER and G. LILJESTRAND. *Skand. Arch. Physiol.*, 76 (1937), 27–36; through *Physiol. Abstr.*, 22 (1937), 642. (F. J. S.)

Daphnia Magna—Development of. New experimentation has been opened with the availability and abundant use of standardized daphnia. The author's aim is to utilize this organism in an ever-widening scope in the rôle of the biological reagent. The results obtained with it, it is hoped, will continue to serve as a welcome guide in experiments with more common experimental animals and in clinical therapeutic studies with man, and thus assist in the better understanding of life and the preservation or restoration of health.—ARNO VIEHOEVER. *Am. J. Pharm.*, 109 (1937), 360. (R. R. F.)

Digitalis—Standardization of. I. Method for Clinical Standardization. The method is described.—C. L. TUNG and C. W. BIEN. *J. Clin. Invest.*, 14 (1935), 725. **II. Relation between Laboratory Methods of Assay and Potency Determined by Experimental Cumulative Poisoning and Clinical Standardization.** Samples were equally potent when assayed with dogs or cats, but not with frogs. Cumulative experiments with dogs and clinical assays agreed with assays with animals.—H. B. VAN DYKE and R. C. LI. *Ibid.*, 733; through *J. Soc. Chem. Ind.*, 56 (1937), B., 618. (E. G. V.)

Dihydroxyphenylethylamine and Sympatol—Physiological Action of. The following conclusions are given: (1) In all the physiological actions examined, dihydroxyphenylethylamine and sympatol are always intermediate in action between adrenaline on the one hand, and ephedrine on the other. (2) Dihydroxyphenylethylamine and sympatol retain their action after degeneration of the sympathetic nerve-endings, and their action on the iris is increased by denervation, like that of adrenaline. (3) Dihydroxyphenylethylamine is quite close to adrenaline in action, in the following respects: effect of denervation on the iridilator and vasoconstrictor action; effect of cocaine in the heart-lung preparation; effect of adrenaline tone and of atropine in the perfused hind-limbs of the dog. The action is not so close to that of adrenaline as regards the effect of cocaine on the pressor action and on the action of the isolated heart. (4) Sympatol is not so close to adrenaline in action, although it is fairly close in the following respects: effect of denervation on the iridilator and vasoconstrictor actions; initial effect of adrenaline tone in the perfused hind-limbs. The action is similar to that of tyramine in the following respects: effect of cocaine on the pressor action and in the heart-lung preparation; reversal of constrictor effect in the perfused hind-limbs by prolonged adrenaline tone. (5) In the present state of knowledge both substances appear to be intermediate in chemical constitution between adrenaline and tyramine. (6) Substances intermediate in chemical constitution between adrenaline and tyramine are also intermediate in physiological action. (7) The results indicate that the two phenolic groups in the 3:4 position on the nucleus is of more importance in producing an adrenaline-like action than is the constitution of the side-chain. (8) The results indicate that the pressor effect of both substances studied is due relatively more to the cardiac action and less to the vasoconstrictor action than is that of adrenaline.—M. R. GURD. *Quart. J. Pharm. Pharmacol.*, 10 (1937), 188–211.
(S. W. G.)

Enterogasterone—Preparation and Biological Assay of. In assaying various preparations of enterogasterone its effects on gastric motility and secretion were studied. Two types of gastric contraction were determined, hunger contractions and contractions initiated by distension of the empty fasting stomach with a balloon. Adequately trained dogs conditioned to all types of hypodermic injections were used, and fasted forty-eight hours. The recording balloon in the stomach was distended with 80–100 cc. of air. To investigate the action on secretion, dogs with a Pavlov pouch or a pouch of the entire stomach were used. The following methods of preparation of enterogastrons were tried: Lim's picric acid method, Dodd and Dickens' picric acid method, secretin "A precipitate" method and tannic acid method. The most successful method for obtaining potent preparations regularly was based on the precipitation of an aqueous extract "A precipitate" with tannic acid. The inhibitory effect on hunger contractions and gastric motility initiated by distension was found to be the same, a well-defined inhibition of motility lasting for approximately six minutes was consistently obtained, 0.2 mg. per Kg. of different batches of the tannic acid preparations and the duration of the effect were shown to be related to the dose. The effect of enterogasterone on the motor and secretory functions of the stomach was that small doses completely inhibited motility for a period proportional to the dose, whereas such doses had no effect on gastric secretion in total pouch dogs receiving "continuous" histamine; furthermore, doses which were effective under the latter conditions did not inhibit secretion completely for a period followed by gradual recovery, but instead merely lowered the secretory rate to a constant reduced level which persisted for several hours. Another important finding was the difference in the ability of enterogasterone to inhibit secretion in response to a meal and histamine; the secretory response to a meal of meat was more readily inhibited than the secretory response to a single dose of histamine. Subcutaneously administered extracts were effective in four times the intravenous dosage.—J. S. GRAY, W. B. BRADLEY and A. C. IVY. *Am. J. Physiol.*, 118 (1937), 463–476; through *Physiol. Abstr.*, 22 (1937), 645. (F. J. S.)

Frog's Heart—Action of Rubidium, Cæsium, Ammonium and Lithium Salts on. Rubidium chloride increases the building up of stimuli and inhibits the conduction and contractility. Cæsium chloride has various inhibitory effects and may produce periodic changes in frequency. Ammonium chloride increases the building up of stimuli and may produce periodic changes in frequency; it inhibits conduction and increases contractility. Lithium chloride causes some inhibition of conduction. Potassium, rubidium, ammonium, lithium and cæsium salts decrease the action of the vagus.—H. JENTGENS. *Pflügers Arch. ges. Physiol.*, 238 (1937), 555–566; through *Physiol. Abstr.*, 22 (1937), 632. (F. J. S.)

Histamine in Nasal Polypi. The authors assume that edematous polypi are always allergic in origin. Histamine is involved in the allergic phenomena and therefore also in the production of the polypoid tissue. The authors undertook a comparative analysis of nasal polypi and normal mucous membrane in order to ascertain whether histamine appeared in greater quantity in polypoid tissue than in the normal mucous membrane. Histamine or histamine-like substance has been found to be widely distributed in mammalian tissue; it is present in the lymph and blood stream after anaphylactic shock. The biological test for it is made on anesthetized atropinized male cats. The extracts from nasal polypi always produce a fall in blood pressure. This fall, expressed as histamine equivalent, shows that polypoid tissue contains 3.6 to 10.2 mg. of histamine-like substance per kilo of moist tissue. The extract of nasal secretions in allergic rhinitis caused a slight fall in blood pressure, much less than that caused by an equivalent extract of polypi. Histamine is probably absent from the mucin of nasal secretions, and the small amount of depressor activity is due to the proteoses formed during hydrolysis. Normal mucous membrane of the nose contains approximately the same amount of histamine-like substance as the moist polypoid tissue. But calculated on the basis of the dry weight of the tissues nasal polypi contain more histamine than the normal mucous membrane of the nose.—C. C. BUHRMESTER and W. F. WENNER. *Arch. Otolaryng.* (Nov. 1936), 570; through *Brit. Med. J.*, No. 3975 (1937), 594B. (W. H. H.)

Infusion—Continuous Intravenous. An apparatus is described which will maintain a constant rate of infusion of sterile solutions for long periods without interruption. It can be adapted so that two solutions can be infused simultaneously when desired. Dogs can be infused for several days while leading their normal cage life.—E. STRACK and E. BALZER. *Ber. sächs. Ges. [Akad.] Wiss.*, 89 (1937), 105–112; through *Physiol. Abstr.*, 22 (1937), 720. (F. J. S.)

Insulin—Continuous Infusion of. By means of a special apparatus it was possible to maintain an intravenous infusion of insulin into non-anesthetized dogs at a constant rate for several days. It was found that 0.005 international units per Kg. per hour caused no fall in blood sugar in fasting normal dogs. From 0.01 to 0.025 units per Kg. per hour caused the blood sugar to fall to the lowest limits of normal fasting values, while with 0.05 units the blood sugar fell to less than 50 mg. per cent. Larger amounts caused hypoglycemic symptoms. There was little difference between the insulin requirements of fasting normal dogs and fasting pancreatectomized dogs. It was noted that after amounts of insulin too small to depress the blood sugar had been infused for some time, the stopping of the infusion caused an immediate rise in the sugar content of the blood.—E. STRACK and E. BALZER. *Ber. sächs. Ges. [Akad.] Wiss.*, 89 (1937), 113–132; through *Physiol. Abstr.*, 22 (1937), 667. (F. J. S.)

Iris Sisyrinchium—Toxicity and Uterine Action of. The following conclusions are given: (1) A 1:20 tincture of *Iris sisyrinchium*, prepared with 60% alcohol, had an M. L. D. of 120 cc. intralymphatically per Kg. of body weight of toad in 24 hours and 10 cc. per Kg. of body weight of rabbit subcutaneously in 3 hours. The drug first stimulates and later paralyzes the central nervous system. (2) The tincture depresses the toad's heart. The minimum active concentration being 1:750. (3) In low concentrations (1:200) the tincture is without any appreciable effect on toad's blood vessels on the mesenteric vein and ureter of the bull, and on rabbit's intestine, while higher concentrations may produce an increase of muscle tone. In much lower concentrations (1:1000) the tincture causes contraction of both the virgin and pregnant uterus of the rabbit and of the guinea-pig—a property not possessed by Iridin B. P. C. (4) In the intact dog the drug in fairly large doses depresses the heart but raises the blood pressure, through stimulation of the vasomotor center, and stimulates respiration. In doses which are not large enough to influence blood pressure or respiration, the drug stimulates the uterus *in situ* to contraction. This may point to a "selective action" of the drug on the uterus—a property not possessed by Iridin B. P. C. This may suggest a therapeutic use of the drug. (5) Decided purgation in man could only be produced in doses of 50 cc. of the tincture given by mouth. (6) The tincture has no appreciable action on the gastrocnemius muscle of the toad.—KHALIL SAAD. *Quart. J. Pharm. Pharmacol.*, 10 (1937), 177–187. (S. W. G.)

Lactogenic Extracts of Anterior Pituitary Gland—Assay of. The following assay was used: Injections were made subcutaneously, using mixed breeds of pigeons. Groups of 10 to 20 pigeons were used for the dose/response curve shown in form of a table, which were injected once daily for 6 days. They were killed 24 hours after the last injection, the crop glands dissected and washed in saline. The area stimulated was carefully dissected and all adhering secretion removed. The

glands were fixed in Bouin's fluid over night and then removed to alcohol (70%), from which they were weighed, after draining off the excess of alcohol. A correlation was found to exist between the body weight of the pigeons and the response given by the crop gland. A miximal response to a pyridine extract of ox anterior pituitary and to an alkali extract of the residue of the former is given in the crop gland of pigeons by daily injections for 6 days. A dose/response curve was made using a preparation of ox anterior pituitary which contained no detectable amounts of either the gonadotropic or the thyrotropic principle. The assay results are expressed as the percentage over body weight.—I. W. ROWLANDS. *Quart. J. Pharm. Pharmacol.*, 10 (1937), 216–221. (S. W. G.)

Methyloctenylamine Hydrochloride (Octinum)—Site of Action of, on the Iris. The sympathomimetic action of methyloctenylamine hydrochloride on the iris of the cat's eye resembles that of adrenaline in being mainly on the myoneural junction which survives degeneration of the post-ganglionic sympathetic fibers. In this respect it differs from tyramine. Methyl octenylamine differs from adrenaline in that no sensitization of the denervated pupil is noticed. Possibly this factor is not evident owing to the drug acting in part on the sympathetic nerve endings which do not survive degeneration of the post-ganglionic sympathetic fibers.—KARAM SAMAAN. *Quart. J. Pharm. Pharmacol.*, 10 (1937), 212–215. (S. W. G.)

α-Nicotine or 1-Methyl-2(2′ -Pyridyl)-Pyrrolidine. α-Nicotine is less stable than natural β-nicotine and oxidizes more rapidly with blackening. Its toxicity (determined on rats) is lower, being 320 to 640 mg. per kilo body weight as compared with 50 to 60 mg. for β-nicotine. It produces a slight decrease in blood pressure of short duration, followed by a slight but prolonged increase whereas β-nicotine has a much more intense action in this respect. α-Nicotine also exerts a milder action on vegetation. A general study of the properties of the various compounds of this group shows that they depend on their structure: in pyridylpyrroles the action on the blood pressure depends on the position of the pyridyl radical in the molecule; pyridylpyrroles in which the pyrrole nucleus is substituted in the 2-position are less active than those in which the pyridine nucleus is substituted in the 2- or 3-position. If pyrrole is substituted in the 3-position by a pyridyl radical the action on the blood pressure increases, and it is durable if the pyridylpyrrole is methylated at the nitrogen atom.—A. G. OOSTERHUIS and J. P. WIBAUT. *Rec. trav. chim.*, 55 (1936), 729–736; through *Chimie & Industrie*, 38 (1937), 105. (A. P.-C.)

Pharmacology for Pharmacists. The conclusion of a lengthy series of articles dealing specifically with (*a*) antitypica (agents for malaria) including quinine and quinidine, (*b*) internal antiseptics as methenamine, uva ursi, copaiba, cubebs, kava kava, oil of santal, (*c*) antiphthisica (agents for phthisis), (*d*) antileprosa (agents controlling leprosy) and (*e*) sera and vaccines.—H. FÜHNER. *Apoth. Ztg.*, 52 (1937), 911–914. (H. M. B.)

Physostigmine and Atropine—Blood-Sugar Level after Administration of. In work done previously it had been found pilocarpine raised the blood-sugar level and that atropine lowered it, and also prevented the rise following pilocarpine. Acetylcholine, on the other hand, lowered the sugar level and, in the face of these results, it was thought expedient to try another of the so-called parasympathetic drugs. Physostigmine (eserine) salicylate was used subcutaneously in doses of 0.25 mg. per Kg. All experiments were made on normal fed rats and the effect of physostigmine was determined before and after the administration of atropine. There was a significant rise in the blood-sugar level in one hour after injection of physostigmine, with a return to the original level in two hours. Rats were injected with atropine (20 mg. per Kg.), and after one-half hour were injected with physostigmine. It was found that physostigmine did not raise the blood sugar after atropine.—M. C. HRUBETZ. *Am. J. Physiol.*, 118 (1937), 300–301; through *Physiol. Abstr.*, 22 (1937), 608. (F. J. S.)

Pyrrole, Pyridine and Pyrazole—Pharmacological Action of Certain Derivatives of. The pharmacological action of 2-methyl-pyrrole-3-carboxylic acid, 5-(β-pyridyl)-3-pyrazolone, 5-(β-pyridyl)-pyrazole-3-carboxylic ester, ethyl β-nicotinoyl-propaldehyde-β-carboxylate, 3-chloro-5-(β-pyridyl)-pyrazole, and 3:5-dimethyl-pyrazole have been described. In two cases (3-chloro-5-(β-pyridyl)-pyrazole and 3:5-dimethylpyrazole), evidence has been brought forward that no great change occurs in the general nature of the action of a substance if a pyrazole ring be substituted in place of a pyrrole ring.—R. ST. A. HEATHCOTE. *Quart. J. Pharm. Pharmacol.*, 10 (1937), 59–66. (S. W. G.)

Quinoline-4-Carboxylic Acid Group—Chemical Constitution and Pharmacological Action of. The following quinoline-4-carboxylic acids were prepared, and their comparative actions in increasing the elimination of uric acid in the urine were qualitatively tested: (1) 3-phthalamido-, (2) 3-amino-, (3) 3-phenylamino-, (4) 3-hydroxy-, (5) 3-phenoxy-, (6) 6-acetylanilido-2-phenylquinoline-4-carboxy acids. A solution of 5.9 Gm. of isatin in 50 cc. of normal sodium hydroxide was treated with 20 cc. of 33% sodium hydroxide and poured into a solution of 8.4 Gm. of phenylaminoacetophenone in 450 cc. of alcohol. Evaporation to a third of the initial volume and replacement of the loss with water gave bright yellow microcrystalline (3), $C_{22}H_{16}N_2O_2$, melting at 232° C. with decomposition. Biological tests were made on human subjects by adding quantities of each compound corresponding to 1 Gm. of 2-phenylquinoline-4-carboxylic acid (atophan) to the diet and determining the uric acid in the blood and urine 1, 2, 3 and 4 days after administration. (4), (1) and (2) proved to be the most active. The substitution of a hydroxyl group in the 3 position increases the action of atophan, whereas the phenoxy group entirely eliminates its activity. The amino group in the 3 position has a gradual favorable effect on the activity which is accelerated by the introduction of a substituent $OC.C_6H_4CO_2H$ group but destroyed by a phenyl substituent. The entrance of $CH_3CO.NH.C_6H_4$ group in the 6 position entirely annuls the activity of the fundamental grouping. The antiseptic action of these compounds with respect to fermentation in urine is discussed.—S. BERLINGOZZI and G. DONATELLI. *Boll. chim.-farm.*, 75 (1936), 381–389; through *Chimie & Industrie*, 38 (1937), 100. (A. P.-C.)

Scopolamine Morphine—Seminarcosis with Modifications. Report of use of scopolamine hydrobromide 0.5 mg. (1/133 gr.) and morphine sulfate 0.01 Gm. (1/6 gr.), in labor. Morphine never repeated, but later injections of scopolamine at 45-minute intervals as indicated. No disadvantages to mother or child. Fetal asphyxia is not increased. Patient may be restless and excitable, and requires constant attendance from person administering analgesic. More recently barbituric acid derivatives used, with scopolamine, and in some cases morphine omitted. Beneficial in lessening apnea in babies.—KREBS, *et al.* *J. Am. Med. Assoc.*, 107 (1936), 1704. (M. R. T.)

Sparteine, Anisoyl. The alkylation to yield methyl- and ethyl-sparteine, and the arylation to yield phenyl-sparteine were accomplished by the use of typical Grignard reagents and the chemical behavior of these compounds exhaustively studied. This work was begun to ascertain whether a change or an increase in physiological action could be attained through the introduction of alkyl or aryl substituents. It was shown that the aciton of methyl-, ethyl- and phenyl-sparteine sulfate qualitatively is analagous to that of sparteine sulfate. These compounds produce cardiac block or stasis on the isolated frog heart as well as a lowering of blood pressure upon intravenous injection into cats narcotized with urethane. On the other hand, the intensity of action varied among the individual compounds. Compared to natural sparteine sulfate, its methyl derivative had the same action on frog's heart, while ethyl- and phenyl-dehydrosparteine sulfate had about a ten times stronger action; phenyl-sparteine sulfate was perhaps twenty times stronger. To correlate physiological action with chemical constitution, anisoyl-sparteine was investigated. Anisoyl-dehydro sparteine was obtained by the interaction between lupanine and anisoyl-magnesium bromide in absolute ether. Hydrogenation of anisoyl-dehydrosparteine afforded anisoyl-sparteine, $C_{22}H_{32}N_2O$, boiling at 188° C., 0.03-mm. pressure. It was obtained as an extremely viscous liquid which could not be crystallized from acetone, alcohol or chloroform-ethyl acetate. It could be separated, however, in aqueous solution as the not readily soluble perchlorate. Treatment with sulfuric acid yielded the acid sulfate, $C_{22}H_{32}N_2O.H_2SO_4 + 6H_2O$, m. p. 76° C., which was obtained as beautiful, colorless crystals. From this a picrate, $C_{22}H_{32}N_2O.C_6H_3N_3O_7$, melting at 206° C., a gold salt, $C_{22}H_{32}N_2O.2HAuCl_4$, m. p. 193° C. with decomposition, and a platinum salt, $C_{22}H_{32}N_2O.H_2PtCl_6.2H_2O$, decomposing at 246° C., were prepared. In its action on the frog heart, anisoyl sparteine surpassed the phenyl derivative, and was thirty times more potent than sparteine. —K. WINTERFELD and EUGEN HOFFMANN. *Arch. Pharm.*, 275 (1937), 526. (L. L. M.)

Stimulants, Respiratory, and Their Uses. Drugs allowable as respiratory stimulants are those that act largely on and through metabolism as well as by direct stimulation itself. Of indirect ones, most important is caffeine in coffee. Strychnine next; not so much heart stimulant as accentuation of spinal reflexes, with auxiliary effect on both heart and respiration. Dinitrophenol more powerful than either caffeine or strychnine. High liability to overdosage should class it essentially as a poison. Lobeline and coramine have powerful but brief effect on respiration—used

in CO poisoning but also a cardiac depressant. Caffeine and strychnine used in therapeutic doses to induce prolonged moderate increase in respiration. Also used with others in larger doses as antidotes to respiratory depressants, such as morphine and barbiturates. Other antidotes, atropine, camphor, cocaine apomorphine and lobeline. Best respiratory stimulant inhalant, carbon dioxide. Must be diluted to physiologic proportions with air or oxygen. Increases volume of breathing and also muscle tonus. First used to control respiration under anesthesia. Used also in asphyxia, particularly in newborn. Especially valuable in pneumonia. Effective means of controlling persistent hiccup. Danger of narcotics as respiratory depressant in labor.—YANDELL HENDERSON. *J. Am. Med. Assoc.*, 108 (1937), 471. (M. R. T.)

Vitamin E—Biological Assay of. Biological assays of vitamin E, using oral administration to sterile, vitamin E deficient rats in the earliest stages of pregnancy using a standardized procedure, have only a general quantitative value. However, results of such assays may be used for a comparison of potent vitamin E-containing products. When thus applied in this study to wheat germ and wheat germ oils it was found that there was (1) a close correlation between the vitamin E in the raw or processed wheat germ (Embo) tested and the pure oil expressed from the fresh germ; (2) a high retention of vitamin E in the processed (Embo) wheat germ kept for one year at room temperature in a sealed, evacuated can; and (3) a high stability of vitamin E in expressed wheat germ oil for several months at refrigeration temperature in sealed containers, either glass or tin.—L. S. PALMER. *Ind. Eng. Chem., Anal. Ed.*, 9 (1937), 427. (E. G. V.)

Yohimbine and Ergotamine—Action of, on the Excitability of Vaso-constrictor Mechanisms. The effects of yohimbine and ergotamine on vaso-constrictor excitability were contrasted with that of adrenaline on the splanchnic nerve, as previously dealt with by the authors. These agents affect the nerve fiber and the end organ, as shown by modifications of excitability in the splanchnic renal vaso-constrictor fibers and in the time of summation of stimuli in effecting the vaso-constrictor action. The drugs have a dual action on the fibers—*viz.*, first, diminution, and later, increase of chronaxie. The chronaxie, at first smaller than normal, becomes gradually greater, until complete loss of excitability occurs, accompanied by progressive increase of the summation time. The first phase of the action of these substances is thus similar to that of adrenaline.—D. T. BARRY and A. and B. CHAUCHARD. *Compt. rend. soc. biol. Paris*, 125 (1937), 217–219; through *Physiol. Abstr.*, 22 (1937), 635. (F. J. S.)

TOXICOLOGY

Aminobenzenesulfonamides—Isomeric, Relative Oral Toxicities for Mice of. The approximate 50% mortality doses of the isomeric aminobenzenesulfonamides for mice of 20 Gm. body weight are 60 to 80 mg., 90 to 100 mg., and 80 mg., respectively, for *o*-, *m*- and *p*-aminobenzenesulfonamides, from which it is inferred that the presence of traces of *o*- and *m*-aminobenzenesulfonamides in commercial specimens of the para should not appreciably affect the toxicity of the latter. Since all the other likely contaminants may be detected by chemical means, it would seem that the toxic effects of reasonably pure specimens of *p*-aminobenzenesulfonamide which have been observed in clinical usage, must be due to the drug itself, and some support to this view is found in the very marked symptoms which occur on its administration to mice as compared with the other two isomerides.—W. J. C. DYKE. *Pharm. J.*, 139 (1937), 104. (W. B. B.)

Arsenic Poisoning. A Sub-acute Case of. The authors describe a case of arsenic poisoning coming under their observation and give the results of their toxicological analyses. Scales from the skin averaged 10 mg. arsenic trioxide per 100 Gm. of skin; the tip-half of the hair ran 7.25 mg. while the basal half ran 2.04 mg. The finger nails showed 39 mg. arsenic trioxide per 100 Gm. and the toe nails 33 mg. arsenic trioxide per 100 Gm.—L. VAN ITALLIE and A. J. STEENHAUER. *Pharm. Weekblad*, 74 (1937), 231. (E. H. W.)

Arsenic Poisoning—Chronic, Determination of the Time at Which the Poison Was Absorbed. The author develops the theory that the time at which arsenic was absorbed in cases of chronic arsenic poisoning may be determined by the toxicological analysis of parts of the hair, the theory being that the amount of arsenic deposited in the hair at a given time is proportional to the concentration of arsenic in the body at that time. The average hair grows about 1.5 cm. per month. By measuring the hair (of which the free end and the "head"-end must be known) it may then be cut into sections representing certain definite periods of time. Arsenic determinations are then made upon the sections and the time of poisoning determined from the section with the highest

yield. Two cases are described with data of toxicological analysis.—L. VAN ITALLIE. *Pharm. Weekblad*, 74 (1937), 206. (E. H. W.)

Ergotamine Tartrate—Impending Gangrene of Feet Due to. Gangrenous form of ergotism usually due to ingestion of ergot over long period, but has been produced by 1 mg. subcutaneously over 4 days, and 26 mg. orally in one week. No instance of complete cure. Scopolamine helped in one case, effects prevented in another by use of atropine and calcium. Report of case of ergotamine tartrate poisoning, drug having been administered to relieve pruritis. One mg. by mouth and 2.5 mg. subcutaneously over 5 days. Six courses of 0.03 Gm. papaverine hydrochloride given over 4 days, and impending gangrene averted.—SAMUEL PERLOW and LEON BLOCK. *J. Am. Med. Assoc.*, 109 (1937), 27. (M. R. T.)

Hydrocyanic Acid—Toxicological Study of. Immediately after administration of a toxic but non-fatal dose of hydrocyanic acid to dogs, the organs and blood were analyzed for hydrocyanic acid. Immediate examination showed no free hydrocyanic acid in the first case, but much in the stomach, blood and viscera of the next two, with none in the control. After 8 days, the combined hydrocyanic acid (thiocyanic acid) had increased in all except the control, and traces of free hydrocyanic acid remained in the stomach and blood of the potassium cyanide cases. After 30 days, no free hydrocyanic acid remained but combined hydrocyanic acid reached a maximum. These results show that analysis can determine amounts of hydrocyanic acid much smaller than the fatal dose. Contrary to the conclusion of Sensi and Revello for putrefying proteins, no free or combined hydrocyanic acid was found in the control; hence, no hydrocyanic acid was formed from the proteins in the analysis. Tissues which contain hydrocyanic acid retain it for long periods when kept in sealed containers. For determination of hydrocyanic acid, the method of Chelle was used with the following modifications: the sample was distilled first with dilute phosphoric acid for free hydrocyanic acid, then in a chromic-sulfuric acid mixt. which oxidizes thiocyanic to hydrocyanic acid; the latter was collected in 50% sodium hydroxide to avoid loss by hydrolysis; an ammoniacal solution of silver nitrate was used for determining hydrocyanic acid from the oxidative distillation, which contains no hydrogen sulfide, but much carbon dioxide which interferes in the quantitative absorption of hydrocyanic acid by 50% sodium hydroxide. This interference regularly causes loss of hydrocyanic acid in the Chelle method.—P. R. ORELLA. *Anales soc. cient. argentina*, 121 (1936), 191–203; through *Chimie & Industrie*, 38 (1937), 36. (A. P.-C.)

Salicylates—Poisoning by. The administration of salicylates causes a prompt increase in both the production and the elimination of heat. No serious symptoms are produced by the administration of large amounts of salicylates to experimental subjects (dogs) as long as the intake of fluid is adequate and there is no interference with the processes of the elimination of heat. When the ability to dissipate heat is experimentally interfered with, otherwise harmless doses of the drug cause death as a result of hyperexia and exhaustion. In patients, when dehydration causes a similar inability to adapt themselves to the action of the drug, alarming symptoms of salicylate poisoning develop. Treatment of salicylate intoxication should place first emphasis on the administration of large amounts of fluid, together with other measures to aid in the dissipation of heat. Later in the intoxication, when acidosis is often present, alkali should also be given.—K. DODD, A. S. MINOT and J. M. ARENA. *Am. J. Diseases Children*, 53 (1937), 1435; through *Pharm. J.*, 139 (1937), 319. (W. B. B.)

THERAPEUTICS

Adrenal Glands for Adaptation. Adaptation acquired before adrenalectomy is not lost after the removal of these glands. The presence of the adrenals is only necessary during the first stage of the adaptation process in the alarm reaction. The author concludes that trained tissues require little if any cortin for the performance of their functions (drug resistance, muscular exercise, resistance to cold, etc.). Death, following exposure of adrenalectomized animals to alarming stimuli, occurs in hypoglycemia. These same stimuli have little effect on the blood sugar of previously adapted adrenalectomized animals. Hence the author concludes that little if any cortin is required for the maintenance of a normal blood-sugar level by the adapted organism when exposed to damaging stimuli (drugs, excessive muscular exercise, excessive cold, etc.). Adrenalectomized animals may even acquire resistance to new stimuli if they are protected against their immediate damaging effect by sodium chloride treatment during the process of adaptation. After salt treat-

ment is discontinued, such pretreated, adrenalectomized animals prove more resistant to the stimulus to which they adapted themselves than non-adapted adrenalectomized controls. During and immediately following the production of an alarm reaction by a damaging stimulus, the tolerance to the stimulus is increased. This increased resistance is more or less specific. It proves that the alarm reaction is a useful defense reaction of the organism.—H. SEYLE. *Arch. intern. Pharmacodynamie*, 55 (1937), 431. (W. H. H.)

Adrenal Hormones—Evidence of the Protective Influence of, against Tuberculosis in Guinea Pigs. Sixty-seven guinea pigs were inoculated with tuberculous material and twenty-four which were untreated all became infected. The remaining forty-three were treated with cortical extracts and twelve of them showed no signs of infection, and in the remainder the tuberculous lesions were less severe than in the controls.—F. M. POTTENGER, JR., and J. E. POTTENGER. *Endocrinology*, 21 (1937), 529–532; through *Physiol. Abstr.*, 22 (1937), 675. (F. J. S.)

Adrenalin Secretion—Action of Atropine and Eserine on, Caused by Potassium Chloride and Calcium Chloride. Atropine diminishes the secretion of adrenalin caused by calcium or potassium for 4 minutes. The action of eserine is not constant.—GERHARD KATZ and GERTRUD KATZ. *Proc. Soc. Exptl. Biol. Med.*, 36 (1937), 848. (A. E. M.)

Aluminum Hydroxide and Kaolin—Treatment of Ulcerative Colitis with. Value of aluminum silicate (kaolin) in treatment of cholera due to inert adsorptive property. Aluminum hydroxide similar activity but better colloid action; may be either weak acid or weak base, used in peptic ulcer, and diphtheria to adsorb toxins. Combination of aluminum hydroxide and kaolin used in gastrointestinal disorders. Large doses of some aluminum compounds are toxic, but smaller doses of the insoluble hydroxide or silicate not harmful. Of greater value given rectally than orally. Report of cases of ulcerative colitis treated with kaolin and aluminum hydroxide, 60 to 150 Gm. in 90 to 150 cc. of water, used as enema after colon is flushed with warm water. Mixture applied daily, and retained as long as possible. High caloric, non-irritating diet. Adsorptive and astringent properties reduce irritation and absorption.—JAMES B. EYERLY and HERBERT C. BREUHAUS. *J. Am. Med. Assoc.*, 109 (1937), 191. (M. R. T.)

Arsenic—Posology of. During nearly two years of observation of more than 200 patients treated with Liquor Fowleri and Asiatic pills the author states that he never observed any symptom of abstinence when treatment was suddenly stopped. He concludes therefore that no special decreasing system of arsenical treatment is necessary. If a patient complains of his drugs having changed taste, this should be considered as an early symptom of arsenical poisoning.—R. D. G. PH. SIMONS. *Pharm. Weekblad*, 74 (1937), 315. (E. H. W.)

Dinitrophenol and Dinitrocresol as Metabolic Stimulants. During the last three or four years dinitrophenol has been used extensively, particularly in America, for the treatment of obesity because of this property of increasing the rate of tissue metabolism. The rapidity with which the effects of dinitrophenol are exerted are in marked contrast to the action of thyroid gland administered orally, which produces a slow increase in basal metabolism and a slow return to normal. Dinitrophenol, $C_6H_3(NO_2)_2OH$, is a yellow crystalline substance, slightly soluble in cold water, but readily soluble in hot water and in chloroform, ether or benzene. It has been given in the form of the sodium salt in capsules each containing 0.1 Gm. It is an almost invariable experience that a therapeutically effective dose of dinitrophenol causes an uncomfortable sensation of warmth with increased perspiration. The toxic symptoms attributed to dinitrophenol include skin rashes, with much itching, loss of the sense of taste, blurring of vision, which may lead rapidly to blindness owing to the formation of cataract, and various disturbances of sensation, such as "pins and needles," numbness and pain, usually starting in the toes. The most serious ill-effect is the development of cataract, numerous cases of which have been reported. In some instances the cataract has developed after one month's treatment, but in others the cataract has not been evident until after twenty-one months' treatment. An allied compound, 4:6 dinitro-ortho-cresol, is also employed as a metabolic stimulant, and is given in capsules containing 0.05 Gm. This compound is many times more potent than 2:4 dinitrophenol, although its immediate toxicity to animals is of about the same order as that of dinitrophenol. It is contended that these drugs should not be used for the purpose of reducing weight until it has been found that dietary measures alone cannot be used successfully. In the case of patients suffering from hypothyroidism treatment with thyroid gland or thyroxin should first be tried.—ANON. *Pharm. J.*, 139 (1937), 213. (W. B. B.)

Diuresis—Tannic Acid and Sodium Chloride. In rabbits intravenous injection of tannic acid has no effect on the renal excretion of water or sodium chloride following intravenous injection of hypertonic sodium chloride solutions.—U. SAMMARTINO. *Arch. Farmacol. sper.*, 63 (1937), 81–113; through *Physiol. Abstr.*, 22 (1937), 665. (F. J. S.)

Ether Enemas in Whooping Cough. Use of enema containing camphor in ether, eucalyptol and aromatized oil in petrolatum, found effective in cases of whooping-cough; doses from 5 cc. to 15 cc. depending on age of child, given daily. Severity and duration of disease reduced.—N. LEONE BLOISE and E. ALVARIZA PEREZ. *Arch. de Ped. del Uruguay*, 8 (1937), 127; through *J. Am. Med. Assoc.*, 108 (1937), 2260. (M. R. T.)

Gold Soap Solution in Chaulmoogra Oil—Preparation of, and Its Effect on Lepers. The gold soap solution of chaulmoogra fatty acids was prepared by mixing sodium soap solution and gold chloride solution, freeing the resulting soap from water, and dissolving it in chaulmoogra oil to give a solution containing a suitable amount of gold soap. Small amounts of vitamins A and D and cholesterol were added. The solution had a pink or reddish violet color and melted at body temperature. Tyndall phenomena, ultramicroscopic and spectroscopic examinations are reported, as well as comparisons with gold hydrosol, gold chloride solution and Horiba's gold organosol. Hartley absorption curves are presented. Clinical experiments were carried out on 25 patients for 6 to 10 months. Twenty-two cases gave positive reactions, while three cases were unaffected.—S. UENO. *J. Soc. Chem. Ind. Japan*, 39, Suppl. Binding (1936), 151–154; through *Chimie & Industrie*, 38 (1937), 102. (A. P.-C.)

Hemophilia—Histidine Treatment of. Oral and parenteral administration of histidine (H) shortens the clotting time of capillary and hemolyzed venous blood. A greater and more protracted effect was observed with a combination (C) of H with calcium and ascorbic acid. Oral administration of H reduced to normal the clotting time of three cases of hemophilia. The prolonged treatment with H can be given at one- to two-day intervals and maintains the clotting time near the normal level. One case of hemophilia was treated for a year with calcium and bled only during the pauses in treatment. Two cases treated for six to eight weeks showed no bleeding.—H. KOHL. *Z. klin. Med.*, 132 (1937), 40–54; through *Physiol. Abstr.*, 22 (1937), 609. (F. J. S.)

Ivy Poisoning—Iron Salts for the Treatment of, Followed by Permanent Pigmentation. Iron salts, especially ferric chloride, are frequently used in ivy poisoning without untoward effect. Report of several cases in which its use resulted in permanent pigmentation extending deep in the epidermis. Suggest discouraging the use of iron salts as lotion, compress or wet dressing in vesicular or exudative dermatoses. Its usefulness is only applicable in cases of inflammation without exudation, but is not recommended.—EUGENE F. TRAUB and JOSEPH S. TENNEN. *J. Am. Med. Assoc.*, 106 (1936), 1711. (M. R. T.)

Magnesium Sulfate. Sedative for Cough. Magnesium sulfate, preferably in 15% solution is used intramuscularly as sedative for cough with children. Amounts vary with type of cough, whether asthmatic, spasmodic or accompanied by nausea and vomiting. No symptoms of intolerance noted. In cases of respiratory paralysis calcium chloride is given intramuscularly or intravenously, or atropine subcutaneously. Cystitis, nephritis and meningitis are considered contraindications for mangesium therapy.—ALFREDO VIDA GREYNE. *El. Dia Medico*, 50 (1936); through *Medicina Latina*, 10 (1937), 97. (G. S. G.)

Magnesium Sulfate—Treatment of Eclampsia by. Magnesium sulfate useful both as sedative and as diuretic. Frequently one injection is sufficient, occasionally two are needed. If respiratory paralysis threatens, calcium chloride is given intravenously. But this is obviated if injection of magnesium sulfate is given slowly.—SAMUEL E. BERMAN. *Bol. soc. obst. y Gin.* (September 1936); through *Med. Latina*, 10 (1937), 101. (G. S. G.)

Medicaments—Individual Surprise Reactions to. A summary is given of after effects which have been observed following the use of a number of drugs. The drugs discussed include: acetylsalicylic acid, aluminum acetate, amidopyrine, arsenic, atropine eye drops (1%), barbituric acid derivatives, disinfectants, emetine, ephedrine, insulin, iodine, ipecacuanha, local anesthetics (novocain, procaine), procaine eye drops, quinine, serum, white precipitate ointment, yellow mercuric oxide ointment. Following percutaneous tests, in which an aqueous solution of the drug is applied to an area of the skin which has been scarified, and is allowed to infiltrate for a short time, reactions have been observed at the following dilutions with various medicaments: sodium cacodylate 1 in 100, 1 in 10, 1 in 2; neosalvarsan 1 in 100,000, 1 in 10,000, 1 in 1000; serum 1 in 100;

emetine, 1 in 100; ipecacuanha (maceration) 1 in 100; sodium salicylate 1 in 10,000, 1 in 1000, 1 in 100. Insulin is diluted for the intracutaneous test with 0.9% sodium chloride solution so that the infiltration doses (0.05 cc.) contain 0.008, 0.04 and 0.08 units of insulin.—ANON. *Pharm. J.*, 139 (1937), 249. (W. B. B.)

Plumbism—Recent Progress in Treatment of. Administration of diet low in calcium and addition of either ammonium chloride or phosphoric acid causes increased excretion of lead. Addition of diet high in phosphorus aids in its excretion. Deleading may have to be repeated at intervals depending on waves of lead excretion.—IRVING GRAY. *J. Am. Med. Assoc.*, 104 (1935), 200. (M. R. T.)

Postarsphenamine Exfoliative Dermatitis—Etiology, Complications and Treatment of. Review of 59 cases with definite exfoliative dermatitis. Patch tests with neoarsphenamine strongly positive in all patients. 72% receiving intravenous and intramuscular injections concurrently. With alternating method, dermatitis is less likely to develop. 65% had received a heavy metal either bismuth or mercury before course in arsphenamine. Most common residual is scattered patches of chronic eczema. Serologic changes noted in blood, also, Wassermann being strongly positive. Routine therapy included intravenous injections of dextrose, insulin and sodium thiosulfate. Oral administration of calcium gluconate and sodium bicarbonate. Colloid baths, soothing creams and ointments and diet high in protein, fat and vitamins but low in carbohydrates. Average mortality between 17 and 18%.—IRVIN EPSTEIN. *J. Am. Med. Assoc.*, 109 (1937), 117. (M. R. T.)

Sodium Morrhuate—Anaphylaxis Due to. Report of a case of varicose veins injected with sodium morrhuate in which urticaria and severe prostration resulted almost instantaneously on second injection. Reference to other similar reactions indicates care in use of a substance generally believed not dangerous. Possibility of protein sensitization by repeated doses.—KENNETH M. LEWIS. *J. Am. Med. Assoc.*, 107 (1936), 1298. (M. R. T.)

Sodium Morrhuate—Injection with, in Fascial Hernia of Both Lower Extremities. Report of case of fascial defect causing hernias on anterolateral aspect of lower third of both legs. Weakness aggravated by physical sports—basket-ball. Swelling reduced by four injections amounting to 6 cc. of morrhuate in left, and two injections amounting to 4 cc. in right leg. Patient played professional basket-ball again for nearly a year. Has returned twice for treatment, to avoid original disability. Apparently the morrhuate sets up local irritation, producing fibrosis which closes over defect.—ADOLPH A. SCHNIER. *J. Am. Med. Assoc.*, 109 (1937), 28. (M. R. T.)

Sugar Injections—Invert. Injections of invert sugar may be used as substitutes for glucose injection, their therapeutic actions being considered identical. The French Codex contains two solutions of glucose for injection, one isotonic with blood serum and containing 50 Gm. of glucose per liter, the other hypertonic, containing 150 to 300 Gm. per liter. Methods are given for making an isotonic injection and a hypertonic injection of invert sugar.—ANON. *Pharm. J.*, 139 (1937), 214. (W. B. B.)

Sulfanilimide and Prontosil—Two Cases of Streptococcic Meningitis Treated Successfully with. One case received intramuscular injections of prontosil, and sulfanilimide orally for five to six days. Course checked by cell count and cultures of spinal fluid. Recovery in 15 days. Second case received intramuscular injections of prontosil, sulfanilimide orally and rectally for six days. Blood smears and spinal fluid analysis done every two days. Recovery in 23 days. Report made because of usual extremely high mortality rate in cases of streptococcic meningitis. So far has proved non-toxic and its prompt use in cases of meningitis is advocated.—MAX H. WEINBERG. *J. Am. Med. Assoc.*, 108 (1937), 1948. (M. R. T.)

NEW REMEDIES

SYNTHETICS

Acetylcholine Ampuls (Hoffman-La Roche, Basle) are sold in ampuls containing 0.10 Gm. acetylcholine chloride, six in a box along with 6 ampuls of 2.2 cc. distilled water. **Acetylcholine Suppositories** contain 0.30 Gm. acetylcholine chloride in a suitable base; 6 suppositories to the package.—*Pharm. Presse*, 42 (1937), 365. (M. F. W. D.)

Adrianol Emulsion (C. H. Boehringer Sons, A. G., Nieder-Ingelheim) is put up in packages of 15 Gm. containing 0.25% *m*-methylaminoethanolphenol hydrochloride and 0.4% sodium benzoate in an emulsion of petrolatum.—*Pharm. Presse*, 42 (1937), 365. (M. F. W. D.)

Azoagin Tablets (Chem. Fabr. Hubold & Bartsch, Grünheide-Mark) are sold in packages of 10 tablets containing in each 0.05 Gm. Azohel which is diaminoazobenzene monohydrochloride-citrate.—*Pharm. Presse*, 42 (1937), 403. (M. F. W. D.)

Azochloramid is a complex aliphatic organic chloramine, N-N'-dichloroazodicarbonamidine occurring in yellow crystals, m. p. 155.5° C., soluble in water, in fats and oils, and in many organic solvents. It is recommended as a stable non-irritating antiseptic, with a non-selective bactericidal action. It is active in the presence of serum and other organic matter. Azochloramid is supplied as a solution in glyceryl triacetate, and as a saline mixture, for the preparation of an isotonic irrigating solution 1:3300, buffered to p_H 7.4, in bottles containing the amount to prepare 1 liter, or 1 gallon of solution. Azochloramid in triacetin is an oily solution which may be used without dilution for dressing or packing infected wounds or cavities.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 299. (S. W. G.)

Azohel-Alcohol Solution (Chem. Fabr. Hubold & Bartsch, Grünheide-Mark) is put up in vials of 10 cc. containing 4% of diaminoazobenzene monohydrochloride-citrate in 15% alcohol. **Azohel-Glycerin Solution** contains 4% of diaminoazobenzene monohydrochloride-citrate in glycerin and is sold in 10-cc. packages.—*Pharm. Presse*, 42 (1937), 403. (M. F. W. D.)

Bextaxin Tablets (Bayer, I. G. Farben.-A. G., Leverkusen a. Rhein) contain in 1 tablet 1 mg. synthetic crystalline vitamin B_1 and are sold in packages of 20 tablets. **Betaxin Ampuls** are sold in packages of 3 ampuls containing 1 cc. of solution equivalent to 10 mg. synthetic crystalline vitamin B_1.—*Pharm. Presse*, 42 (1937), 403. (M. F. W. D.)

Cantol (Illmat Valy & Sackerman, Fabrik. chem.-pharm. Präparate, Laufenburg/Baden) is a chlorine compound in combination with thymol, and is recommended as a mouth-wash and gargle for its bactericidal activity. It is supplied in dropping bottles containing 50 Gm.—*Pharm. Ztg.*, 82 (1937), 616. (N. L.)

Condysen (Tremmler-Werke, Vereinigte Chemische Fabriken, Berlin-Johannisthal) contains as its active principal an oxybenzyl silver compound, which is recommended in the treatment of dysentery and summery diarrhea. It is supplied in tubes containing 160 enteric-coated tablets.—*Pharm. Ztg.*, 82 (1937), 687. (N. L.)

Eggopurin Powder (Eggochemia, Vienna, 19th dist.) is put up in 70-Gm. packages containing granules of calcium mandelate.—*Pharm. Presse*, 42 (1937), 365. (M. F. W. D.)

Ermetrine Ampuls (Fa. N. V. Organon, Oss, Holland) are put up in packages of 6 ampuls containing either 0.125 or 0.250 mg. ergometrine hydrochloride. **Ergometrine Suppositories** are sold in packages of 5 and 10 suppositories containing in each 0.25 mg. ergometrine hydrochloride. **Ergometrine Tablets** contain 0.25 mg. ergometrine hydrochloride and are put up in packages of 10 and 25 tablets.—*Pharm. Presse*, 42 (1937), 402. (M. F. W. D.)

Esidron Ampuls (Gesellschaft für Chem. Industrie, Basle) contain in each 0.14 Gm. theophylline-mercurri-mono-oxypropylamido-sodium quinoline in 1 cc. distilled water; 5 ampuls to the package.—*Pharm. Presse*, 42 (1937), 476. (M. F. W. D.)

Folipex Salve (Synabo, G.m.b.H., Vienna, 12th dist.) contains 5 mg. equivalent to 50,000 international units of follicular hormone and 0.50 Gm. *p*-amino-benzoyldiethylamino-ethanol in a suitable ointment base. It comes in 50-Gm. packages.—*Pharm. Presse*, 42 (1937), 365. (M. F. W. D.)

Gabasol is a germicide which consists of the halogenated hydrocarbon *p*-chlor-*m*-xylenol in a saponaceous solution of essential oils. It is non-toxic, non-staining, non-irritating and penetrating, and has a Rideal-Walker coefficient of 4.5. It is supplied in 32 oz. and half-gallon bottles, and in 1-gallon tins.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 300. (S. W. G.)

Gombardol (C. F. Boehringer & Söhne, G.m.b.H., Mannheim-Waldorf) is *p*-aminobenzolsulfonamide, having the fomula, $NH_2.C_6H_4.SO_2NH_2$, and is supplied in packages of 10 and 20 tablets.—*Pharm. Ztg.*, 82 (1937), 591. (N. L.)

Igederm (Behringwerke, I. G. Farben.-A. G., Leverkusen a. Rhein) is sold in packages containing 100 and 250 Gm. of a 4% oily solution of bisbutylxanthogen.—*Pharm. Presse*, 42 (1937), 476. (M. F. W. D.)

Kainon Ampuls (Fa. Wander G.m.b.H., Vienna, 21st dist.) are put up in packages of 3 ampuls of 3 cc. each containing a $2^1/_2$% solution of a mixture of the sodium salts of octadecadiene acid and octadecatreine acid.—*Pharm. Presse*, 42 (1937), 403. (M. F. W. D.)

Katasuccin Byk (Byk-Guldenwerke Chemische Fabrik, A. G., Berlin, N. W. 40) is a succinic acid preparation in the form of dragees, supplied in packages of 100. It is recommended in the treatment of diabetic acidity.—*Pharm. Ztg.*, 82 (1937), 804. (N. L.)

Lonacol (Bayer, I. G. Farben.-A. G., Leverkusen a. Rhein) is a white, readily soluble, sweeting powder, which is obtained by the union of glycocoll with 8% primary and 10% secondary sodium phosphate. It improves the compatibility and strengthens the action of the digitalis glycosides, and also increases the cardiac resistance. The preparation is recommended as a supplement in digitalis therapy of cardiac insufficiency, and it is supplied in boxes of 100 Gm., of the powder, and in boxes of 5 ampuls, each containing 5 cc. of solution.—*Pharm. Ztg.*, 82 (1937), 602. (N. L.)

Lyocyt "B" (Pharmacon Pflug, Gera (Thür.)) contains as its principal ingredient magnesium sodium pyro-phosphate. It is recommended as a nervine and sedative, and is supplied in packages of 6 powders.—*Pharm. Ztg.*, 82 (1937), 672. (N. L.)

Medobis Suppositories (Fa. Sanabo, G.m.b.H., Vienna, 12th dist.) contain in each 0.135 Gm. bismuth heptadienecarbonate; the packages contain 2 suppositories.—*Pharm. Presse*, 42 (1937), 436. (M. F. W. D.)

Neospiran Dragees (Chemische Fabrik Landshoff & Meyer, Grünau b. Berlin) contain 0.07 Gm. Neospiran, 0.07 Gm. caffeine, 0.04 Gm. ephedrine in each. The packages contain 10 or 100 tablets.—*Pharm. Presse*, 42 (1937), 403. (M. F. W. D.)

Piper-Iodina Drops (Istituto Romano, Biochimico, Rome) contain 2.70 Gm. of the monoiodohydrate of piperazine in 40 cc. distilled water. The bottles contain 40 Gm.—*Pharm. Presse*, 42 (1937), 476. (M. F. W. D.)

Quinine Phytin is a combination of phytin (the calcium magnesium salt of inositol hexaphosphoric acid) and quinine, and constitutes an organic phosphate of quinine of a definite formula. Quinine phytin contains 58% of quinine and is readily soluble in water. One gram of the substance respresents 0.5 Gm. of phytin and is equivalent to 0.8 Gm. of quinine sulfate. Quinine phytin is suggested for the treatment of influenza, neuralgia, whooping-cough and malaria. The dose is from 3 to 10 tablets a day. Tablets of $1^1/_2$ grains are supplied in bottles of 50 and 100.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 302. (S. W. G.)

Rubrophen Ampuls (Fa. Sanabo G.m.b.H., Vienna, 12th dist.) contain 0.30 Gm. trimethoxy-dioxy-oxotritan-sodium bisulfite and 5 cc. sterile distilled water. The packages contain 10 or 20 ampuls. **Rubrophen Salve** is put up in packages of 50 Gm. containing 5% trimethoxy-dioxy-oxotritan and 20% diethylacetamide in lanolin. **Rubrophen Tablets** are sold in packages of 50 and 150 tablets containing in each 0.15 Gm. trimethoxy-dioxy-oxotritan.—*Pharm. Presse*, 42 (1937), 403. (M. F. W. D.)

Suprifen Ampuls (Bayer, I. G. Farben.-A. G., Leverkusen a. Rhein) contain 2 cc. of a 1% solution of racemic *p*-oxyphenylmethylaminopropanol hydrochloride. The packages contain 5 ampuls. **Suprifen Drops** are packaged in 10-cc. vials containing a 10% solution of racemic *p*-oxyphenylmethylaminopropanol hydrochloride.—*Pharm. Presse*, 42 (1937), 403. (M. F. W. D.)

Surfen. Surfen is the hydrochloride of *bis*-2-methyl-4-aminoquinolyl-6-carbamide. It is a non-staining antiseptic which is stated to have, in addition to a chemotherapeutic action against certain-protozoal infections, a specific bactericidal action on pathogenic spores. It is employed for local treatment (not intravenous) in solutions of about 0.1%, according to purpose. The solution may be sterilized for a short time, but should not be heated long, and should be used as fresh as possible. Packages contain 5, 10 and 25 Gm., respectively.—*Pharm. Ztg. Berl.*, 82 (1937), 439; through *Quart. J. Pharm. Pharmacol.*, 10 (1937), 303. (S. W. G.)

Testoviron Ampuls (Schering-Kahlbaum, Vienna, 6th dist.) contain 5 mg. of testosteron propionate in oil solution. The packages contain 4 such ampuls.—*Pharm. Presse*, 42 (1937), 365. (M. F. W. D.)

Trasentin is diphenylacetyldiethylaminoethanolester hydrochloride and has the formula $(C_6H_5)_2CH.CO.O.CH_2.CH_2.N(C_2H_5)_2$, HCl. It is a white crystalline solid readily soluble in water, m. p. 24° to 124° C. Trasentin exhibits an antispasmodic action similar to atropine, without the unpleasant side-effects. It has a low toxicity, and is well tolerated either by oral or rectal administration. It is suggested for the relief of spasm of the gastro-intestinal system, or of the urinary passages, and biliary colic. Trasentin becomes effective about half an hour after oral or rectal ad-

ministration. When injected intramuscularly it acts within ten to fifteen minutes. The oral dose is 1 to 2 tablets three times a day swallowed whole. Rectally, 1 to 2 suppositories are given daily. Half to 1 ampul can be given subcutaneously or intramuscularly, repeated according to the severity of the case. Trasentin tablets of 0.075 Gm. are supplied in bottles of 20. Suppositories of 0.1 Gm. are issued in boxes of 5. Ampuls of 1.7 cc. are supplied in boxes of 5.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 304. (S. W. G.)

Veritol Ampuls (Knoll A. G., Ludwigshafen) contain in each 1 cc., 0.02 Gm. veritol sulfate (the sulfuric acid salt of β[*p*-oxyphenyl] isopropylmethylamine) in physiological saline solution. The packages contain 5 ampuls. **Veritol Solution** is put out in 10-Gm. packages containing a 3% solution of veritol sulfate in physiological saline solution. **Veritol Suppositories** contain 0.04 Gm. veritol oleate in a suitable base. The packages contain 5. **Veritol Tablets** are sold in packages of 10 tablets containing in each 0.05 Gm. veritol sulfate.—*Pharm. Presse*, 42 (1937), 365. (M. F. W. D.)

Zephiran concentrate is a mixture of alkyl-dimethylbenzyl ammonium chlorides. It is claimed to be a powerful germicide, the Rideal-Walker coefficients being stated as: *Bacillus coli*, *Bacillus typhosus* 7.5, hemolytic streptococci 27. It is non-poisonous, non-irritant and practically odorless. As a lotion for wounds, cuts and abrasions a 0.2% solution is suggested. For disinfection of the hands a 1% solution should be used. Instruments should be kept in 0.5% solution. Zephiran is supplied in 6-oz. bottles (with measure cap) and in Winchester quarts for hospital use.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 304. (S. W. G.)

Specialties

Antihaesin is a non-irritating, non-inflammable solution for the painless removal of adhesive plaster. It is claimed to destroy the adhesive properties of strapping, allowing it to be removed smoothly and evenly, without discomfort to the patient. Antihaesin is supplied in 4-oz. and 20-oz. bottles.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 299. (S. W. G.)

Bilimed Dragees (Oehren & Co., Berlin) are sold in packages of 30 dragees containing in each 0.10 Gm. calcium cholate and extractive from *Lavandula spica*.—*Pharm. Presse*, 42 (1937), 476. (M. F. W. D.)

Bioferrin Liquid (Bayer, I. G. Farben.-A. G., Leverkusen a. Rhein) contains hemoglobin-iron solution, liver extract, etc., and is sold in 200-Gm. packages.—*Pharm. Presse*, 42 (1937), 476. (M. F. W. D.)

Cal-De-Vit Tablets (Dr. Wander, Vienna, 21st. dist.) contain calcium glycerophosphate, calcium citrate and 2400 international units of vitamin D. The vials contain 15 tablets.—*Pharm. Presse*, 42 (1937), 365. (M. F. W. D.)

Cebion-Strong Ampuls (E. Merck, Darmstadt) contain in each ampul 0.50 Gm. crystalline *l*-ascorbic acid equivalent to 10,000 international units. The packages contain 3 ampuls of 5 cc. each.—*Pharm. Presse*, 42 (1937), 476. (M. F. W. D.)

Circanol Hemorrhoidal Salve (Pharmaz. Industrie, Wiesbaden) is put up in packages of 20 and 50 Gm. containing chlorophyll, methyl salicylate, linseed oil and lanolin.—*Pharm. Presse*, 42 (1937), 364. (M. F. W. D.)

Cod Liver Oil—Vitamin Emulsion (Süddeutsche Emulsionswerk, Mannheim-Neckarau) contains calcium and phosphorous salts and a special cod liver oil, rich in vitamins A and D. It is supplied in bottles of 300 Gm.—*Pharm. Ztg.*, 82 (1937), 742. (N. L.)

Contractubex (Merz & Co., Chem. Fabrik, Frankfurt a. M.) is a preparation recommended for the treatment of burns, scars, etc., and is supplied as a liquid and in the form of an ointment. Its active ingredients are various plant extracts and an organic sulfur compound.—*Pharm. Ztg.*, 82 (1937), 591. (N. L.)

Dismenol tablets contain *p*-sulfamidobenzoic acid 0.05 Gm., and antipyrin 0.25 Gm. in each. They are recommended as a palliative for dysmenorrhœa, relieving pain and removing lassitude. The dose is 1 tablet, two or three times daily, when pain is present. The tablets are supplied in tubes of 15, and boxes of 100.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 300. (S. W. G.)

Dovopal Pastilles (Fa. Phaga, Vienna, 18th dist.) contain ipecac opiate, salep root and a chocolate base. The packages contain 5 or 12 pastilles.—*Pharm. Presse*, 42 (1937), 364. (M. F. W. D.)

Dynarsan Ampuls (Leo Egger and I. Egger, Budapest) contain triethanolamine acetylamino-oxyphenylarsenate equivalent to 0.05 Gm. arsenic. The packages contain 10 ampuls of either 1 or 3 cc.—*Pharm. Presse*, 42 (1937), 364. (M. F. W. D.)

Eggopurin Ampuls (Eggochemia, Vienna, 19th dist.) are put up in packages of 5 ampuls containing 6 Gm. sodium mandelate, 6 Gm. hexamethylenetetramine and distilled water to make 20 cc.—*Pharm. Presse*, 42 (1937), 403. (M. F. W. D.)

Essitonar Powder (K. Lubojatzky, Gloggnitz) contains alum with arnica extract and lead acetate. It is sold in packages of 3 double capsules.—*Pharm. Presse*, 42 (1937), 402. (M. F. W. D.)

Ferro 66 Pastilles (Fa. Promonta, G.m.b.H., Hamburg) are sold in packages of 30 pastilles containing dried ferrous chlorate-oxide with ferrous ascorbate as a stabilizer. **Ferro 66 Drops** is the above in solution, 20 cc. to the package.—*Pharm. Presse*, 42 (1937), 403. (M. F. W. D.)

Forapin Ampuls A, B, C, D (H. Mack, Nachf., Ulm) contain a standardized isotonic bee-toxin solution for injection. A contains 0.15 mg. apitoxin and 2.0 mg. novocaine per cc.; B contains 0.45 mg. apitoxin and 2.0 mg. novocaine per cc.; C has 1.35 mg. apitoxin and 2.0 mg. novocaine per cc.; and D has 4.0 mg. apitoxin and 2.0 mg. novocaine per cc. The packages contain 6 of D and 2 each of A, B and C.—*Pharm. Presse*, 42 (1937), 365. (M. F. W. D.)

Gecolax (Gehe & Co., A. G., Dresden) contains as its active ingredients, vegetable extracts, vitamins and nutrient salts. **Gecolax and Belladonna** also contain 0.6% of a belladonna extract. These preparations are recommended as purgatives, and are supplied in packages of 100 and 250 Gm.—*Pharm. Ztg.*, 82 (1937), 823. (N. L.)

Granulin (Ilmat Valy & Sackermann, Fabrik. chem.-pharm. Präparate, Laufenburg/Baden) is a very active deodorizing antiseptic, consisting of a chlor-cresol compound known as Bakterogran. It is recommended as an antiseptic in dermatological, surgical and gynecological practice. It is marketed as a 50% solution of Bakterogran in bottles of 100, 200 and 1000 Gm., and in the form of two ointments, in 30-Gm. packages, one consisting of granulin 2%, yellow wax, olive oil and balsam of Peru, and the other, a mixture of granulin 4%, anhydrous lanolin, tincture of arnica and yellow vaseline.—*Pharm. Ztg.*, 82 (1937), 547. (N. L.)

Hellsicol-Dragees (Chemosan-Union, A. G., Vienna, 3rd dist.) contain in each 0.001 Gm. strychnine nitrate, calcium phosphate, quinine, manganese, caffeine, extract of kola, iron and copper; the packages contain 25 tablets.—*Pharm. Presse*, 42 (1937), 436. (M. F. W. D.)

Iminol contains in each tablet, agaricin 0.005 Gm., papaverine 0.02 Gm., caffeine 0.1 Gm., and thiophylline 0.1 Gm. It is recommended as a prophylactic for asthma, which can be safely taken over long periods without secondary effects. Regular nocturnal attacks are counteracted by a dose of 1 to 2 tablets at bedtime. Iminol should be taken on the first appearance of symptoms of an oncoming attack. It is issued in tubes of 10 and 20 tablets.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 300. (S. W. G.)

Inkretan is a preparation of standardized thyroid combined with anterior pituitary for the treatment of obesity. It is supplied in tablet form, and the dose must be regulated to suit each patient. Inkretan tablets are supplied in bottles of 25 and 50 tablets.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 300. (S. W. G.)

Lyopect Syrup (Medoptin, chem.-pharm. Lab., Berlin-Wilmersdorf) consists of primula, chamomile, arnica, drosera, squill, calcium chloride, sodium benzoate, ephedrine, sodium bromide and simple syrup. It is recommended as an expectorant for children and is supplied in bottles containing 175 and 235 Gm. of the syrup.—*Pharm. Ztg.*, 82 (1937), 629. (N. L.)

Naphtholated Charcoal consists of betanaphthol 2%; willow and poplar charcoal 78%; white sugar 20%. It is prepared in the form of tasteless granules, which are easy and agreeable to take. It is indicated for the treatment of intestinal fermentation, diarrhœa and other inflammatory conditions of the bowels. The dose is 1 or 2 teaspoonfuls three times a day after meals, or at the onset of pain. The granules should be swallowed with a draught of water. Naphtholated charcoal is supplied in tins containing 24 teaspoonfuls.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 301. (S. W. G.)

Nestrovit Solution (Hoffmann La Roche, Basle) contains 100,000 international units vitamin A, 850 international units vitamin B, 2700 international units of Vitamin C, and 10,000 international units vitamin D in 10 cc. condensed milk. It is sold in 125-Gm. packages. **Nestrovit Tablets** contain in each tablet 6500 international units vitamin A, 200 international units

vitamin C, 65 international units vitamin B_1 and 650 international units vitamin D; twenty tablets per tube.—*Pharm. Presse*, 42 (1937), 476. (M. F. W. D.)

Novasapa is a solution for the sterilization of surgical instruments by immersion in the cold solution for one minute. It does not cause rusting and does not spoil the temper of sharp instruments. It is harmless to the tissues. Boiling Novasapa destroys the highly resistant spores of tetanus and anthrax in one minute. The solution should be kept in a covered vessel, and it must not be diluted. Novasapa can be used when it becomes cloudy, or forms a deposit. It is available in 12-oz. and 1-pint bottles.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 301. (S. W. G.)

Optacid Tablets (Firma Polypharma, G.m.b.H., Vienna, 9th dist.) contain 78% sodium dihydrogen phosphate and 16% sodium acid sulfate. The packages contain 35 tablets of 1.0 Gm. each.—*Pharm. Presse*, 42 (1937), 476. (M. F. W. D.)

Pregnyl Dragees (N. V. Organon, Oss, Holland) are sold in packages of 30 tablets containing in each 100 rat units of pregnyl, a gonadotropic hormone.—*Pharm. Presse*, 42 (1937), 403. (M. F. W. D.)

Prokolpan Powder (Syngala, G.m.b.H., Vienna, 16th dist.) is put up in packages of 50 Gm. containing enzymes, boric acid, carbohydrates and hexamethylenetetramine. **Prokolpan Tablets** are of similar composition and are put up in tubes of 10 and 20 tablets.—*Pharm. Presse*, 42 (1937), 364. (M. F. W. D.)

Proktivalin Suppositories (F. J. Kwizda, Korneuburg) contain in each 0.10 Gm. potassium oxyquinoline sulfate, 0.02 Gm. cotarnine-iron chloride, 0.15 Gm. bismuth lactate, 0.01 Gm. extract belladonna, balsam Peru, extract of witch-hazel, oleum *jecoris aselli*, and 2.70 Gm. cocoa butter. The packages contain 10 suppositories.—*Pharm. Presse*, 42 (1937), 476. (M. F. W. D.)

Proluton is the corpus luteum hormone prepared as a pure crystalline progesterone preparation having the formula $C_{31}H_{30}O_2$. It belongs to the sterol group and is related to oestrone (follicular hormone) and androsterone (male sex hormone). One mg. is equivalent to 1 international unit. Proluton is suggested for the prevention of abortion, and for the treatment of menstrual disorders and sterility. It is issued in ampuls of 1 cc. containing 0.5, 2 and 5 mg. The $^1/_2$-mg. and 2-mg. ampuls are supplied in boxes of 3; the 5-mg. ampuls are supplied singly and in boxes of 5.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 302. (S. W. G.)

Protestin is a combined hormone preparation for the treatment of neurasthenia, impotence, nervous debility and similar conditions. It is supplied as tablets and injections. Each tablet contains: prostata sicc. 0.03 Gm.; testis sicc. 0.17 Gm.; cerebrum sicc. 0.1 Gm.; yohimbine sicc. 0.005 Gm. Each ampul contains the active substance of 1 Gm. of fresh prostate, 1 Gm. of fresh testis and 0.005 Gm. of yohimbine. The treatment by injection is preferable, 1 ampul being given every two days by subcutaneous or intramuscular injection. The treatment consists of 10 to 20 injections. The tablets are given, 1 to 2 three times daily, to supplement the injections, but may be administered alone if injections are impracticable. Protestin tablets are supplied in vials of 25 tablets. The injection is issued in boxes of 6 × 1-cc. ampuls.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 302. (S. W. G.)

Protheonal tablets each contain prominal 1 grain; theobromine $7^1/_2$ grains; and iodocalcium-triethanolamine containing $^1/_8$ grain of iodine. It is recommended as a sedative with a favorable action on raised blood pressure, which relieves spasm of the coronary arteries. It is also indicated in arteriosclerosis, and angina pectoris. The dosage varies between $^1/_2$ and 2 tablets three times a day.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 302. (S. W. G.)

Quotientin Ampuls (Kali-Chemie A. G., Berlin) are sold in packages containing 3, 6 or 10 ampuls of 1.1 cc. containing 6 units parathyroid hormone, 0.375 mg. adrenalin and 0.75 Gm. posterior pituitary extract in each 1 cc.—*Pharm. Presse*, 42 (1937), 403. (M. F. W. D.)

Rodinhal Liquid (Apotheker Roda, Gleichenberg) contains in each cc. 0.001 Gm. suprarenin hydrochloride, 0.05 Gm. ephedrine, 0.01 Gm. psicaine, 0.002 Gm. eumydrin, 0.005 Gm. normal hydrochloric acid, 0.001 Gm. chloretone, 4 units of posterior pituitary and glycerin. It is sold in 1- and 5-cc. vials.—*Pharm. Presse*, 42 (1937), 364. (M. F. W. D.)

Salvacid is composed of ox-bile derivatives combined with the antispasmodic principle of sage and parathyroid extract, with a small amount of alkali. It is supplied in tablet form for the treatment of gastritis, gastric ulcer and other digestive disorders due to hyperacidity. Its beneficial action depends on the stimulation of duodenal regurgitation, supplying the stomach with

the natural alkaline and antiseptic substances necessary for its protection. Salvacid also corrects hormonal disequilibrium, and raises low blood cholesterol level to normal. The suggested dose is 2 tablets three to five times a day after meals, for a period of four weeks or more. Salvacid tablets are supplied in bottles of 50 tablets.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 302–303. (S. W. G.)

Sanabronchin contains a compound of triethyloxyphenyldimethyloxyisoquinoline with atropine sulfate, scopolamine hydrobromide, 1-*m*-methylaminoethanolphenol hydrochloride, adrenaline hydrochloride, sodium nitrate, sodium benzoate, sodium phosphate and potassium phosphate. It is supplied as an inhalant with glycerin, as Respirosan tablets, and as Octasman suppositories. It is recommended for the treatment of asthma. A combination of the three methods of administration is claimed to give immediate relief. Sanabronchin inhalant is supplied in 12.5-, 25- and 100-Gm. bottles. Octasman suppositories are supplied in boxes of 12 and 24.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 303. (S. W. G.)

Sanazid (K. Moser, Pharm. Lab., Landau, Pfalz) consists chiefly of calcium silicate, calcium phosphate, magnesium silicate, pepsin, absinthium, extracts of chamomile, ginger and cardamom. **Sanazid-Belladonna** contains extract of belladonna also. These preparations are recommended in the treatment of hyperacidity, gastritis and gastric ulcers, and are supplied in packages of 40 tablets. The tablets are prepared in such a way that one tablet produces an acidity equivalent to 25 cc. of 0.1*N* hydrochloric acid.—*Pharm. Ztg.*, 82 (1937), 708. (N. L.)

Sa Pe Wa (Sa Pe Wa, Pharm. Präparate, Berlin, W/50) contains sodium bicarbonate, calcium bicarbonate, sodium chloride, sodium sulfate, sodium phosphate, glycerin, amyl acetate, oil of peppermint, menthol and various plant extractives. It is recommended in the treatment of gall-stones, kidney and liver disorders.—*Pharm. Ztg.*, 82 (1937), 757. (N. L.)

Scopolamine-Ephedrine Solution in Ampuls (E. Merck, Darmstadt) is sold in packages of 10 ampuls containing 1 cc. of distilled water solution of 0.001 Gm. scopolamine hydrobromide and 0.025 Gm. ephedrine hydrochloride.—*Pharm. Presse*, 42 (1937), 403. (M. F. W. D.)

Sedoptin Tablets (Medoptin, Chem.-pharm. Lab., Berlin-Wilmersdorf) contain phenacetin, antipyrine, calcium citrate and the sodium salt of a synthetic phenyl-urea derivative. It is recommended as a sedative, hypnotic and nervine, and is supplied in packages of 10 and 20 tablets.—*Pharm. Ztg.*, 82 (1937), 810. (N. L.)

Sedoquid (Dr. A. Bauer & Co., G.m.b.H., Berlin-Grunewald 1) contains as its principal ingredients, chloral hydrate, extract of belladonna and urethane. It is recommended in the treatment of neurasthenia, menstrual disorders and post-operative vomiting, and it is supplied in bottles of 50 Gm.—*Pharm. Ztg.*, 82 (1937), 545. (N. L.)

Siccosept (Temmler-Werke, Vereinigte Chemische Fabriken, Berlin-Johannisthal) contains hexamine and a mandelate salt. It is supplied in tubes of 20 tablets, and is recommended in the treatment of cystitis, pyelitis, urethritis, etc.—*Pharm. Ztg.*, 82 (1937), 672. (N. L.)

Silbolax "Silbe" (Ernst Silten, Berlin, N. W. 7) contains as its principal ingredients animal bile, resin of podophyllum, calcium benzylphthalate and oil of cardamom. It is recommended as a laxative in chronic constipation, and cholagogue. It is supplied in containers of 30 dragees.—*Pharm. Ztg.*, 82 (1937), 629. (N. L.)

Simsonal (Pharmacon Pflug, Gera (Thür)) contains as its principal ingredients, kola, cannabis, yohimbine, damiana, nux vomica, aromatics and a phosphorous-vitamin complex. It is supplied as a powder and in the form of dragees, and is recommended as a blood tonic, invigorant and as an agent in the treatment of neurasthenia and sexual asthenia.—*Pharm. Ztg.*, 82 (1937), 629. (N. L.)

Solvosal Plugs No. 1 (weak) (Chem. Fabrik Helfenberg A. G., Helfenberg bei Dresden). White Plugs contain 0.075 Gm. theobromine calcium salicylate, 1 drop adrenalin, 0.075 Gm. quinine hydrochloride, ethereal oils, extract gelsemium, etc.; yellow contain 0.003 Gm. extract belladonna, 0.006 Gm. papaverine, 0.075 Gm. antipyrine, 0.018 Gm. benzoic acid, ethereal oils, extract gelsemium, etc. The packages contain 5 pieces. **Solvosal Plugs** No. 2 (strong) contain in the white 0.125 Gm. theobromine calcium salicylate, 2 drops adrenalin solution, 0.125 Gm. quinine hydrochloride, ethereal oils, extract gelsemium; and in the yellow 0.005 Gm. extract belladonna, 0.01 Gm. papaverine, 0.125 Gm. antipyrine, 0.03 Gm. benzoic acid, ethereal oils and extract of gelsemium. The packages contain 5 pieces.—*Pharm. Presse*, 42 (1937), 403. (M. F. W. D.)

Spasmocibalgine Suppositories (Gesellschaft für Chem. Industrie, Basle) are put up in packages of 5 suppositories containing in each 0.44 Gm. amidopyrine, 0.06 Gm. dial, 0.05 Gm. trasentin and cacao butter.—*Pharm. Presse*, 42 (1937), 365. (M. F. W. D.)

Spasmocibalgine Tablets (Gesellschaft für Chem. Industrie, Basle) are sold in tubes of 20 tablets containing in each tablet 0.22 Gm. amidopyrine, 0.03 Gm. dial and 0.05 Gm. trasentin.—*Pharm. Presse*, 42 (1937), 476. (M. F. W. D.)

Tar-Sulfoderm Powder (Chem. Fabrik Heyden, A. G., Radebeul-Dresden) is sold in 25-Gm. packages containing 1% colloidal sulfur and 6% coal tar in a fat-free powder base.—*Pharm. Presse*, 42 (1937), 364. (M. F. W. D.)

Thiodacaine-Ampuls (Firma Labor. Midy, Paris) contain organic sulfur, organic iodine and dunacaine. The packages contain 4 ampuls of 20 cc. of solution.—*Pharm. Presse*, 42 (1937), 476. (M. F. W. D.)

Thioderzin Ampuls (Firma Labor. Midy, Paris) contain organic sulfur, organic iodine and piperazine. The ampuls are sold in packages of 10 containing 5 cc. of solution each.—*Pharm. Presse*, 42 (1937), 476. (M. F. W. D.)

Thyranon Tablets (Organon, N. V., Oss) contain 50 tablets to the package, each tablet containing 50 mg. of dried thyroid powder.—*Pharm. Presse*, 42 (1937), 365. (M. F. W. D.)

Torantil is an albuminoid substance obtained from the intestinal mucous membrane. It is a loose white powder which dissolves in water giving an opalescent solution. Torantil has the property of acting as a detoxicating agent to allergic toxin, and it is supplied in ampuls which contain 1 histamine-detoxicating unit, and in tablets containing 5 units. The unit adopted is the quantity of torantil which will detoxicate 1 mg. of histamine in twenty-four hours at 37° C. Torantil is suggested for the treatment of allergic conditions, including colitis, gastritis, gastric and duodenal ulcer, bronchial asthma, urticaria and eczema. The dose recommended is 1 ampul given intramuscularly every other day, or twice a week, for a course of ten injections. One or 2 tablets three times a day before meals can be given alone, or supplementary to the injections. Torantil is issued in boxes of 5 ampuls, with ampuls containing 2 cc. of sterile water for dissolving the powder. The tablets are supplied in bottles of 20.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 303-304. (S. W. G.)

Tussirem (K. Moser, Pharm. Lab., Landau, Pfalz) is a cough remedy containing as its active constituents, ephedrine guaiacol sulfonate, calcium guaiacol sulfonate, althea root, licorice root, and the extracts of thyme, chamomile and salvia. It is recommended in the treatment of coughs, grippe, bronchitis, etc., and it is supplied in packages containing 40 tablets.—*Pharm. Ztg.*, 82 (1937), 651. (N. L.)

Ustrasan Emulsion (Alte Hofapotheke, Vienna, 1st dist.) is sold in bottles of 20 Gm. containing potassium chloride, potassium carbonate, olive oil, emulsifying agents and is irradiated.—*Pharm. Presse*, 42 (1937), 436. (M. F. W. D.)

Vaduril Ampuls (Bayer, I. G. Farben.-A. G., Leverkusen a. Rhein) are put in packages of ten ampuls of 2 cc. each containing 0.006 Gm. vaduril, sodium chloride and distilled water.—*Pharm. Presse*, 42 (1937), 365. (M. F. W. D.)

Viperin Salve (Sa Pe Wa, Pharm. Präparate, Berlin, W/50) consists of viperin (in sterile physiological salt solution), α-pinene, terpinol, salicylic acid, oil of mustard and eucerin. It is recommended in the treatment of various forms of rheumatism, lumbago, neuralgia, asthma and colds, and is supplied in tubes of 15 and 30 Gm.—*Pharm. Ztg.*, 82 (1937), 730. (N. L.)

Vutox is a nasal application containing ephedrine and a germicide, *iso*-octylhydrocupreinotoxin hydrochloride, in solution in a non-oily base. It is recommended for the treatment of common colds, catarrh and other conditions arising from infection of the mucous membranes of the nose, naso-pharynx and throat. It is claimed that Vutox kills all the commoner infective organisms in one minute, soothes the mucous membrane and relieves congestion.—*Quart. J. Pharm. Pharmacol.*, 10 (1937), 304. (S. W. G.)

BACTERIOLOGY

Sterilization—Affecting, by Radiation. The use of short wave-length (λ 2500) radiations in the sterilization of food, air and water is discussed. Milk at 2° irradiated as a thin film flowing over an inclined plane (40 seconds exposure) is claimed to reach 98 per cent sterility.—A. R. DENNINGTON. *Canad. Dairy and Ice Cream J.*, 16 (1937), 32; through *J. Soc. Chem. Ind.*, 56 (1937), B. 801. (E. G. V.)

Tuberculin—Chemical Composition of the Active Principle of. XX. Comparative Study of the Yield, Potency, Specificity and Acid-Base-Combining Capacities of the Proteins from Five Human Tubercle Bacilli Culture Filtrates and Other Acid-Fast Bacilli. A comparative study of the proteins isolated from culture filtrates of five different strains of human tubercle bacilli was made. The results were compared with similar studies on comparable proteins prepared from the bovine and avian tubercle bacilli and leprosy and timothy grass acid-fast organisms. The results of the analyses and potency tests are tabulated. All five proteins proved to be identical serologically, when compared by the precipitin reaction. Acid-base-combining capacity curves throughout the range of p_H 2 to 11, as determined by electrometric titration, using the hydrogen electrode, showed a much closer correspondence between the five proteins from human type tubercle bacilli than between them and proteins made similarly from other types of acid-fast bacilli.—FLORENCE B. SEIBERT. *J. Am. Chem. Soc.*, 59 (1937), 958. (E. B. S.)

Water Supply—Potable, and Hygiene. Evidence that certain epidemic outbreaks, especially of typhus, are due to bacterial infection of the water supply is reviewed and Pettenkofer's soil-emanation theory refuted. Generally, sand-filtration or other mechanical purification is sufficient safeguard, with chlorination reserved.—O. SPITTA. *Gas- u. Wasserfach*, 80 (1937), 298; through *J. Soc. Chem. Ind.*, 56 (1937), B., 848. (E. G. V.)

BOTANY

Carbon Metabolism of Gibberella Saubinetii on Glucose. Gibberella *saubinetii* was grown on a glucose artificial salt medium and its carbon metabolism determined at intervals from 13 to 56 days of growth. The principal metabolic products were carbon dioxide and ethyl alcohol. The volatile neutral fraction consisted almost entirely of this latter substance, although the presence of traces of aldehyde was indicated by qualitative tests. Tartaric and citric acids were identified in the non-volatile acid fraction. The volatile acid fraction was small and contained only acetic acid.—L. E. HESSLER and R. A. GORTNER. *J. Biol. Chem.*, 119 (1937), 193–200; through *Physiol. Abstr.*, 22 (1937), 869. (F. J. S.)

Hydroxylamine—Biological Rôle of. VI. Volatile Compounds of Hydroxylamine in Plants. Previously published work by the authors claiming that volatile hydroxylamine compounds exist in the fresh leaves of the higher plants is confirmed.—M. LEMOIGNE, P. MONGUILLOU and R. DESVEAUX. *Bull soc. chim. biol., Paris*, 19 (1937), 671–674; through *Physiol. Abstr.*, 22 (1937), 871. (F. J. S.)

Plant Growth—Problems of. There are other substances which can replace the three classical phytohormones (auxin A and B, hetero-auxin), at least to a certain extent. With *Raphanus sativus* it is demonstrated that in air saturated with moisture the stems, and cells in the same degree, are longer than in dry air. With *Victoria regia* and *Limnanthemum nymphoides* it is shown that the depth of water covering the leaf blades has a marked influence on rate of growth; the growth slows down when the leaf blade is nearing the surface. Here the very rapid longitudinal growth of the petioles cannot be attributed exclusively, if at all, to the action of auxins.—G. L. FUNKE. *J. Physiol.*, 90 (1937), 72–73; through *Physiol. Abstr.*, 22 (1937), 870. (F. J. S.)

Starches. Study of morphology of starch grains from photomicrographs of starch granules of papa, wheat, maize, rice, mandioca and arrow root, giving size, structure and refraction.—C. A. O'DONELL and F. J. R. QUARANTA. *Rev. centro. estud. farm. bioquin.*, 27 (1937), 159. (G. S. G.)

Verbenaloside—Utilization of, by Aspergillus Niger. *Aspergillus niger* is able to grow in an aqueous solution of verbenaloside which it decomposes into glucose and verbenalol.—J. CHEYMOL. *Bull. soc. chim. biol., Paris*, 19 (1937), 460–465; through *Physiol. Abstr.*, 22 (1937), 872. (F. J. S.)

Yeast—Manufacture of. A synthetic mash is prepared and its phytin content determined. The yeast is added to the mash and phytin is added in such amount as to cause increased production of zymatic enzymes over that of proteoclastic enzymes, the addition of phytin being continued to maintain the excess of zymatic over proteoclastic enzymes and thus obtain a stronger yeast.—ALFRED POLLACK. U. S. pat. 2,094,023, Sept. 28, 1937. (A. P.-C.)

CHEMISTRY

General and Physical

Boric Acid—p_H of, Effect of Various Substances on. The acidity of boric acid is increased by glycerol because of a solubility effect but by manitol because of formation of the complex compound of Boëseken (*Chem. Abstr.*, 26, 1256). Pyrocatechol, catechin and catechol tannins form strong acid compounds with boric acid, while resorcinol, hydroquinone and gallotannin do not react. To react it is necessary to have two adjacent hydroxyl groups in the same plane.—Leopold Pollak, W. Springer and A. Patzenhauer. *Collegium* (1937), 285–286; through *Chem. Abstr.*, 31 (1937), 7315. (F. J. S.)

Detergent Action and Its Relation to Wetting and Emulsification. The several factors contributing to detergent action are discussed. Emphasis is laid on the importance of adhesion between the cleansing agent and the fabric, and the displacement of soil from single wool fibers by solutions of sodium cetyl sulfate is illustrated by photomicrographs.—N. K. Adam. *J. Soc. Dyers and Colourists*, 53 (1937), 121; through *J. Soc. Chem. Ind.*, 56 (1937), B., 805. (E. G. V.)

Paraffin Wax in Fushun Shale Oil. V—VIII. The crystal properties, initial decomposition, temperature, and nature and mechanism of the thermal decomposition of the wax are discussed.—Y. Konaka. *J. Soc. Chem. Ind. Japan*, 40 (1937), 193–194B; through *J. Soc. Chem. Ind.*, 56 (1937), 1004. (E. G. V.)

Viscosimeters—Ostwald, New System of, Speeds Laboratory Routine. The Ostwald viscosimeter has been redesigned with the aid of Poiseuille's equation, correction for loss of head due to velocity in the capillary and capillary end effects, to cover the range of viscosity 30–5000 (Saybold Universal). The accuracy of the instrument described is claimed to be ±0.2%. For rapid control work eight viscosimeters are assembled in a thermostat.—E. H. Zeitfuchs. *Nat. Petrol. News*, 29 (1937), 68–71; through *J. Soc. Chem. Ind.*, 56 (1937), 871. (E. G. V.)

Water-Bath—a Constant Temperature Gas-Regulated. A water-bath capable of being regulated to within ±0.001° C. suitable for working at any temperature 3° above its surroundings is described.—J. L. Parkingson. *J. Sci. Instruments*, 14 (1937), 94–96; through *Physiol. Abstr.*, 22 (1937), 763. (F. J. S.)

Inorganic

Crystallization of Small Samples. Two methods of crystallizing extremely small amounts of material for microscopic examination are described. The substance with sufficient solvent is placed in a glass tube with a wad of silk or linen above the charge. The tube is sealed, then heated and cooled slowly. Centrifuging at low speed causes the dried crystals to collect on the wad. With a solvent of low volatility, remarkably good crystals can be obtained with a drop of solution between a slide and cover glass, held about 0.5 mm. apart with wax.—Max Perutz. *Z. Krist.*, 96 (1937), 328–329; through *Chem. Abstr.*, 31 (1937), 7717. (F. J. S.)

Ferrous Chloride—Preparation of Pure, Not Containing Ferric Chloride. Iron and hydrochloric acid are added to hot saturated aqueous ferrous chloride (containing ferric chloride), the solution is filtered into a receiver containing 2–3 cc. of ether and the filtrate is cooled, when pure ferrous chloride crystallizes. The solution is filtered in a carbon-dioxide or ether atmosphere and the crystals are dried in a vacuum.—L. G. Berg. *Zavodskaya Lab.*, 5 (1936), 235–236; through *Chem. Abstr.*, 31 (1937), 7349. (F. J. S.)

Organic

Alkaloids

Alkaloids—Flavianates of. II. Detailed reports are given of twenty-three alkaloids forming crystalline precipitates with flavianic acid, which are difficultly soluble in water.—H. Shimokawa and O. Watanabe. *J. Med. Assoc. Formosa*, 34 (1935), 373–381; *Ber. ges. Physiol. exptl. Pharmakol.*, 88, 189; through *Chem. Abstr.*, 31 (1937), 8116. (F. J. S.)

Ergonovine (Ergometrine)—Determination of, in Ergot Preparations. The total ergot alkaloids (I) are first extracted from the preparation (in presence of sodium hydroxide) with diethyl ether, from which solution they are extracted by aqueous tartaric acid. I is determined in the extract by Smith's method and the extract is treated with approximately 10% of its volume of 1.5% aqueous picric acid and then filtered. Ergometrine is then determined in the filtrate by

Smith's method.—E. TRABUCCHI. *Boll. soc. ital. biol. sper.*, 12 (1937), 232–234; through *J. Soc. Chem. Ind.*, 56 (1937), 1132. (E. G. V.)

Ergot Alkaloids—Comparison of the Pharmacological Syndromes of Ergostetrine (Ergonovine) and the Ergotoxine Group of. Alkaloids of ergot may be classified according to oxytocic activity: ergostetrine is least toxic and most active while those of the ergotoxine group are most toxic but clinically least active. The present report deals with all the alkaloids but because of similarity of action in the ergotoxine group it was not necessary to devote space to all. Illustrative plates and discussion covering blood pressure, the site and character of the action of ergostetrine and the ergotoxine group (using isolated rabbit uterus, the guinea-pig uterus, isolated guinea-pig and rabbit intestine) and the actions of ergostetrine and the ergotoxine group on the anesthetized dog. The pharmacodynamic action of ergot alkaloids is not confined to sympathetic endings stimulated by epinephrine. The action of ergostetrine is predominantly stimulating with relatively feeble and slowly developing paralyzing action while the reverse is true of the ergotoxine group. The clinical doses of 0.2 to 0.6 mg. of ergostetrine or 0.5 to 1.5 mg. of members of the ergotoxine group are not large enough to cause appreciable actions of the respective syndromes other than the oxytocic action unless the larger dose ranges are administered to frequently over too long a time. It is believed that the spectacular effectiveness of ergostetrine as an oxytocic on either the ante-partum or post-partum uterus, or the uterus in the period of oestrus, of humans is due to a definitely increased irritability or responsiveness to the drug during those periods, thus making it possible for these small doses to produce a wholly satisfactory quantity and quality of oxytocic action without producing objectionable degrees of "side effects" or other actions of the syndrome.—MARVIN R. THOMPSON. *J. Am. Pharm. Assoc.*, 26 (1937), 805. (Z. M. C.)

Lupinus Laxus Rydb.—Alkaloids of. *Lupinus laxus* was originally reported from Wyoming and Montana by Rydberg as a new species closely related to *L. laxiflorus*. Chemical examination revealed the presence of four alkaloids in this plant: sparteine, *d*-lupanine, trilupine and a base isomeric but not identical with hydroxylupanine isolated from *L. polyphyllus* by Bergh. The fourth base melts at nearly the same temperature as anhydrous hydroxylupanine but differs in that it does not crystallize with water as does Bergh's alkaloid and the optical rotation is twice as large. The three alkaloids were separated by selective precipitation from acetone solution; sparteine could be removed as the disulfate, *d*-lupanine as the dihydrochloride and trilupine could be recovered from the residual solution.—J. F. COUCH. *J. Am. Chem. Soc.*, 59 (1937), 1469. (E. B. S.)

Essential Oils and Related Products

Bergamot Oil—Disinfectant Action of. The oil is emulsified with water in presence of a little sodium carbonate. The most active component is linalyl acetate, which is three times as active as the oil itself.—V. MARINO. *Ann. Igiene*, 45 (1935), 158–176; through *Chem. Abstr.*, 31 (1937), 8107. (F. J. S.)

Citrus Oils—Extraction of. The modern mechanical methods for the extraction of citrus oils are given. The author discusses the hand processes which include the sponge and ecuelle processes. Machines treating the separated peels are each photographed and discussed. The methods for treating the crushed fruit are given. The machines treating the whole fruit are described.—F. K. DONOVAN. *Perfumery Essent. Oil Record*, Annual special number (1937), 3. (A. C. DeD.)

Essential Oils from Seychelles. A review of reports made by the Institute (Bulletin of Imperial Institute, July–September, 1937) to the government in the last year or two is given. They include reports on cinnamon bark oil, oils of Ocimum spp., palmarosa oil and peppermint oil.—ANON. *Perfumery Essent. Oil Record*, 28 (1937), 372. (A. C. DeD).

Essential Oils—Immediate and Prolonged Antiseptic Power of. Essential oils can retain their antispetic properties much longer when they are mixed with fixatives such as resinous oil. *E. g.*, the duration of the antiseptic power of thyme passes from 28 days (alone) to over 4 years when it is mixed with terpineole, pine oil, cinnamon or benzoin. Camphor also prolongs the antiseptic power of thyme to over 7 months.—J. RISLER. *Compt. rend. acad. sci.*, 203 (1936), 517–519; through *Chimie & Industrie*, 38 (1937), 105–106. (A. P.-C.)

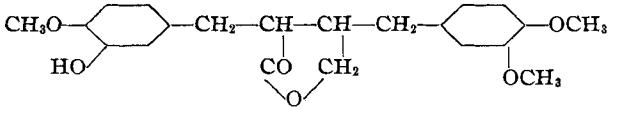
Limes—Bombay Oil of. The lime (*Citrus medica; acid*) is indigenous of India and is grown in almost all the provinces of the country. The limes are either picked from the ground after they have fallen or plucked from the trees. They are minced in hand-operated mincing appliances, and the pulp thus obtained is then distilled in a steam-heated still after the addition of water, about one-third the volume of the pulp. The vapor generated is condensed in a tubular tin-lined condenser and collected in an aspirator bottle where the oil separates in the form of a layer over water. The layer of water is removed through the stop-cock at the bottom of the bottle. This water is added to the pulp in the subsequent charge in order to recover any oil emulsified with it. The oil is then filled in 24-ounce glass bottles. A little anhydrous calcium chloride is added to every bottle which is then corked air-tight. The bottles are shaken upside down 5–6 times a day for two days and then the contents are allowed to settle. When the stock reaches 200 to 300 lbs., the bottles are opened and the oil poured through a strainer into a large tin-lined brass container capable of holding about 300 lbs. of the oil. The oil is allowed to settle for a day or so in the container. Specially made tin cans thoroughly washed and dried, are then filled with the oil and immediately closed and soldered to render them air-tight. The yield of the oil depends upon the size, degree of ripeness, quality and the time between picking, mincing and distillation. Ordinarily one ton of Bombay limes yields from 6 to 7 lbs. of the oil. The constants of the oil are tabulated.—M. S. Patel. *Perfumery Essent. Oil Record*, 28 (1937), 358. (A. C. DeD.)

Nutmegs—Grenada, Chemical Comparisons of Oil. A comparison of the volatile oils obtained from the nutmegs shipped from Grenada and the Dutch Indies is made. The results including the specific gravity, optical rotation, refractive index and solubility are tabulated.—Anon. *Perfumery Essent. Oil. Record*, 28 (1937), 381. (A. C. DeD.)

Oils—Some, Notes on. The yields and constants for the following oils are given: *Spheranthus indicus* Davana oil, *Mentha piperita, Devardari root oil, Ocimum canum,* wild lime oil, wild pepper oil, Bassabu oil, Kamuthi oil, Karawadi oil, galanga root oil, Dolichos lablab.—Sanjiva Rao, M. Mathen, N. C. Kelkar and Jagjit Singh. *Perfumery Essent. Oil Record*, 28 (1937), 411. (A. C. DeD.)

Glycosides, Ferments and Carbohydrates

Arctin, a Constituent of the Seeds of Arctium Lappa L. Arctin, $C_{27}H_{34}O_{11}.H_2O$. (m. p. 111–112°, $[\alpha]_D^{18}$ − 38.8°), a narcotic glucoside, hydrolyzes by dilute sulfuric acid to glucose (phenylosazone, m. p. 204°) and arctigenin $C_{21}H_{24}O_6$, m. p. 102°. From arctigenin there were prepared: bromarctigenin $C_{21}H_{21}O_6Br_3$ (m. p. 194–195° from acetic acid, oxidation by potassium permanganate to brom-6-veratric acid, m. p. 183–184°); methyl-arctigenin $C_{22}H_{26}O_6$ (m. p. 131–132° from methanol, $[\alpha]_D^{19}$ − 25.17°; di-nitro-compound, m. p. 180–181°; tetra-nitro-compound, m. p. 204–205°); dibrommethylarctigenin (m. p. 127–128°). Potassium permanganate oxidation of methylarctigenin gives veratric acid; of ethyl-arctigenin, veratric and ethyl-vanillic acids. Arctigenin and methyl-arctigenin, when heated in *N*-sodium hydroxide solution 30 minutes on a water-bath and acidified with acetic acid, yield arctigenic and methyl arctigenic acids, m. p. 131° and 97–98°, respectively. Recrystallization converts the latter compounds into the former, which therefore have the structure of γ-lactones. When heated with concentrated potassium hydroxide or sodium hydroxide, isomerization occurs to: β-arctigenin (m. p. 92°, $[\alpha]_D$ + 83.7°) and β-arctigenic acid (m. p. 82°, $[\alpha]_D$ + 30.9°). Accordingly arctigenin has the structure



The authors discussed the structural relationships of arctigenin to the resin-lactones cubebinolide, podophylin and tsugalactone.—T. Omaki. *J. Pharm. Soc. Japan*, 55 (1935), 159–162.

(R. E. K.)

Folium Uva Ursi and Folium Vaccinii—Flavonol Glucoside of. The leaves of *Arctostaphylos Uva Ursi* Spr. were extracted with ethyl acetate, the solvent was removed *in vacuo* and an aqueous soution of the residue thoroughly re-extracted with ethyl acetate. The concentrated extract deposited a flavonol glucoside: $C_{21}H_{20}O_{11}.4\ H_2O$; yield 0.8 to 1.0%; m. p. 234–236°; tetra-acetate, m. p. 194°. The same procedure yielded 0.5–0.6% of an identical glucoside

from the leaves of *Vaccinium Vitis Idea* L. which was hydrolyzed by dilute sulfuric acid to quercitin (m. p. 310–312°; acetate, m. p. 195–196°) and glucose (phenylosazone, m. p. 202–203°). After complete reaction with diazomethane the glucoside was hydrolyzed to a tetramethoxy quercitrin (m. p. 193°; acetate, m. p. 163°) identical with synthetic hydroxy-3-tetra methoxy-5,7,3′,4′-flavone. The original glucoside was therefore quercitrin-3-glucoside, undoubtedly identical with the isoquercitrin of the literature in spite of the melting point being higher than previously recorded. Isoquercitrin has a strong diuretic action at $^1/_{100,000}$ dilution.—H. NAKAMURA, T. OBITA and G. HUKUTI. *J. Pharm. Soc. Japan*, 55 (1935), 158–159. (R. E. K.)

Glucose—Decomposition of, Influence of Starch or Sucrose on, in Solution Containing an Excess of Calcium Hydroxide at 80°. Small amounts of starch accelerate, and large amounts retard, the decomposition. The accelerating action of sucrose is greatest for small amounts of sucrose.—K. SUZUKI. *J. Soc. Chem. Ind. Japan*, 40 (1937), 64B; through *J. Soc. Chem. Ind.*, 56 (1937), B., 827. (E. G. V.)

Lipase—Studies on. II. The hydrolytic action of Ricinus lipase is accelerated and the synthetic action is retarded by reduced glutathione, cysteine and ascorbic acid, substances which do not reactivate the lipase inactivated by oxidation. The oxidized activator of the lipase is partly reduced by glutathione. The reduced but not the oxidized activator forms water-soluble compounds with derivatives of cholic acid. Esterification of various fatty acids and alcohols by the lipase were investigated.—R. ITOH. *J. Biochem., Tokyo*, 25 (1937), 167–176; through *Physiol. Abstr.*, 22 (1937), 763. (F. J. S.)

Other Plant Principles

Camphor—Catalytic Production of, from Borneol and Isoborneol. Dehydrogenation of borneol in the presence of 1.5–2% potassium hydroxide, 6% xylene, and 6–10% nickel-carbide catalyst (corresponding to 1–2% nickel) at the terminal temperature of 205° (external temperature 250–260°) resulted in 92.7% camphor, m. p. 174–175°. A cobalt-carbide catalyst under these optimum conditions gave somewhat better results. The catalysts were prepared by treating activated carbon with 50% nickel nitrate (cobalt nitrate) in water for three to three and one-half hours and igniting the filter residue at 385–395° in hydrogen for two hours. It is then cooled in hydrogen and stored in the air-tight container. Isoborneol similarly treated gave 78–82% camphor.—V. E. TISCHENCO and M. A. GREKHNEV. *Org. Chem. Ind.* (U. S. S. R.), 3 (1937), 481–483; through *Chem. Abstr.*, 31 (1937), 7416. (F. J. S.)

Tea—a New Purine in, Discovery of. A new purine occurring in tea was separated from a quantity of tea residues left after the commercial removal of the alkaloid caffeine from the plant. The author concluded that the purine was identical with 1,3,7,9-tetramethyl-2,6,8-trioxypurine. It is the first methylated derivative of 2,6,8-trioxypurine to be discovered in nature.—T. B. JOHNSON. *J. Am. Chem. Soc.*, 59 (1937), 1261. (E. B. S.)

Fixed Oils, Fats and Waxes

Acids—Fatty. A review of the methods for their production and their use in soap manufacture.—M. J. HAUSMAN. *Soap*, 13 (1937), 26; through *J. Soc. Chem. Ind.*, 56 (1937), B., 756. (E. G. V.)

Castor Oil—Chemical-Technological Investigation of. The characteristics of castor beans cultivated in Rumania are reported. Oil content of the beans 41.96–50.85%; d_{15} of the oils 0.9630–0.9654; Engler viscosity$_{50}$ 18.7–20.46°; n_D^{21} 1.479; saponification number 178.5–183 (one sample 191.5); acid number (by André) 173–189.1; iodine number 84.28–85.80. In a soxhlet apparatus 89.45% of the oil could be extracted with ordinary benzine, 90.07% with an airplane benzine, 89.92% with cracked benzine, 77.20% with petroleum ether (boil up to 60°), 94.76% with acetone, 94.8% with benzene, 95.35% with ether and 100% with trichloroethylene. Thus the claim that benzine is not a solvent for castor oil is unfounded. One specimen of castor oil contained 97% liquid and 3% solid fatty acids. Cultivation of the castor bean in Rumania is entirely possible. Varieties especially suited for the region are *Ricinus communis var. major* and *minor* and *var. major sanguineus*.—C. OTIN and G. ALEXA. *An. Inst. Cercetari. Agronom. Romaniei*, 6 (1934), 244–274; *Chem. Zentr.*, 1 (1936), 4832; through *Chem. Abstr.*, 31 (1937), 7683. (F. J. S.)

Fats—Action of Micro-Organisms on. Methods of culturing hydrolyzing bacteria on emulsified and continuous fatty substrates are described. Certain types of bacteria containing lipase and oxidase cause rapid development of both free acid and oxidative rancidity analogous to "chemical" or oxygen-light rancidity. The rate of development of rancidity in bacon fat at $-17.8°$ was found to vary with the number of bacteria on the original fat. Bacteria will not develop on water-free fat, but slow growth occurs when only 0.3 per cent water is present. Pink and purple discolorations are due to fat-soluble pigments of micro-organisms.—L. B. JENSEN and D. P. GRETTIE. *Food Res.*, 2 (1937), 97–120; through *J. Soc. Chem. Ind.*, 56 (1937), 937. (E. G. V.)

Fats—Chemistry of, in the Fight against Food Spoilage. The different types of rancidification in fats are reviewed and methods for recognizing them and preventing such changes are discussed.—K. TAUFEL. *Fette u. Seifen*, 44 (1937), 179; through *J. Soc. Chem. Ind.*, 56 (1937), B., 804. (E. G. V.)

Florida Grapefruit, Citrus Grandis—Some Wax-Like Constituents from Expressed Oil from the Peel of. The non-volatile waxy residue remaining after distillation of Florida grapefruit peel oil was examined and the following constituents identified: solid fatty acids of mean molecular weight corresponding to $C_{32}H_{64}O_2$; linolenic, linoleic and oleic acids; a sapogenic ketone, $C_{30}H_{52}CO$; hydrocarbons, $C_{29}H_{60}$ and $C_{31}H_{64}$; a phytosterol, $C_{28}H_{47}OH$; and umbelliferone, $C_9H_6O_3$. The nature of these constituents indicates that they have their origin in the cuticle wax of the fruit which is dissolved by the oil during the pressing process.—K. S. MARKLEY, E. K. NELSON and M. S. SHERMAN. *J. Biol. Chem.*, 118 (1937), 433–441; through *Physiol. Abstr.*, 22 (1937), 756. (F. J. S.)

Hydnocarpic and Chaulmoogric Acids and Ethyl Esters. The authors found that the published data concerning the optical rotation and the boiling or melting points of pure hydnocarpic and chaulmoogric acids and their ethyl esters were incomplete and inaccurate. The methods of preparation of the pure acids and ethyl esters are described. For the preparation of pure hydnocarpic acid, *Hydnocarpus Wightiana* oil is recommended, as it does not contain palmitic acid. The pure ethyl esters were prepared from the pure acids. The physical constants of the acids and esters as determined by the authors are given. The melting point curves of mixtures of hydnocarpic and chaulmoogric and of hydnocarpic and palmitic acids were determined.—HOWARD I. COLE and HUMBERTO CARDOSO. *J. Am. Chem. Soc.*, 59 (1937), 963. (E. B. S.)

Hydrocarbons—Lubricant, of Petroleum. II. Action of Chlorine and Bromine on a Medicinal Vaseline. Passage of chlorine (1.25 mols) into a solution of liquid paraffin (I) (mean composition of $C_{28}H_{50}$) in chloroform at 4° gives a product containing 8.4% chlorine, equivalent to the replacement of one hydrogen per molecule. The velocity of substitution (hydrochloric acid evolution) can be controlled by the intensity of illumination. Contrary to Mabery's results with American oils, I reacts very slowly and incompletely with bromine even in presence of catalysts, the maximum substitution giving a product which contained 10.96% bromine (63% of the theorectical for mono-substitution). The hydrocarbons of lower molecular weight undergo halogenation more readily.—E. ANDRÉ and A. MAUREL. *Bull. soc. chim.* [V], 4 (1937), 727; through *J. Soc. Chem. Ind.*, 56 (1937), B., 753. (E. G. V.)

Mineral Oils—Setting Point of. The bearing of the heat absorption accompanying the crystallization on the abnormal viscosity changes of oils near their setting points is mathematically analyzed. This throws light on the rate of formation of the new solid phase. It is possible to follow these changes of phase by viscosity measurements if the mixture laws of the components are known. The cooling phenomena are delayed by the liberation of the latent heat of crystallization, and the changes in the physical properties of the oil due to separation of paraffin wax are subjected to long delays. It is therefore necessary to keep the oil at a constant temperature for some time if comparable results are desired.—A. BONDI. *Petroleum*, 33, No. 14 (1937), 1–5; through *J. Soc. Chem. Ind.*, 56 (1937), B., 752. (E. G. V.)

Oils of Cruciferæ—Identification of, in Food Oils. The oils are identified by separation of erucic acid (I). A sample of oil is saponified in presence of lauric acid and the lead soaps are allowed to crystallize for several days at 20°. The iodine uptake of the precipitate, expressed as cc. of 0.1*N*-sodium thiosulfate per 0.5 Gm. of oil, is termed the "I value" of the oil. The actual I content may be calculated from the equation $y = 52.1x - 0.9x^2 - 217.2$, where y = mg. of I and x = cc. of 0.1*N*-iodine, and is accurate to within ±2.2%. Eight samples of commercial

food oils had values of 3.8–4.9. I values not more than 5 are, therefore, not attributable to oils of Cruciferæ. The I value of rapeseed oil is approximately 12.—J. GROSSFELD. *Z. Untersuch. Lebensm.*, 73 (1937), 409; through *J. Soc. Chem. Ind.*, 56 (1937), 807. (E. G. V.)

Oils—Fat-Soluble Vitamins of Tropical Food. Malayan vegetable oils are deficient in vitamin A. The vitamin D content is sufficient if persons have adequate access to sunlight.—J. L. ROSEDALE and C. J. OLIVEIRO. *Trans. 9th Congr. Far East Assoc. Trop. Med.*, 1 (1934), 327; through *J. Soc. Chem. Ind.*, 56 (1937), B., 807. (E. G. V.)

Oils—Indian Vegetable. IV. Absorption of Air. The Bunsen absorption coefficient for ground nut, olive, sesamé, chaulmoogra, rape and kapok oils have been measured manometrically at room temperature; the values found are of the same order of magnitude as those of the mineral oils.—G. N. BHATTACHARYYA. *Indian J. Physics*, 11 (1937), 65; through *J. Soc. Chem. Ind.*, 56 (1937), B., 806. (E. G. V.)

Oils, Fats and Waxes—Report on Analysis of. The Fitelson method for the determination of tea-seed oil in olive oil (*Chem. Abstr.*, 30, 7371) was found to be reliable, and more accurate with smaller than with larger amounts. It gives concordant reproducible results in the hands of various analysts, including those inexperienced with the method. The colors given by Siebenberg and Hubbard procedure (*Chem. Abstr.*, 30, 6588) cannot be considered as distinctive as those given by the Fitelson method, nor do they always appear to correspond with the description given by S. and H.—G. S. JAMIESON. *J. Assoc. Official Agr. Chem.*, 20 (1937), 418–421; through *Chem. Abstr.*, 31 (1937), 8234. (F. J. S.)

Olives—Immature, Oil from. The oil gives negative Villavecchia, Heidenreich, Hauchecorne and Kreis tests, and has normal Zeiss and Fortelli indices. In the Bellier reaction, however, a faint reddish violet coloration, characteristic of rapeseed oil, is produced. Sanza oil is not present.—G. LUCENTE and M. BARNABA. *Ann. chim. applicata*, 27 (1937), 102; through *J. Soc. Chem. Ind.*, 56 (1937), B., 806. (E. G. V.)

Physic-Nut Oil—Philippine. The kernels from the seeds (65.7% of kernels) of *Jatropha curcus* L., contain 46.5% of oil having d_4^{30} 0.9082, n^{30} 1.4665, I value (Hanus) 94.8, saponification value 1.924, unsaponifiable matter 0.45%, saturated acids 16.82%, unsaturated acids 78.00% (I value 111.00). It consists of the glycerides of oleic (62.86), linoleic (18.65), myristic (0.45), palmitic (11.84), stearic (5.07) and arachidic (0.26%) acids.—A. O. CRUZ and A. P. WEST. *Philippine J. Sci.*, 61 (1937), 437–445; through *J. Soc. Chem. Ind.*, 56 (1937), 940. (E. G. V.)

Pine-Needle Oil. Composition, properties and uses of the oil are reviewed.—Y. MAYOR. *Oil Colour Trades J.*, 91 (1937), 1877–1888; through *J. Soc. Chem. Ind.*, 56 (1937), 941. (E. G. V.)

Seed Oil of Common Field Poppy. Seeds of *Papaver rhoeas* yield 22% of a non-toxic oil which resembles poppyseed oil from *Papaver somniferum* in its characters (no values given), but differs in that only a pale brown color (instead of brownish red) develops on treatment of the oil with nitrous acid.—W. AWE. *Naturwiss.*, 25 (1937), 366; through *J. Soc. Chem. Ind.*, 56 (1937), B., 806. (E. G. V.)

Shale Oil—Fushun, Composition of. XII, XIII. The fraction of boiling point 155–181° contains (approximately) cresol 2, olefines (largely Δ^{β}-decene) 50, mesitylene 0.5 and *n*-decane 48%.—F. HORIE. *J. Soc. Chem. Ind. Japan*, 40 (1937), 159–162B; through *J. Soc. Chem. Ind.*, 56 (1937), 1004. (E. G. V.)

Shale Oil—Fushun, Constituents of. I. The crude oil is separated by extraction with acetic acid and light petroleum, followed by adsorption on carbon and extraction with benzene, pyridine and chloroform, into paraffin wax, three types of oil and resinous materials.—N. KISHI and M. ANDO. *J. Soc. Chem. Ind. Japan*, 40 (1937), 174B; through *J. Soc. Chem. Ind.*, 56 (1937), 1003. **II.** The crude oil was resolvable into paraffin wax, two oily fractions and three resinous fractions. Hydrogenation of the acetic acid soluble oil at 380° and under high pressure gave a viscous oil suitable for use as a machine oil. On admixture, the resins of higher molecular weight effectively inhibited the crystal growth of the wax.—*Ibid.*, 212–213B; through *J. Soc. Chem. Ind.*, 56 (1937), 1003. (E. G. V.)

Stamm Reaction—Applicability of, for Rancidity. The Korpaczy modification of the Stamm reaction gives erratic and unreliable results with seed oils and marine-animal oils (oxidized by exposure or by air-blowing), but is applicable to lard and beef fat; on the whole, the Kreis reaction shows a better correlation with peroxide value and organoleptic rancidity.—H. L. ROS-

CHEN and W. J. LEHMANN. *Oil and Soap*, 14 (1937), 17–19; through *J. Soc. Chem. Ind.*, 56 (1937), 941. (E. G. V.)

Tengkawang (Illipe). The tengkawang nuts of commerce are produced by numerous trees of the genus Shorea. There are two principal grades: large black and large brown, having the following average analytical characteristics, respectively (water-free): ash 1.8–2.0, crude fiber 3.1–2.5, albumin 6.7–7.3, fat 63.8–51.9, starch-like substances 24.6–36.3%. Comparison of published data shows that the chemical composition and properties of tengkawang fat are very similar to those of cacao butter, for which it is used as a substitute.—P. A. ROWAAN. *Ber. Afdeel. Handlsmuseum Koninkl. Ver. Kolon. Inst.*, No. 113 (1937), 30 pp.; through *Chem. Abstr.*, 31 (1937), 8233. (F. J. S.)

Terpeneless Oils. A two-solvent process for making terpeneless oils is given. The initial oil is subjected to the extracting action of two solvents or mixtures of solvents, which are not completely miscible with each other under the conditions of the process and in the presence of the oil being extracted. The first of these solvents or solvent mixtures is a polar substance and preferentially dissolves the desired constituent of the oil having the higher dipole moment, *e. g.*, the terpene alcohol, aldehyde, ester, phenoloid body or the aromatic aldehyde or ketone; the second of these solvents or solvent mixtures consists entirely or predominantly of non-polar substances, such as hydrocarbons. This method may be applied to the treatment of all types of natural ethereal oils.—ANON. *Perfumery Essent. Oil Rec.*, 28 (1937), 444. (A. C. DeD.)

Turtle Oils from Ceylon. Turtle oil has recently come into prominence as a constituent of cosmetics. Four samples of the crude oil prepared experimentally in Ceylon gave the following results: (1) "Carapace oil of leathery turtle; rendered over fire in a zinc bath-tub." A reddish brown liquid, containing a large quantity of light brown stearines and possessing a strong fishy odor. When melted the oil was clear and very dark reddish brown. (2) "Dhara kasbava oil: *Dermochelys coriacea.*" A golden-brown liquid, containing a very large quantity of yellowish brown stearines and possessing a very unpleasant, strong, fishy and rancid odor. When melted the oil was clear. (3) "Green Turtle; Perr Amai Oil: *Chelonia mydas.*" A golden-brown liquid, containing a large quantity of yellowish stearines and possessing a fishy odor. A very small amount of "dirt" (albuminoid matter) was present. When melted the oil was very slightly cloudy. (4) "Kanga mattaya oil: *Lepidochelys olivacea*. An orange semi-solid oil with a fishy odor. When melted the oil was very slightly cloudy. The physical properties are tabulated.—ANON. *Perfumery Essent. Oil Record*, 28 (1937), 379. (A. C. DeD.)

Unsaturated Compounds—Hydrogen Value of, in Particular Fats. The degree of unsaturation of fats is better expressed by means of the hydrogen value than of the iodine value (Hubl). Apparatus and methods (using nickel catalyst) are described.—V. P. GOLDENDEEV. *J. Appl. Chem. Russ.*, 10 (1937), 696–701; through *J. Soc. Chem. Ind.*, 56 (1937), 937. (E. G. V.)

Whale Oil—Standardization of. Proposed standards for quality and standard methods for analysis (representing modifications of the Norwegian standards NS 001–003) are detailed.—H. P. KAUFMANN. *Fette u. Seifen*, 44 (1937), 196–201; through *J. Soc. Chem. Ind.*, 56 (1937), 940. (E. G. V.)

Unclassified

***p*-Aminobenzenesulfonamide and Some Symmetrical Azobenzenesulfonamides—Iodination of.** The ortho mono- and diiodo derivatives of *p*-aminobenzenesulfonamide were prepared in the hope that introduction of this radiopaque element might make it possible to visualize, roentgenologically, the course of this clinically important drug through various parts of the anatomy. Upon evaporation of hydrochloric acid solutions of 1-amino-2-iodobenzene-4-sulfonamide dismutation of aryl iodine occurred. The mono-iodo derivative was oxidized to a small extent to 2,2′-diiodoazobenzene-4,4′-disulfonamide by one mole of iodine in caustic solution. The diiodo derivative yielded the nitroso compound. These compounds are of bacteriological interest.—J. V. SCUDI. *J. Am. Chem. Soc.*, 59 (1937), 1480. (E. B. S.)

***p*-Aminothiobenzoic Acid—Alkyl and Alkylamine Esters of.** The thio analog of procaine ("thiocaine") has an anesthetic efficiency four to six times that of procaine and a toxicity only about half that of cocaine. Details are given of the preparation of numerous derivatives.—HAROLD L. HANSEN and LEONARD S. FOSDICK. U. S. pat. 2 090,756, Aug. 24, 1937. (A. P.-C.)

Barbituric Acids—Some *N*-Aryl. III. 1-Phenyl-5,5-diethylbarbituric acid was nitrated, and gave equal amounts of the meta- and para-nitro derivatives, which were readily reducible to the corresponding amino compounds. The diazonium group is replaceable by hydroxyl, chlorine, etc., and may be coupled with a variety of amines and phenolic compounds to give typical azo dyes. The *m*-phenylene- and the *p*-phenylene-N,N'-*bis*-(5,5-diethylbarbituric acid) were prepared by condensing *1-m*- and *1-p*-ureidophenyl-5,5-diethyl-barbituric acids with ethyl diethylmalonate.—J. S. BUCK. *J. Am. Chem. Soc.*, 59 (1937), 1249. (E. B. S.)

Bismuth Salts—Therapeutic, of Carboxylic Acids. Stable oil-soluble salts of bismuth are formed containing in the molecule various different organic acid radicals, details being given of the preparation of mixed bismuth salts of: (*a*) camphenilanic and salicylic acids; (*b*) camphenilanic and acetylsalicylic acids; (*c*) campholytic and salicylic acids. Mention is also made of the preparation of bismuth salts of a number of carboxylic acids including oleic, stearic and phenylacetic. Various of these mixed salts are suitable for therapeutic use by injection of their solutions in oils.—WALTER HERRMANN, FRIEDRICH HAMPE and WALTHER PERSCH, assignors to WINTHROP CHEMICAL CO. U. S. pat. 2,090,201, Aug. 17, 1937. (A. P.-C.)

Chemical Reactions—Organic, Method of Accelerating. It is claimed that hydration and dehydration are greatly accelerated by the passage of an alternating current through the solution. Sucrose can be hydrolyzed in the absence of an acid, starch can be quantitatively hydrolyzed in the presence of sulfuric acid in 30 minutes, and ethyl oleate (97.42%) can be prepared in 1.5 hours in the presence of sulfuric acid.—E. F. SPELLMEYER. U. S. pat. 2,047,839; through *J. Soc. Chem. Ind.*, 56 (1937), 876. (E. G. V.)

Chloroform Manufacture. Chloroform is produced by the reaction of carbon tetrachloride with iron and water in the presence of ammonium, alkylamine or alkanolamine salts of acids that do not render iron passive.—GERALD H. COLEMAN and BARTHOLT C. HADLER, assignors to THE DOW CHEMICAL CO. U. S. pat. 2,095,240, Oct. 12, 1937. (A. P.-C.)

7-Dehydrositosterol. 7-Dehydrositosterol prepared from the phytosterol of soya (passing through sitosteryl acetate) offers numerous analogies with ergosterol and 7-dehydrocholesterol: adsorption spectrum, crystalling form and certain chemical reactions. Like ergosterol, 7-dehydrositosterol is converted by the action of ultraviolet rays into a product possessing antirachitic activity, which, however, is 40 times smaller than that of irradiated ergosterol.—W. WUNDERLICH. *Hoppe-Seyler's Z. physiol. Chem.*, 241 (1936), 116–124; through *Chimie & Industrie*, 38 (1937), 107. (A. P.-C.)

7-Dehydrostigmasterol. This compound was prepared in a manner similar to that used for the preparation of 7-dehydrocholesterol and 7-dehydrositosterol. It differs from ergosterol only in that the carbon in 24-position carries an ethyl instead of a methyl group. 7-Dehydrostigmasterol possesses little or no antirachitic potency.—O. LINSERT. *Hoppe-Seyler's Z. physiol. Chem.*, 241 (1936), 125–218; through *Chimie & Industrie*, 38 (1937), 107. (A. P.-C.)

Dibenzofuran Nucleus—Arsenicals Containing. Dibenzofuran when arsonated directly by heating it with arsenic acid yields 2-dibenzofurylarsonic acid. 3-Dibenzofurylarsonic acid was prepared by means of a Bart reaction utilizing 3-amino dibenzofuran as a starting material. The nitration product was shown to be 8-nitro-3-dibenzofurylarsonic acid. 3-Dibenzofurylarsonic acid on sulfonation gave sulfo-3-dibenzofurylarsonic acid.—BENJAMIN F. SKILES and CLIFF S. HAMILTON. *J. Am. Chem. Soc.*, 59 (1937), 1006. (E. B. S.)

Dimethyl-4,4'-acetonyloxy-8-furo-2',3',7,6-Coumarin—Synthesis of. The substances of the bergaptene group are fish poisons and all are thought to possess the furo-coumarin nucleus. Methyl-4-daphnetin was reacted in warm acetone with potassium carbonate and mono-chloracetone to form methyl-4-diacetonyloxy-7,8-coumarin: m. p. 237–238° (I). Boiling with acetic anhydride and anhydrous sodium acetate effected ring closure to dimethyl-4,4'-acetonyloxy-8-furo-2',3',7,6-coumarin: m. p. 188–189° (II). However, when methyl-4-daphnetin was heated over a water-bath with potassium carbonate and an excess of mono-chloracetone it yielded an isomer of I, m. p. 132°, which could be converted into I by refluxing with ethanol and fused sodium acetate, but not directly into II by acetic anhydride and sodium acetate. (Bibliography is given.)—T. SAKI and C. KATO. *J. Pharm. Soc. Japan*, 55 (1935), 151–152. (R. E. K.)

Gold Compounds—Process for the Preparation of. Alkaline-earth salts of gold keratinates are obtained by reacting alkaline-earth compounds with gold keratinates. The products are useful in therapeutics.—SCHERING-KAHLBAUM, A. G. Belg. pat. 219,795, March 31, 1937. (A. P.-C.)

Lipoid-Soluble Substances—Preparation of, Possessing Bactericidal Properties. High molecular weight alcohols obtained from oils are converted into esters of inorganic or organic acids. —O. STEFANOVIC. Belg. pat. 420,240, March 31, 1937. (A. P.-C.)

Mercury Methyl- and Ethyl-Thiocarbonates—New Syntheses of. A new compound, mercury methyl thiocarbonate, and the previously known mercury ethyl thiocarbonate, have each been synthesized by a new method—the interaction of methyl and ethyl formic esters, respectively, with carbon disulfide and mercuric oxide. The composition of the mercury alkyl thiocarbonates was established by quantitative determinations of the constituents, mercury and sulfur. Modifications of the current methods for the quantitative estimation of mercury in organic sulfur compounds, obviating contamination with free sulfur, have been developed and applied.—H. S. FRY and J. B. CALLAWAY. *Rec. trav. chim.*, 56 (1937), 1153. (A. C. DeD.)

Ortho-Hydroxyphenylmercuric Chloride—Some Derivatives of. Some imide derivatives of *o*-hydroxyphenylmercuric chloride have been prepared and their bacteriological properties evaluated. One has been found to be equally as good as the parent compound. In general, the imide derivatives were readily formed in alkaline solution, especially if the imide contained a carbonyl group. It was thought that fatty acid derivatives might facilitate the *in vivo* activity, a few representative phenol mercuric fatty acid compounds were prepared and described.—HANS P. ANDERSEN and MERRILL C. HART. *J. Am. Chem. Assoc.*, 59 (1937), 1115. (E. B. S.)

Phenyl Cinchoninic Acid Compounds—Complex. 2-Phenylquinoline-4-carboxylic acid is combined with at least one molecule of piperazine and at least one molecule of 1-phenyl-2,3-dimethyl-4-dimethylamino-5-pyrazolone (suitably by heating together). The resulting complex compound slowly hydrolyzes in water. Several examples of similar reactions are given.—FREDERICK C. SCHUBART. U. S. pat. 2,091,571, Aug. 31, 1937. (A. P.-C.)

β-Phenyl Ethyl Alcohol—Manufacture of. A process which may be adapted for the production of β-phenyl ethyl alcohol and its homologs by introducing an alkylene oxide into the reaction mixture is given. The following example illustrates the process, the parts being by weight: 150 parts of magnesium turnings having a clean surface and 400 parts of chlorobenzene are heated to boiling in a reflux apparatus. After a short time the reaction begins, this hours recognizable by the appearance of turbidity in the liquid. In the course of one to three hours further 1700 parts of chlorobenzene are introduced while boiling of the mixture is continued. Then in the course of two to four hours a solution of 200 parts of ethylene oxide in 300 parts of chlorobenzene is slowly added during two to four hours; the whole reaction is finished in about five to six hours. The reaction mass is treated with dilute sulfuric acid and worked up in the usual manner to separate the phenyl ethyl alcohol, the chlorobenzene used in excess being recovered and used for a new reaction.—ANON. *Perfumery Essent. Oil Rec.*, 28 (1937), 451. (A. C. DeD.)

Phthalic Esters. Phthalic acid in ester combination is important to the chemist concerned with odoriferous materials and cosmetics. Phthalic esters are employed as plasticizers in the lacquer industries; most of them are good solvents for cellulose esters. The diethyl phthalate is the only phthalate which has been employed as a diluent for perfumery products. It can be determined by means of its ester properties, and by the reactions of the ethoxy group or else by the specific reactions of phthalic acid. The determination of phthalic esters can be carried out easily and with sufficient accuracy by two methods: the potassium phthalate process, and the lead phthalate process. Both of these methods are discussed.—Y. R. NAVES and S. SABETAY. *Perfumery Essent. Oil Rec.*, 29 (1938), 22. (A. C. DeD.)

Plasmocid. One molecule of 6-methoxy-8-(diethylaminopropyl)aminoquinoline in hydrochloric acid is treated with two molecules of methylenedisalicylic acid in sufficient aqueous ammonia to neutralize the acid.—I. T. STRUKOV. *Chim. Farm. Prom.*, No. 6 (1934), 14; through *J. Soc. Chem. Ind.*, 56 (1937), B., 839. (E. G. V.)

Saligenin—Preparation of. A mixture of phenol 1, formaldehyde 1, calcium oxide 0.5 and ethyl alcohol 2.5 parts is allowed to react until the odor of formaldehyde has disappeared. The product is acidified with acetic acid, extracted with diethyl ether, and, after removal of the solvent, the saligenin is finally recrystallized from water.—I. M. ROTBART and D. H. KOLESNIKOV. *Farm. Zhur.*, No. 1 (1935), 27; through *J. Soc. Chem. Ind.*, 56 (1937), B., 839. (E. G. V.)

Salvarsan Base—Two Forms of. I. 3:3′-Diamino-4:4′-dihydroxyarsenobenzene sulfate yields salvarsan-B with aqueous sodium acetate, converted into isomeric -A by dissolving in 20%

sodium hydroxide, heating at 90° and precipitating with acetic acid. -A differs from -B in color, and in being soluble in organic solvents. Neosalvarsan prepared from -A by the action of rongalite is toxic, while that from -B is non-toxic. Conversion of -A into -B takes place when it is dissolved in hydrochloric acid and precipitated with sodium acetate.—D. VAGENBERG. *J. Gen. Chem. Russ.*, 7 (1937), 808; through *J. Soc. Chem. Ind.*, 56 (1937), B., 841. (E. G. V.)

Sclerosing Agents—Antiseptic. The sclerosing agent consists of a soap from ethanolamine and oleic or lauric acid or other suitable soap formed of an amine having the type formula R'-NR''R''' (where R' is a hydroxy aliphatic or an aromatic hydroxy aliphatic radical, R'' is hydrogen or an alkyl aryl or hydroxyalkyl radical, and R''' is hydrogen or hydroxyalkyl) and a higher fatty acid. The product is used in aqueous solution.—EDMOND E. MOORE, assignor to ABBOTT LABORATORIES. U. S. pat. 2,090,456, Aug. 17, 1937. (A. P.-C.)

Sterols—Molecular Rearrangements in. II. The Constitution of Isomeric Ethers of Cholesterol. When the potassium salt of *i*-cholesterol is treated with methyl iodide, an ether is obtained which melts at 78–78.5°. This methyl ether is dextrorotatory. Epi-cholesterol prepared according to the method of Marker was methylated by the action of methyl iodide on its potassium salt. This methyl ether melts at 89° and in chloroform solution is strongly levorotatory. The "abnormal" dextrorotatory ethers of cholesterol, first discovered by Stoll, and recently referred to in the literature as "cis-cholesteryl ethers," are in reality ethers of *i*-cholesterol. The constitution and properties of these compounds can be discussed best by a formulation which involves a molecular rearrangement.—E. G. FORD and E. S. WALLIS. *J. Am. Chem. Soc.*, 59 (1937), 1415. (E. B. S.)

10-Substituted 1,2-Benzanthracene Derivatives. The observation that 10-methyl-1,2-benzanthracene is a potent carcinogenic agent has made it a matter of considerable interest to investigate additional 10-substituted derivatives of the tetracyclic hydrocarbon. The synthetic methods employed for the preparation of 10-alkyl-1,2-benzanthracenes did not seem adequate. The 1,2-benz-10-anthrone used in these experiments was a crude product, so unstable that purification was not feasible. A new method was developed, using zinc chloride as a catalyst in acetic acid-anhydride solution, and yielding the anthranol acetate. The pure anthranol was obtained with excess Grignard reagent, and was partially isomerized to the anthrone with boiling toluene. The desired hydrocarbons were easily synthesized by the addition of Grignard reagents to the anthrone and dehydration. A few 10-alkyl derivatives of the weakly carcinogenic 3-methoxy-1,2-benzanthracene were prepared by a simpler process.—LOUIS F. FIESER and E. B. HERSHBERG. *J. Am. Chem. Soc.*, 59 (1937), 1028. (E. B. S.)

Sulfanilic Acid—Process for the Preparation of Amides of, Possessing Strong Bactericidal Properties. Halogenides of acylsulfanilic acid are reacted with aromatic amines or their monoacyl derivatives, and the acyl groups are separated.—SOC. ANON. PRODUITS ROCHE. Belg. pat. 420,271, March 31, 1937. (A. P.-C.)

Tripansin—Preparation of. Tripansin (sodium tetrazo-*o*-tolidine-1:8-aminonaphthol-3:6-disulfonate) is prepared by coupling tetrazotized *o*-tolidine hydrochloride with acid in alkaline solution at low temperature. Purification with ethyl alcohol eliminates sodium chloride. —A. M. LVOV. *Chim. Farm. Prom.*, No. 2 (1935), 110; through *J. Soc. Chem. Ind.*, 56 (1937), B., 839. (E. G. V.)

Vitamins—Fat-Soluble, Purifying Animal and Vegetable Oils, Fats and Waxes and Their Fractions Containing. An aldehyde having a furane nucleus, such as furfural, is used for extracting impurities, the solution of impurities forming a separate layer from the purified material.—ARTHUR O. TISCHER, assignor to EASTMAN KODAK CO. U. S. pat. 2,090,738, Aug. 24, 1937. (A. P.-C.)

BIOCHEMISTRY

Allometric Formula. A theoretical dissertation on the use of the allometric formula in biological chemistry.—L. LAPICQUE. *Bull. soc. chim. biol., Paris*, 19 (1937), 434–440; through *Physiol. Abstr.*, 22 (1937), 749. (F. J. S.)

Bilirubin—Determination of, in Organic Liquids. A critical discussion of various methods, from which it is concluded that the best is that using the Pulfrich photometer.—A. GOLANGIULI and P. FRANZINI. *Diagnost. Tecnica Labor.*, 7 (1936), 169–176; through *Chimie & Industrie*, 38 (1937), 36. (A. P.-C.)

Blood Stains. An address. No references are given, but details are tabulated of chemical and physical tests for the detection of blood stains on various materials. Effects of time and light are considered.—L. VAN ITALLIE. *Bull. soc. chim. biol., Paris*, 19 (1937), 413–433; through *Physiol. Abstr.*, 22 (1937), 777. (F. J. S.)

Cholesterol—Rapid Method for the Preparation of, from Brain. A cryogenic method is described by which 83% of the cholesterol can be obtained in pure form in 24 hours without preliminary drying of the tissue and without recourse to saponification or special precipitation methods. One kilo of finely minced pig brain is mixed in a mortar with 4.5 volumes of liquid air, and the mixture extracted one hour in a shaking apparatus with 2.5 liters of acetone at room temperature. The filtrate is again shaken with 2.5 liters of acetone for 2 hours. Evaporation of the combined filtrates gives a crude product which after recrystallization from alcohol-ether melts at 147.0° to 147.5° C. A further yield may be obtained by drying the tissue residue in a desiccator and extracting with hot acetone, but this portion contains some fat and phosphatides.—I. REMESOW and N. LEWASCHOWA. *Hoppe-Seyler's Z. Physiol. Chem.*, 241 (1936), 81–83; through *Chimie & Industrie*, 38 (1937), 107. (A. P.-C.)

Choline and Ethanolamine—Separation of. A method is described for the separation of choline from ethanolamine by means of the carbo-benzoxy derivative of the latter base.—E. CHARGAFF. *J. Biol. Chem.*, 118 (1937), 417–419; through *Physiol. Abstr.*, 22 (1937), 753. (F. J. S.)

Epi-allo-Pregnanolone—Synthetic Preparation of, the Androgenic Principle of Human Pregnancy Urine. Epi-allo-pregnanolone prepared synthetically is identical with epi-allo-pregnanolone which was isolated from human pregnancy urine and which possessed androgenic properties. 3-Chloro-allo-cholanic acid was used as the starting material for the synthesis.—R. E. MARKER, O. KAMM, D. A. MCGINITY, D. M. JONES, E. L. WHITTLE, T. S. OAKWOOD and H. M. CROOKS. *J. Am. Chem. Soc.*, 59 (1937), 1367. (E. B. S.)

Formaldehyde—Reactions of Amino- and Imino-Acids with. Further equilibrium data of amino- and imino-acids with formaldehyde are presented. Amino-acids may react with one or two molecules of formaldehyde, whereas imino-acids can react with only one. The reaction of asparagine with formaldehyde results in the formation of a pyrimidine derivative. The rate of this reaction was measured. Structural formulæ for the products in the formol titration are discussed.—M. LEVY and D. E. SILBERMAN. *J. Biol. Chem.*, 118 (1937), 723–734; through *Physiol. Abstr.*, 22 (1937), 754. (F. J. S.)

Glucose and Sucrose—Action of Sulfuric Acid on. Glucose undergoes no charring with concentrated sulfuric acid below 25° or with dilute (1:1) acid at 50–80°. Sucrose darkens rapidly in both cases.—K. ASWATH N. RAO and P. L. N. RAO. *J. Annamalai Univ.*, 6 (1937), 155; through *Chem. Abstr.*, 31 (1937), 7797. (F. J. S.)

Hordenine—Biological Formation of. Hordenine was formed from tyrosine (1) by heating at 250° C. to give tyramine and then refluxing with formaldehyde and formic acid for 10 hours (yield 50%); (2) as (1) at room temperature for a month (yield, 16%). The possible formation of hordenine from tyramine in nature and the part played by formaldehyde in the reaction is discussed.—Y. RAOUL. *Bull. soc. chim. biol., Paris*, 19 (1937), 675–685; through *Physiol. Abstr.*, 22 (1937), 755. (F. J. S.)

Hormones and Cancer—Relation between. A lecture, without bibliography, on the relation between ovarian and pituitary hormones and experimental tumors.—A. LACASSAGNE. *Can. Med. Assoc. J.*, 37 (1937), 112–117; through *Physiol. Abstr.*, 22 (1937), 825. (F. J. S.)

Iodine—Determination of, in the Urine. Alkalize 10–25 cc. urine with sodium hydroxide and boil with addition of powdered potassium permanganate until the color persists for 10 minutes. Destroy the excess potassium permanganate with sodium perborate in slight excess and add a few small pieces of calcium chloride. Boil, filter and wash four times with hot water. Evaporate the filtrate to 8–10 cc. Acidify with acetic acid, boil for five minutes after addition of 1–2 Gm. of urea and dilute with water. Add sulfuric acid and potassium iodide and titrate with 0.01*N* sodium thiosulfate.—R. BENIGNI. *Biochem. terap. sper.*, 24 (1937), 181–186; through *Chem. Abstr.*, 31 (1937), 7458. (F. J. S.)

Iron—Determination of, in Media Rich in Phosphates (Feces). Calcine 24-hour feces of the dog in an open muffle, boil the ash for 30 minutes with 100 cc. of dilute hydrochloric acid (1:1), add 250 cc. of water and 5 cc. of nitric acid, boil for 15 minutes, filter and dilute to 500 cc.

Precipitate an aliquot or the whole of the solution with excess of ammonia, filter with suction, wash with cold water and suspend in boiling water to which phosphoric acid is gradually added until solution is complete. Reduce the iron completely with zinc, decant, remove dissolved hydrogen by addition of sodium bicarbonate, and then determine iron by means of decinormal potassium permanganate. The quantity of iron per 24 hours during 1 month in the feces of a dog on a weighed meat diet was 7.9 to 8.2 mg., irrespective of the weight of the feces varying from 10 to 50 Gm. The method is applicable to other biological media, earths rich in phosphates, etc.—M. RANGIER and MELLE. LAFRANÇAISE. *J. pharm. chim.*, 24 (1936), 266–268; through *Chimie & Industrie*, 38 (1937), 38. (A. P.-C.)

Iso-Ascorbic Acid—Antiscorbutic Activity of the Sodium Salt of. Daily doses of 25, 50 and 75 mg. of the sodium salt of synthetic ascorbic acid were administered *per os* to guinea pigs starting on the 18th day of the ascorbutigenic diet. Only one animal died, on the 23rd day (with 50 mg.); in the others no signs of scurvy could be detected by microscopic examination, though more or less marked clinical signs of the disease had been observed. The test lasted 43 days.—N. IAROUSSOVA. *Voprossy Pitania*, 5 (1936), No. 2, 14–16; through *Chimie & Industrie*, 38 (1937), 104. (A. P.-C.)

Lactoflavin in Milk—Determination of, a Rapid Method for. The following procedure has been used. Add 15 cc. of 10 per cent trichloracetic acid to 10 cc. of milk, let stand thirty to sixty minutes, centrifuge five minutes at about 2000 r. c. f. Neutralize 10 cc. of the resulting serum, with methyl orange as indicator, and dilute until the sample can be matched in the light of an Eveready Fluoray lamp, with standard flavin solutions (Labco PX grade) containing 0.12 to 0.06 gamma of flavin per cc. Calculate flavin content on the basis of dilutions made; dilutions until the portions read contain less than 0.12 gamma per cc., seem essential as the values for stronger solutions are easily underestimated. The method was checked by recovering experiments. The results obtained by calculation and by determination with the Fluoray lamp are tabulated.—C. H. WHITNAH, BERNICE L. KUNERTH and M. M. KRAMER.—*J. Am. Chem. Soc.*, 59 (1937), 1153. (E. B. S.)

Maltase—Rôle of, in the Hydrolysis of Starch by Different Varieties of Malt. The seeds of maize, sorghum and millet and the malts prepared from them contain a maltase active at p_H 4.5–5.0. Although barley malt exerts no action on maltose, the presence of maltase is not excluded, for in this malt, substances are present which inhibit maltase.—D. I. LISITSYN. *Biokhimiya*, 1 (1936), 351–358; through *Chem. Abstr.*, 31 (1937), 7448. (F. J. S.)

Natural Starch, Amylopectin and Amylose—Relation between. Amylopectin is amylogen mixed with a small quantity of amylon. Amylose is pure amylon. When starch is treated with hot water, the amylogen is converted into amylon by attaching another hydroxy group to each $C_6H_{10}O_5$ unit.—W. S. REICH and A. F. DAMANSKY. *Bull. soc. chim. biol., Paris*, 19 (1937), 357–391; through *Physiol. Abstr.*, 22 (1937), 753. (F. J. S.)

Paprika (Capsicum Annuum, L., var. Grossum, Sendt)—Manchuria, Ascorbic Acid Content of. The ascorbic acid (I) content of the paprika increases during ripening, but diminishes on storage, exposure to air after rubbing, or removal of the capsaicin by extraction with ether or treatment with potassium permanganate. In ripe paprika the ratio I: glutathione (II) is 1.0:-1.7; unripe pods are devoid of II.—M. SUGIURA. *J. Orient. Med.*, 25 (1936), 37; through *Chem. Abstr.*, 31 (1937), 7943. (F. J. S.)

Pregnanolone—Isolation of, from Human Pregnancy Urine. Pregnanolone, an isomer of epi-allo-pregnanolone was isolated from the human pregnancy urine. The compound formed a monoacetate and a monosemicarbazone. Upon oxidation it gave pregnandione and upon reduction of the ketone it gave pregnandiol.—R. E. MARKER and O. KAMM. *J. Am. Chem. Soc.*, 59 (1937), 1373. (E. B. S.)

Sex Hormones—Colorimetric Methods for the Determination of, in Human Urine. The method for the male hormone is based on Zimmerman's reaction and that for the female on Kober's. The hormones are estimated in terms of theelin and androsterone, against which the method is standardized. Standardization curves are given and a curve for the effect of temperature in the case of the male hormone. A bicolorimeter is used. The color standard for the male hormone is 0.001% methyl red (4 cc.) and 0.1% cotton black (0.75 cc.) 0.01 in normal hydrochloric acid (5.25 cc.) which corresponds to 380γ androsterone per 10.6 cc., and for the female hormone 0.001 or methyl red (1 volume) in 0.01 normal hydrochloric acid (4 volumes) which corresponds to 140γ

theelin per 10 cc. The hormones are extracted from urine in the apparatus previously mentioned in *Chinese J. Physiol.*, 11 (1937), 409.—H. Wu and C. Y. Chou. *Chinese J. Physiol.*, 11 (1937), 413–428; through *Physiol. Abstr.*, 22 (1937), 834. (F. J. S.)

Sugar—Spectrophotometric Studies of the Color Development in the Analysis of, by the Benedict Method and of Cholesterol by the Liebermann-Burchard Reaction. The development of color in sugar solutions by the Benedict method and in cholesterol solutions by the Liebermann-Burchard reaction was studied by means of a photoelectric spectrophotometer which recorded within 10 seconds the transmission at each wave-length throughout the visible range. These studies afford a basis for selecting the optimal spectral zone for colorimetry in these two methods.—F. W. Sunderman and J. Razek. *J. Biol. Chem.*, 118 (1937), 397–404; through *Physiol. Abstr.*, 22 (1937), 751. (F. J. S.)

Sugars—Reducing, Determination of, by Tryller's Method. The end-point of the Fehling titration is determined electrometrically, so that the color of the sugar solution is not a hindrance; the results agree closely with the Eynon-Lane method. (Cf. *Chem. Abstr.*, 25, 2585).—C. R. v. Stieglitz and L. C. Home. *Proc. Queensland Soc. Sugar Cane Tech.* (1936), 101–104; through *Chem. Abstr.*, 31 (1937), 7362. (F. J. S.)

Thorium Nitrate—Use of, in the Rapid Ashing of Serum and Urine. I. Adapted for Subsequent Potassium Determinations. A method is presented for the rapid ashing of serum urine or similar biological material by the use of a salt of thorium in a maximum of fifteen minutes at 750° C. or in 25 minutes at 600°. The amounts of potassium found with the thorium ashing method agrees with those found with the Neumann wet ash technic. Theoretical increments of potassium were found when pure standard potassium sulfate solutions were added to serum or urine before ashing.—M. B. Strauss. *J. Biol. Chem.*, 118 (1937), 331–335; through *Physiol. Abstr.*, 22 (1937), 751. (F. J. S.)

Thyroid Protein—Genesis of. A biologically active thyroid protein, insoluble at p_H 5.5 was synthesized by the action of crystalline pepsin upon the inactive, acid-soluble fraction of a peptic digest of thyroglobulin (cf. *Chem. Abstr.*, 30, 1403). The therapeutic effect of iodine in hyperthyroidism appears to be a mass law phenomenon involving the accumulation of the precursor diiodotyrosine-peptone, in the thyroid gland, resynthesis of the depleted stores of thyroid hormone by the action of the thyroid proteases and the deposition of the product in the thyroid follicles.—W. T. Salter and J. Lerman. *New Engl. J. Med.*, 216 (1937), 371–376; through *Chem. Abstr.*, 31 (1937), 7453. (F. J. S.)

Urea—Effect of, on Hydration of Protein. The hydration of fibrinogen and gelatin is increased by urea. This induces a greater swelling and solubility of the colloids with a concommitant rise in permeability. This is thought to be the cause of the uremic effects, various poisons from the intestinal tract finding an easier access to the tissues when the urea concentration is pathologically increased.—Fritz Heim. *Biochem. Z.*, 291 (1937), 88–98; through *Chem. Abstr.*, 31 (1937), 7901. (F. J. S.)

Vitamin A—New Source of. Fish viscera other than liver contain vitamin A (I). Halibut viscera constitute a very rich and hitherto neglected source of I. In liver I is at least in part associated with protein.—J. A. Lovern, J. R. Edisbury and R. A. Morton. *Nature*, 140 (1937), 276; through *Chem. Abstr.*, 31 (1937), 7953. (F. J. S.)

Vitamin A_2—Possible. A substance with absorption bands at 350 and 287 mμ, giving a green color with antimony trichloride having a maximum absorption band at 693 mμ, appears in the liver, viscera and sometimes eyes of fish, particularly freshwater fish. It resembles vitamin A and is provisionally designated "vitamin A_2."—J. R. Edisbury, R. A. Morton and G. W. Simpkins. *Nature*, 140 (1937), 234; through *Chem. Abstr.*, 31 (1937), 7605. (F. J. S.)

Vitamin B Complex Studies—Significance of Quantitative Relationships in. The data given illustrate a simplified basic scheme for determining the influence of known amounts of pure vitamin B_1 and of pure lactoflavin upon growth rate and the influence of variable amounts of vitamin B_6 for the prevention of dermatitis and its concurrent effect upon growth rate. The significance of the interrelationship of each of these factors upon growth is also shown.—R. C. Bender and G. C. Supplee. *J. Am. Chem. Soc.*, 59 (1937), 1178. (E. B. S.)

Vitamin B_1—Chemistry of. Theoretical and experimental reasons are given for modifying the structures of vitamin B_1 and thiochrome proposed by Windaus.—T. Imai. *J. Biochem., Tokyo*, 25 (1937), 95–107; through *Physiol. Abstr.*, 22 (1937), 803. (F. J. S.)

Vitamin B_1—Crystalline, from Natural Sources. Fuller's earth adsorbates twice as rich in vitamin B_1 were prepared from extracts of yeast or rice polishings. Hydrochlorides of pyridine, quinoline or aniline were very effective for extracting the vitamin from Fuller's earth. Attempts have been made to modify the Seidell alkaline extraction method by introducing an immiscible liquid which is a good solvent for the vitamin. Phenol gave fairly high yields of vitamin. Combinations of phenol and butyl alcohol are very useful for the removal of inert material from B_1 concentrates and afford a good medium for its crystallization.—R. D. GREENE and A. BLACK. *J. Am. Chem. Soc.*, 59 (1937), 1395. (E. B. S.)

Vitamin B_1—Synthesis of. A practical synthesis of vitamin B_1 is described. The possibilities of three principal routes of synthesis leading to the pyrimidine portion of the vitamin were explored. Numerous physiological tests including both curative and prophylactic experiments did not show significant deviations among the two forms of synthetic and the natural chloride. The synthesis of several new pyridines useful as intermediates in the synthesis of vitamin B_1 are described. The structure previously proposed for vitamin B_1 has been confirmed by synthesis.—JOSEPH K. CLINE, ROBERT R. WILLIAMS and JACOB FINKELSTEIN. *J. Am. Chem. Soc.*, 59 (1937), 1052. (E. B. S.)

Vitamin C—Effect of, on the Blood Picture. The red cell count of normal guinea pigs is generally indepent of age, the hemoglobin content is smaller in young animals, while the white cell content increases with age. Usually there is lymphocytosis, but in older animals more frequently eosinophilia. Under the influence of vitamin C excess the number of red cells increases, that of the white decreases, lymphocytosis changes to a neutrophil condition with a slight increase in eosinophil leucocytes. Scorbutic animals show at first a rise in red blood cells, which with the advance of the scurvy changes to anemia. In advanced scurvy there is an increase in white cells and the normal lymphocytosis becomes even more pronounced with the disappearance of the eosinophils. Tyrosine causes the same qualitative and quantitative changes as scurvy, so that the latter is supposed to represent a hyperthyroidism.—ZOLTAN ASZODI. *Biochem. Z.*, 291, 34–50; *Orvosi Hetilap*, 81 (1937), 916–918; through *Chem. Abstr.*, 31 (1937), 7949. (F. J. S.)

Vitamin C—Resistance of, to Temperatures Lower Than 0° C. Guinea pigs fed on ascorbutigenic diet were given 3-Gm. slices of lemon that had been frozen under natural conditions and subjected to a temperature of −43.6° C. A marked antiscorbutic effect was observed in all cases.—E. E. GRANAT. *Voprosy Pitaniya*, 5 (1936), 29–30; through *Chimie & Industrie*, 38 (1937), 106. (A. P.-C.)

Vitamin G Content of Some Foods. Cottonseed meal, Biloxi variety of soy-beans, dried whole milk and dried brewers' yeast contained 2.9, 2.4–3.2, 5.3 and 20.0 Blurquin-Sherman units per Gm., respectively. Milk produced in a pellagrous area in South Carolina contained as much vitamin G as that from other localities. The extraction of cottonseed meal with 50% ethanol removes about 50% of the flavin (vitamin G) content. The solids of the extract contained 10.0 units per Gm. Cooking at 15 lb. steam pressure for 30 minutes did not affect the vitamin G content of the soy-beans or cottonseed meal. When differences in the body weight curves of negative control rats are taken into consideration in calculation of the flavin potency of a food, the Munsell and the Bourquin-Sherman flavin-deficient diets yielded almost the same unit values for the foods studied.—HAROLD LEVINE and ROE E. REMINGTON. *J. Nutrition*, 13 (1937), 525–542; through *Chem. Abstr.*, 31 (1937), 7478. (F. J. S.)

ANALYTICAL

Absorptive Media—Effects of Various, on Rancidity and the Kreis Test. Treatment of non-rancid cottonseed and maize oils with certain brands of activated carbon caused the oils, which had previously given negative Kreis tests, to react positively; in the case of rancid oils, the treatment increased the intensity of the positive Kreis reaction. Other brands of carbon, however, had no harmful effect on fresh oil and, in the case of rancid oils, removed the substance responsible for the color reaction, so that the oils react less intensely or negatively after treatment.—J. P. HARRIS and W. A. WELCH. *Oil and Soap*, 14 (1937), 3–5; through *J. Soc. Chem. Ind.*, 56 (1937), 941. (E. G. V.)

Acetic Acid—Graph for Determination of, in Acetic Anhydride. The content of acetic acid per 100 Gm. of acetic acid—acetic anhydride mixture is given by $(2000 - 17b)/3$, where b is the number of Gm. of acetic acid obtained by hydrolysis of the mixture.—G. KARETNIKOV. *Prom. Org. Chim.*, 3 (1937), 161–162; through *J. Soc. Chem. Ind.*, 56 (1937), 1016. (E. G. V.)

Adrenaline—Colorimetric Determination of. The reaction with sodium nitrite or phosphotungstic acid may be utilized for determining adrenaline in presence of zinc sulfate, boric oxide, antipyrine, procaine or cocaine. With ointments or in presence of protargol, results are only approximate.—M. I. SHAPIRO. *Farm. Zhur.*, No. 4, 131; through *J. Soc. Chem. Ind.*, 56 (1937), B., 840. (E. G. V.)

Althæa Officinalis and Malva Arborea—Oils from. Analyses are recorded. The oils have high contents of unsaturated acids of the linoleic type, show good drying qualities (especially that from althæa), and can be substituted for linseed oil.—H. J. TROPP. *Farm. Zhur.*, No. 4 (1934), 134; *J. Soc. Chem. Ind.*, 56 (1937), 807. (E. G. V.)

Ammonia—Convenient Method of Determining Small Amounts of, and Other Bases by Use of Boric Acid. A method is described in which small amounts of ammonia are trapped in 2% boric acid solution and titrated back to the original p_H of the boric acid. Methyl red is used as indicator.—A. E. SOBEL, H. YUSKA and J. COHEN. *J. Biol. Chem.*, 118 (1937), 443–446; through *Physiol. Abstr.*, 22 (1937), 751. (F. J. S.)

Anthracene—Crude and Purified, Rapid Analysis of. One gram of the product is boiled for 25 minutes under reflux with 0.5–1.2 Gm. of maleic anhydride (I) and 5 cc. of xylene, 80 cc. of water are added, and the solution is steam distilled. The residue is titrated with 0.5*N* potassium hydroxide (phenolphthalein), when the anthracene content is given by 181.7(A-0.43664C), where A is the weight of I taken, and C the number of cc. of 0.5*N* potassium hydroxide used.—I. J. POSTOVSKI and V. I. CHMELEVSKI. *J. Appl. Chem. Russ.*, 10 (1937), 759–764; through *J. Soc. Chem. Ind.*, 56 (1937), 876. (E. G. V.)

Arsenic, Antimony and Tin—Distillation and Separation of. Arsenic trichloride, antimony trichloride and tin tetrachloride are separated from one another and from non-volatile chlorides by distillation with a stream of carbon dioxide. An all-glass apparatus is used. Arsenic is distilled at 111° to 112° C., then phosphoric acid is added to form a non-volatile compound with the tin and the antimony is distilled with addition of hydrochloric acid at 155° to 165° C. The addition of hydrobromic acid liberates the tin and it is distilled at 140° C.—JOHN A. SCHERRER. *J. Research Natl. Bur. Standards*, 16 (1936), 253–259; through *Chimie & Industrie*, 38 (1937), 32. (A. P.-C.)

Auxin and Auxin Precursors—Deseeded Avena Test Method for Small Amounts of. A test method is described in which deseeded Avena seedlings are used, making possible quantitative determinations of auxin and auxin precursors in concentrations about one-tenth as great as can be determined by the standard method, because (*a*) of an increase in the time of the test, so that nearly all of the hormone applied is utilized, and (*b*) of an increased sensitivity of the deseeded plants to unilaterally applied small concentrations of hormone. The method has been applied (*a*) to an analysis of the mechanism of auxin synthesis in the tip of the coleoptile and of auxin regeneration in the new physiological tip, (*b*) to determinations of auxin in primary leaves and coleoptile sections of the plant, (*c*) as a test method for precursors of auxin and as a means of distinguishing substances which may be activated by the plant, (*d*) in establishing evidence of a precursor of auxin in the plant, and (*e*) in demonstrating precursors of hetero-auxin.—F. SKOOG. *J. Gen. Physiol.*, 20 (1937), 311–334; through *Physiol. Abstr.*, 22 (1937), 870. (F. J. S.)

Benzene—Colorimetric Microdetermination of, in Blood and Urine. Benzene is aerated from blood or urine and swept into a small amount of nitration acid, and the *m*-dinitrobenzene produced is estimated by means of the color produced with butanone and sodium hydroxide. The method is sensitive to at least 0.001 mg. of benzene and has an accuracy of about 10% of the amount present in the range of 0.01 to 0.9 mg. in a 10-cc. specimen.—S. J. PEARCE, H. H. SCHRENK and W. P. YANT. *Bur. Mines, Rept. of Investigations*, No. 3302 (1936), 8 pp.; through *Chimie & Industrie*, 38 (1937), 37. (A. P.-C.)

Borneol—Reaction of. Addition of 1 cc. of a 1% solution of vanillin in concentrated sulfuric acid to 0.01 Gm. of commercial camphor in 1 cc. of sulfuric acid and dilution with 1 to 2 cc. of water gives a violet coloration. Pure and synthetic camphor do not give this Borisch reaction although the reaction is positive for menthol. Commercial camphor was reduced with sodium and alcohol to a mixture of borneol and isoborneol which gave an intense Borisch reaction. The reaction will detect 0.01 mg. of the borneol-isoborneol mixture and gives an intense color with 0.05 mg.—O. CARLETTI. *Boll. chim.-farm.*, 75 (1936), 299–303; through *Chimie & Industrie*, 38 (1937), 100. (A. P.-C.)

Camphor—Determination of, in Alcoholic Solution. A turbidimetric method is described. S. I. SPIRIDONOVA. *J. Appl. Chem. Russ.*, 10 (1937), 765–770; through *J. Soc. Chem. Ind.*, 56 (1937), 876. (E. G. V.)

Chlorine—Microdetermination of. Winkler (*Pharm. Zentr.*, 74 (1933), 194–196) determined the active chlorine in water by the decolorization of a methyl-red solution obtained by dissolving 0.1 Gm. of the dyestuff in 1 liter of water; 1 cc. of this solution = 0.05 mg. of chlorine. The results do not agree with those obtained by the microiodometric method unless the methyl-red solution is standardized against a solution containing a known quantity of active chlorine. The decolorization is slow toward the last. In determining 0.004 to 7.9 mg. of chlorine per liter, the results obtained when methyl orange is substituted for methyl red agree within less than 4% with the values obtained by the microiodometric method but here again it is necessary to standardize the methyl-orange solution (0.33 Gm. per liter) against a solution of known chlorine content.—I. M. KORENMANN. *Mikrochemie*, 19 (1936), 144–146; through *Chimie & Industrie*, 38 (1937), 30–31. (A. P.-C.)

Chlorine—Nephelometric Microdetermination of, and Its Application to the Determination of Chlorine in Organic Substances. In a 50-cc. volumetric flask place 25 cc. of a filtered solution containing 34 Gm. of sodium nitrate, 11.8 Gm. of calcium nitrate, 12.6 Gm. of aluminum nitrate and 3.4 Gm. of silver nitrate per liter. Add 5 cc. of the chloride solution, make to volume, shake thoroughly and after 30 minutes determine the turbidity. To determine chlorine in an organic compound it was found best to incinerate in a nickel crucible in presence of 5 to 10 mg. of lactose and 50 mg. of sodium peroxide.—F. ALTEN and E. HILLE. *Mikrochemie*, 19 (1936), 118–128; through *Chimie & Industrie*, 38 (1937), 30. (A. P.-C.)

Digitalis Lanata Ehrh.—Constituents of the Seed of. The following characteristics of the drug are given: taste, bitter; moisture content, 7.4%; ash, 2.6%; ether extractive, 30%. Analysis of the cold pressed oil, representing a yield of 16% of the finely powdered drug, gave: sp. gr. $\left(\frac{20°}{4°}\right)$, 0.922; refractive index by the Zeiss butter refractometer, 76.0 scale units at 20°; acid value, 8.0; saponification number, 187; unsaponifiable residue, 1.3%; iodine number, 130. The marc remaining after cold pressing, when completely defatted by extraction with benzin afforded by extraction with 96% alcohol and subsequent treatment of the extractive with various solvents a quantity of digitonin. A heart active glucosidal bitter principle was isolated from the alcoholic extract from which the digitonin had been removed. The bitter principle, by heating with 50% alcohol containing 1% hydrochloric acid yielded a genin, $C_{23}H_{34}O_4$, melting at about 245°. According to the analysis and its color reactions it is neither gitoxigenin or digoxigenin.—KAROLY SZAHLENDER. *Arch. Pharm.*, 274 (1936), 446. (L. L. M.)

Drugs—Ashes of, Composition of. II. Metallic and anionic constituents found in the ashes of quillaya bark and kalmus rhizomes are listed.—L. ROSENTHALER and G. BECK. *Mikrochem., Molisch Festschr.* (1936), 366; through *J. Soc. Chem. Ind.*, 56 (1937), B., 840. (E. G. V.)

Esters—Determinations of, in Fermented Liquors. Continuous extraction with light petroleum for 10 hours in a Hagen apparatus suffices for the complete removal of esters from wines.—L. ESPIL and E. PEYNAUD. *Bull. soc. chim.* [V], 4 (1937), 904; through *J. Soc. Chem. Ind.*, 56 (1937), B., 830. (E. G. V.)

Ethyl Alcohol—Composition of Mixtures Containing. Physical and chemical methods employed for determining the composition of ethyl alcohol-water, and ethyl alcohol-methyl alcohol-diethyl ether mixtures, etc., are reviewed.—R. FRITZWEILER. *Z. Ver. deut. Ing.*, 81 (1937), 407–408; through *J. Soc. Chem. Ind.*, 56 (1937), 875. (E. G. V.)

Ethylene Oxide—Volumetric Determination of. The nature of the reaction involved is discussed.—W. DECKERT. *Z. anal. Chem.*, 109 (1937), 166–168; through *J. Soc. Chem. Ind.*, 56 (1937), 875. (E. G. V.)

Fatty Residues—Extraction of. The most advantageous method of solvent extraction for reducing the fat content of these residues to a negligible amount are described.—I. TAUSSKY. *Petroleum*, 33, No. 14 (1937), 6; through *J. Soc. Chem. Ind.*, 56 (1937), B., 805. (E. G. V.)

Fluorine—Determination of. The gravimetric calcium fluoride, distillation with sulfuric acid or perchloric acid, and volumetric thorium nitrate methods are described with references to their use in the analysis of zinc.—L. F. TAYLOR. *Ind. Chem.*, 13 (1937), 221–222; through *J. Soc. Chem. Ind.*, 56 (1937), 1046. (E. G. V.)

Halogens—Determination of, in Medicinal Extracts. After decolorization with carbon, Volhard's method is applied to determination of total halogen, of halogens after removal of iodine, and of chlorine after treatment of potassium permanganate to remove bromine and iodine.—I. ORLOV and T. KSENOFONTOVA. *Chim. Farm. Prom.*, No. 6 (1934), 22; through *J. Soc. Chem. Ind.*, 56 (1937), B., 840. (E. G. V.)

Hexamethylenetetramine—Determination of, in Medicines. The sample is treated with sulfuric acid to produce ammonium sulfate which is determined acidimetrically after addition of excess of formaldehyde.—D. B. JOCHELSON. *Farm. Zhur.*, No. 5 (1935), 172; through *J. Soc. Chem. Ind.*, 56 (1937), B., 839. (E. G. V.)

Hydrogen Peroxide—Titration of, in the Presence of Oxalic Acid (Alkali Oxalates). The method consists in first determining the sum of hydrogen peroxide plus oxalic acid by permanganate titration in acid solution. Hydrogen peroxide is destroyed in a second portion of sample by boiling for 5 minutes after adding sodium or ammonium hydroxide and in presence of ferric chloride or a manganese salt as catalyst; the solution is acidified with sulfuric acid or Zimmermann's solution and the oxalic acid is titrated hot with permanganate. It was found that it is unnecessary to add calcium nitrate, as hydrogen peroxide does not oxidize oxalates in presence of ferric hydroxide, even after 24 hours.—A. SIMON and TH. REETZ. *Z. anal. Chem.*, 105 (1936), 321–323; through *Chimie & Industrie*, 38 (1937), 36. (A. P.-C.)

Hydroxyquinone—Determination of, in Pharmaceutical Practice. A detailed procedure for the determination of hydroxyquinone (or quinosol) is given.—ANON. *Z. anal. Chem.*, Bd. 108 H, (1937), 11–12, through *Pharm. Ztg.*, 82 (1937), 644–645. (N. L.)

Ichthyol—Analysis of. Samples should be soluble in water 2, ethyl alcohol 4 or ether-alcohol 8 parts, and should be free from cresols, phenol derivatives and foreign sulfonic acids. Total sulfur should be more than 11, sulfate-sulfur not more than 2.8, thiophen fraction more than 12, and dry matter more than 55%.—S. M. BOLOTNIKOV. *Farm. Zhur.*, No. 1 (1935), 21; through *J. Soc. Chem. Ind.*, 56 (1937), B., 839. (E. G. V.)

Inositophosphates—Pharmaceutical, Assay of. A review is given of phytin, its sources, physical and chemical properties and the methods of determination. As phytin is not yet official, although much used medicinally, complete pharmacopœial requirements are suggested: (*a*) Identity assays by the ferric chloride test and tests for phosphoric acid and inositol after hydrolysis. (*b*) Tests for purity—solubility in dilute hydrochloric acid, absence of starch, albumin, arsenic, sugar, tartaric and citric acids, and ammonia. (*c*) Limit tests—moisture content, 10% maximum; ash, 6.89% minimum calculated on the dry basis; total phosphorus 18 to 19% minimum; monophytinic phosphorus (mineral phosphorus and phosphorus in glycerophosphate, determined in the filtrate obtained in the ferric chloride method) 0.5% maximum; calcium plus magnesium, 13%, all on dry basis. In phytin obtained from maize and other cereals, magnesium predominates over calcium.—C. STAINIER, H. PENAU and H. PIERRET. *J. pharm. chim.*, 23 (1936), 641–660; through *Chimie & Industrie*, 38 (1937), 100. (A. P.-C.)

Leucosol—Analysis of, Chemical and Biological. Leucosol (extract of early human chorion) was prepared in the form of a powder. Analysis gave the following composition: ash 70–75.3%, total nitrogen 2.5–2.9%, residue nitrogen 1.5–1.9%. Most of the nitrogen is not in the form of protein. When tested for prolan on mice, one decigram contained two thousand and ten mouse units. Attempts to isolate the prolan fraction are described.—K. D. LOBOWZOW and M. S. GLEBOW. *Bull. Biol. Med. exp., U.R.S.S.*, 1 (1936), 352–353; through *Physiol. Abstr.*, 22 (1937), 760. (F. J. S.)

Magnesium—Determination of, in Medicines. Magnesium is best determined by direct alkali-acid titration, or by precipitation with hydroxyquinoline followed by bromination and titration of the excess of bromine iodometrically.—D. S. BELENITZKA. *Farm. Zhur.*, No. 2/3 (1935), 76; through *J. Soc. Chem. Ind.*, 56 (1937), B., 839. (E. G. V.)

Microdeterminations—Volumetric, Increasing the Accuracy of. In titration carried out in presence of an indicator, a certain volume of the titrating solution is used for obtaining the end-point, and the error thus produced increases with the dilution of the solution. The following procedure should be used to obtain accurate results: place 0.5 and 1.0 cc. of the dilute acid solution to be titrated in two identical test-tubes, dilute to about 5 cc., add 2 drops of indicator and titrate the boiling solution to the end-point with standard alkali; the first solution titrated serves as a blank for the titration of the second, and the difference between the volumes of alkali required

corresponds to the difference in the acid content of the two solutions.—I. M. KORENMANN. *Zav. Lab.*, 5 (1936), 32–36; through *Chimie & Industrie*, 38 (1937), 31. (A. P.-C.)

Morphine—Sulfomorphid and the Purple Fluorescence Test, a New Derivative Test for. Attention is directed to the fact that early students of morphine chemistry named the product resulting from heating morphine in sulfuric acid, "sulphomorphid." What actually happens is discussed, procedure for obtaining crystalline sulfomorphid is given, also color reactions, insoluble sulfomorphid, soluble sulfomorphid, the reaction with codeine and dionine and the purple fluorescence test for morphine. The authors make the following conclusions: (1) The crystalline derivative of morphine, discovered by the writer which is formed by warming the morphine in concentrated sulfuric acid at about 40° C., is probably identical with apomorphine-sulfonic acid as prepared and described by Kitasato and Goto. (2) With further heating in the concentrated acid the compound undergoes another change, probably a further sulfonation. This second compound is the "sulphomorphid" of early investigators of morphine chemistry. (3) A new derivative test for morphine is given, the purple fluorescence test, which is based on conversion of the morphine to insoluble sulfomorphid (apomorphine-sulfonic-acid).—W. M. LAUTER and A. M. STAUFF. *J. Am. Pharm. Assoc.*, 26 (1937), 726. (Z. M. C.)

Morpholine—Physical Constants of. The physical constants of morpholine dried over sodium are: boiling point (760 mm.) 128.9° C., freezing point −4.9, density, Gm./cc. 0.9994 20/4° (vacuum) refractive index, n_D^{20} 1.4545, molecular refraction (observed) 23.6°, (calculated) 23.72, viscosity (poises at 20°) 0.0223, surface tension at 20°, dynes/cm. 37.5, parachor (observed) 215.7, (calculated) 213.3.—V. H. DERMER and O. C. DERMER. *J. Am. Chem. Assoc.*, 59 (1937), 1148. (E. B. S.)

Morpholine—Preparation of. A study of the reaction of sulfuric acid on diethanolamine showed that the latter can be quantitatively transformed into morpholine by slowly running 100 parts of diethanolamine into 180 parts of 66° Bé. sulfuric acid with vigorous stirring and cooling with a current of cold water, and by heating the mixture between 175° and 180° C. for 7 to 8 hours (care should be taken not to exceed the higher temperature). The distillation of the carefully neutralized reaction mixture gave morpholine which was converted into the hydrochloride for estimation and purification.—L. MÉDARD. *Bull. soc. chim. France*, 3 (1936), 1338–1343; through *Chimie & Industrie*, 38 (1937), 107. (A. P.-C.)

Mould Tissue—Chemistry of. XII. Isolation of Arginine, Histidine and Lysine from Aspergillus Sydowi. Arginine, histadine and lysine were isolated from *Aspergillus sydowi* and identified by examination and analysis of suitable derivatives. Histidine and lysine were isolated from an autolysate of the mycelium, but arginine could not be obtained from such a solution, as it was destroyed during autolysis: Arginine was isolated from both the water extract of the mycelium and the acid hydrolysate of the water-insoluble residue. Most of the arginine was present in the combined form.—D. W. WOOLLEY and W. H. PETERSON. *J. Biol. Chem.*, 118 (1937), 363–370; through *Physiol. Abstr.*, 22 (1937), 871. (F. J. S.)

Nitric Acid—Quantitative Determination of Small Quantities of, by Means of Phenoldisulfonic Acid. A comparative study based upon the use of Nessler comparator tubes and the Leitz immersion colorimeter gave by the latter deviations of ±0.5% from the known nitrate content; whereas for the former the differences were 7.15%/−7.11% or 10.02%/−10.26%, depending upon the nitrogen as nitric acid content. The use of alkaline potassium sodium tartrate solution (Fehling's solution II) proved to be of value in inhibiting the precipitation of calcium and magnesium salts in hard waters.—E. REMY and H. ENZENAUER. *Arch. Pharm.*, 274 (1936), 435. (L. L. M.)

Nitrogen Determination—Rapid Kjeldahl Method for. Use of the reaction mixture containing sodium sulfate, copper sulfate and selenium gives results in excellent agreement with the original Kjeldahl method, but in a much reduced time, when applied to yeast (fresh or dried) or molasses. Details of the procedure are quoted. Addition of mercury to the reaction mixture gives unsatisfactory results with these materials.—B. DREWS. *Z. Spiritusind.*, 60 (1937), 175; through *J. Soc. Chem. Ind.*, 56 (1937), B., 829. (E. G. V.)

Organo-Metallic Compounds—Detection and Determination of, Especially of Lead Tetraethyl and Nickel Carbonyl. The red coloration of dithizone (I) in presence of lead affords a very sensitive and rapid method of determining lead tetraethyl (II) (6 volumes-% or more in petrol). The II is first decomposed with ultraviolet light and excess of I removed with aqueous

potassium cyanide. Nickel carbonyl is determined with dimethylglyoxime in ethyl alcohol or acetone solution. Full details of these methods are given.—B. STEIGER. *Petroleum*, 33 (1937), No. 27; *Motorenbetr.*, 10, 3–6; through *J. Soc. Chem. Ind.*, 56 (1937), 1131. (E. G. V.)

Phenol—Sensitive Test for, with Fast Red B and Its Application in Microchemistry. Phenol and allied compounds, such as pyrocatechol, resorcinol, hydroquinone, phloroglucinol and pyrogallol, react with Fast Red B to give reddish colorations. The dyestuff is *p*-nitromethoxybenzenediazotate. It couples with phenol in the cold, best with the container in ice. The aqueous chilled solution of the reagent is treated with a little lithium carbonate and then mixed with the ice-cold solution to be tested. The test can also be carried out on the spot plate, but better results are obtained on a microscopic slide. The test is sensitive to 0.00002 mg. of phenol.—Y. KONDO. *Mikrochemie*, 19 (1936), 214–219; through *Chimie & Industrie*, 38 (1937), 31. (A. P.-C.)

Quinine—Determination of, a New Method for. Quinine, quinine hydrochloride and flavianic acid are readily soluble in commercial ethyl acetate, whereas quinine flavianate is very slightly soluble. By a micro-method, quinine was readily determined in water, urine, liver, lung, kidney, spleen, adrenals, brain, blood, muscle, bone marrow, gastric and intestinal contents of rabbits. At least 0.8 mg. of quinine should be present. Quinine was administered orally to a number of healthy subjects. Flavianic acid was added to the combined urines, the flavianate collected and recrystallized from water. Long needles were obtained, m. p. 260–272°, which is higher than for quinine flavianate. Combustion analyses showed carbon 48.87, hydrogen 4.28 and nitrogen 8.62%, which agrees with the flavianate of dihydroxyquinine. Neither the melting point, the softening point nor the ultraviolet spectrum agreed with quinidine, cinchonidine, cinchonine, apoquinine, quinicine, quininone, quinine oxide, quininic acid, chitenine or dihydroquinone.—HACHIO SHIMOKAWA. *J. med. Assoc. Formosa*, 34 (1935), 1214–1223, 1224–1228; through *Chem. Abstr.*, 31 (1937), 8116. (F. J. S.)

Rancidity. The agents responsible for the Kreis test for rancidity can be removed by treatment with adsorptive charcoals.—HARRIS and WELCH. *Oil and Soap;* through *Am. Perfumer*, 34 (1937), 44. (G. W. F.)

Rancidity. The Stamm reaction for determining rancidity is discredited. The reaction, as modified by Korpaczy, is useful for testing lard and beef fat, but inapplicable for vegetable, seed and marine oils.—ROSCHEN and LEHMANN. *Oil and Soap;* through *Am. Perfumer*, 34 (1937), 44. (G. W. F.)

Rancidity—Detection of, in Fats and Oils. Rancidity is best detected by the Kreis reaction, together with the investigation of the peroxides. Viscosity and refractivity do not give reliable indications.—P. ROUZAUT. *Ind. Quim.*, 2 (1936), 39–40; through *J. Soc. Chem. Ind.*, 56 (1937), 1077. (E. G. V.)

Seeds—Determination of the Oil Content of, by the Refractometer. Two grams of ground seed are covered with 15 cc. of chloroform for 12 hours. The oil content is calculated from the refractive index of the solution.—A. RASTERNIAEV. *Maslob. Zhir. Delo*, No. 3 (1934), 10; through *J. Soc. Chem. Ind.*, 56 (1937), B., 806. (E. G. V.)

Seeds—Determination of the Oil Content of. II. New Extraction Apparatus. The extraction tube is arranged so that the seeds are exposed to the hot vapor of the solvent.—P. ZAITSCHENKO. *Maslob. Zhir. Delo*, No. 5 (1934), 18; through *J. Soc. Chem. Ind.*, 56 (1937), B., 806. (E. G. V.)

Sodium, Potassium, Calcium and Magnesium—Application of Spectrographic Analysis to the Quantitative Determination of, in Biological Fluids. A quantitative method of spectrographic analysis for biological fluids is presented. The method has some advantage over chemical methods in speed, as, after the solutions are prepared, one man can easily carry out the analysis for all four metals (sodium, potassium, calcium and magnesium) in a day.—K. B. THOMSON and W. C. LEE. *J. Biol. Chem.*, 118 (1937), 711–721; through *Physiol. Abstr.*, 22 (1937), 761. (F. J. S.)

Sparteine—Highly Sensitive and Specific Microchemical Reaction of, with Cobalt and Iron Salts. By means of a strong solution of cobalt thiocyanate it is possible to detect one γ of sparteine. A blue precipitate is obtained which shows strong double refraction in the polarization microscope with crossed nicols and the same color with parallel nicols. This is the most sensitive test yet found for this alkaloid. Nicotine reacts with the reagent but there is no danger of mistaking the precipitate and the same is true of quinine. A reagent prepared by dissolving forty Gm. of

ammonium thiocyanate and five Gm. of sparteine sulfate in 100 cc. water is a very sensitive reagent for cobalt and ferric ions. A blue color is obtained with cobalt and a red with iron.—A. MARTINI. *Mikrochim. Acta*, 1 (1937), 164–167; through *Chem. Abstr.*, 31 (1937), 7797. (F. J. S.)

Sucrose and Melizitose—Determination of, in Honey. Conifer honey contains melizitose (I), a non-reducing disaccharide hydrolyzable by hydrochloric acid but not by invertase (II). The direct reducing sugars in a defecated honey solution are determined and destroyed by a copper reduction method and the remaining sugars are determined (*a*) after hydrolysis with II and (*b*) after acid hydrolysis. Then (*a*) gives the sucrose and $1.43(b\text{-}a)$ the I contents since the reducing value of the latter is only 0.7 times the former after hydrolysis.—T. VON FELLENBERG. *Mitt. Lebensm. Hyg.*, 28 (1937), 139–149; through *J. Soc. Chem. Ind.*, 56 (1937), 1114. (E. G. V.)

Sulfurous Acid—Free, Micro-Titration of, Applicable to Wines. The wine is distilled with phosphoric acid in a current of carbon dioxide. Sulfur dioxide is absorbed in neutral 3% hydrogen peroxide. The sulfuric acid formed is titrated with 0.02*N*-sodium hydroxide.—C. SUMULEANU, M. BOTEZATU and T. NICOLAU. *Ann. sci. univ. Jassy*, 23 (1937), 265; through *J. Soc. Chem. Ind.*, 56 (1937), B., 830. (E. G. V.)

Water—Determination of, in Vegetable Oils. Ten to fifteen grams of oil and 1–2 Gm. of 88–90% glycerol (I) are shaken for 5 minutes and centrifuged, the operation is repeated, and the water content of the I determined refractometrically. The water content of the oil is given by $0.03 + 769p(n_0 - n)/m$, where n_0 and n are the refractive indices before and after shaking, and p and m are the number of Gm. of I and of the oil taken, respectively. Should the oil be completely anhydrous it will extract water from the I until it contains 0.03% of water.—P. Z. ZAITSCHENKO, V. P. RSHECHIN and N. I. POGONKINA. *J. Applied Chem. Russ.*, 10 (1937), 908–916; through *J. Soc. Chem. Ind.*, 56 (1937), 941. (E. G. V.)

PHARMACOGNOSY

VEGETABLE DRUGS

Coriander Seed—Soap from. The seeds contain 11–20 per cent of a fatty oil which gives soft sodium and potassium soaps of a pleasant odor.—F. NEVOLIN and A. KOLIV. *Maslob Zhir. Delo*, No. 6 (1934), 23; through *J. Soc. Chem. Ind.*, 56 (1937), B., 805. (E. G. V.)

Lavandin—Industrial Cultivation of. Since the World War the maximum annual production of oil of lavender was 150,000 Kg. at 300 francs per Kg. True oil contains 38 to 50% of linalool esters, hybrids 18–28%, and aspic 3–10%. On one hectare 8000–10,000 lavender plants are needed, giving 2000 Kg. of flowers, yielding 13–18 Kg. of oil, worth 2300–2600 francs. On one hectare 5000 to 6000 lavandin plants (a cross of fragrans with latifolia) gave 8000 Kg. of flowers, yielding 80 to 100 Kg. of oil worth 3000 to 5000 francs.—R. M. GATTEFOSSE. *La Nature*, No. 2989 (1936), 461–464; through *Chem. Abstr.*, 31 (1937), 7599. (F. J. S.)

Quinotoxine—Presence of, in Cinchona Bark. Quinotoxine, an isomer of quinine, is not normally present in cinchona bark. Samples of bark exposed to light and air in a show window for 3 years gave a positive test for quinotoxine and had a total alkaloidal content of 5.76%.—C. MASINO. *Boll. chim.-farm.*, 75 (1936), 297–299; through *Chimie & Industrie*, 38 (1937), 100. (A. P.-C.)

Tonca Beans. The tonca bean is the seed of large leguminous trees of the genus Dipteryx, native to tropical South America, particularly the forest regions of Venezuela, Brazil and the Guianas, the greater part of the commercial supplies coming from *Dipteryx odorata*. Experimental plantings were made in Trinidad, the tonca bean proved its capacity to thrive and bear well. The fruit, or pod, of the tonca bean tree is about three or four inches long, rather resembling a small mango or a very large plum, with a fleshy outer part covering one almond-like seed, about $1^3/_4$ inches by $^5/_8$ inch, enclosed in a hard shell. The average annual yield of dried beans from a fully grown tree is given as about 10 lb. The tonca bean tree is free from serious pests and diseases. In the crop season the ripe fallen fruits are gathered, dried until the pulp shrivels, and later carefully cracked to allow the removal of the beans. The beans are sun-dried, and subsequently cured or "crystallized." This is done by packing them in large casks which are then filled up with strong rum, about 20° over proof, or industrial alcohol of similar strength. After steeping for one or two days the rum is drained away and the beans, now plump and black, dried in the shade, when they become wrinkled and needle-like crystals of coumarin form on their

surfaces, giving them a frosted appearance. The coumarin is the result of post-mortem chemical changes.—ANON. *Perfumery Essent. Oil Record*, 28 (1937), 383. (A. C. DeD.)

Ylang-Ylang—French Colonial. The ylang-ylang is a tree which reaches a height of up to 15 to 20 metres and which blooms throughout the whole year. The flower, green at the moment of opening, matures rapidly, with the acquisition of a yellow tint, and the gathering is carried out after some 15 to 20 days, when the flowers have become quite yellow. Distillation is carried out in the presence of water with cohobation of the runnings, and it can be effected in a simple still. Distillation is made in stills of tinned copper, using the double-bottom method, with intermittent introduction of direct steam. Ylang-ylang flowers give on distillation a total yield of 1.5 to 2.5 per cent of oil. The constants for the oil are given.—L. TRABAUD. *Perfumery Essent. Oil Record*, 28 (1937), 406. (A. C. DeD.)

PHARMACY

GALENICAL

Cod Liver Oil and Vitamin A Preparations. The vitamin A and D content of these preparations is subject to variations by many factors. While vitamin D in oily solution is relatively stable, vitamin A is easily influenced, particularly by oxidation. While the oil should be standardized and assayed for both -A and -D when prepared, the assay for vitamin A, which can be made easily and rapidly by spectrographic means, may be taken as an index of the extent of change occurring on storage, for if the vitamin A content is unchanged, the vitamin D content will not have changed. The procedure for determining vitamin A spectrographically is as follows: 1 Gm. of cod liver oil is heated with 10 cc. of freshly prepared $N/2$ alcoholic potassium hydroxide under a reflux condenser until the liquid is clear. In most cases only 5 minutes' heating is required. Twenty cubic centimeters of water are added and the liquid, when cool, extracted three times with 25-cc. portions of peroxide-free ether. The combined ether extracts are then washed with 15 cc. water, with 15 cc. $N/2$ aqueous potassium hydroxide, and finally with three portions of 15 cc. water to remove the last traces of saponification product. The shakings should be neither too vigorous nor too long, otherwise oxidation of the vitamin A by atmospheric oxygen will occur. The ether is then removed on a water-bath at the lowest possible temperature, and the residue dissolved in normal benzene and made up in a volumetric flask to a definite volume. The results are reproducible within $\pm 5\%$, whereas the biological method is lengthy and gives much larger variations. No vitamin A is lost during the assay if the conditions are carefully observed. Of 7 commercial samples studied, 6 were found to vary in vitamin A content from 700 to 1300 international units/cc., while one sample which closely resembled the others contained no vitamin A as the result of oxidation on storage. Storing of cod liver oil in colorless glass bottles for 5 months caused an appreciable loss of vitamin A activity. Samples stored in a similar manner in brown glass bottles lost, on an average, 22% of the vitamin A content, while samples stored in a cool, dark place were completely stable.—L. FUCHS and E. SOOS. *Scientia Pharm.*, 8 (1937), 141. (M. F. W. D.)

Diacolation. Diacolation is a method of precolation under pressure so that minimum amounts of solvent are necessary. The construction of a diacolator and its application to the preparation of fluidextracts are described.—C. MASINO. *Boll. chim.-farm.*, 76 (1937), 333–334, 337–338, 341–344; through *J. Soc. Chem. Ind.*, 56 (1937), 854. (E. G. V.)

Opium—Extracts of, Temperature of Evaporation of. The Swiss Pharmacopœia is inconsistent in the temperatures directed to be used in the preparation of extract of opium in that the extractive is once warmed to 65° and later directed to be concentrated at 40° or less and its solutions for injection to be sterilized at 60°. The author prepared several extracts and concentrated them separately at 30–40°, 45–50° and 60–65°. The evaporation at these temperatures did not appear to cause any appreciable differences in appearance, in alkaloidal strength or in the solubility or hygroscopicity of the extract so obtained. Thus the temperature for concentration as directed in the pharmacopœia is unnecessarily low and time-consuming.—C. BÉEGUIN. *Schweiz. Apoth.-Ztg.*, 76 (1938), 25. (M. F. W. D.)

Senga Fluidextract—Preparation of. Methods of extraction are described.—C. J. T. MADSEN. *Dansk Tids. Farm.*, 11 (1937), 165–176; through *J. Soc. Chem. Ind.*, 56 (1937), 1131. (E. G. V.)

Tincture of Valerian—Preparation of, According to the Swiss Pharmacopœia V. The author describes the small scale cultivation of valerian, the preparation of the roots, and the manufacture of the tincture from the fresh roots. If the roots are dug in the morning, the preparation of the tincture can be completed in one day. One hundred clumps of roots yield Kg. of tincture of valerian.—BÄNNINGER. *Schweiz. Apoth.-Ztg.*, 76 (1938), 13. (M. F. W. D.)

DISPENSING

Apomorphine. The emetic power of apomorphine may last as long as ten years when kept as a solid, even when its color has changed. Apomorphine solutions lose their emetic power after six months or when sterilized in a water-bath.—LUCIANO F. LAURINO. *Rev. facultad agron. vet., Univ. Buenos Aires*, 8 (1936), 323-325; through *Chem. Abstr.*, 31 (1937), 7593. (F. J. S.)

It Can Be Done. Another group of difficult prescriptions is discussed and procedure for filling them given.—J. LEON LASCOFF. *J. Am. Pharm. Assoc.*, 26 (1937), 823. (Z. M. C.)

Marshmallow—Syrup of. Prepared by macerating in alcohol and adding simple syrup. Contains calcium oxalate and is a mucilaginous extract. May be stabilized by use of glycerine. Formerly it was forbidden to use balsam of tolu, an asininity now antiquated.—HEITOR LUZ. *Tribuna farm.*, 5 (1937), 103. (G. S. G.)

Ointment. Claim is made for a stable ointment containing more than 0.1% by weight of a hypohalogenite in a base containing one or more of the following: zinc oxide, titanium oxide, zinc carbonate, bismuth sulfocarbolate, hydrated bismuth oxide, bismuth oxychloride and bismuth subgallate.—LARRY J. BARTON, assignor to CLOROX CHEMICAL CO. U. S. pat. 2,095,092, Oct. 5, 1937. (A. P.-C.)

Pineapple Syrup. A formula for a syrup of pineapple is submitted for possible inclusion in a subsequent edition of the National Formulary. It would serve as a vehicle for medicines.—BERNARD FANTUS and H. A. DYNIEWICZ. *J. Am. Pharm. Assoc.*, 26 (1937), 857. (Z. M. C.)

Prescriptions—Useful Skin. A number of prescriptions selected from the literature of the past few years are given. They are useful for burns, eczema, fungus infections of the feet, pediculosis corporis vel pubis and urticaria.—ANON. *Prescriber*, 31 (1937), 341. (A. C. DeD.)

Tutocaine—Sterilization of, in Aqueous Solution and in the Presence of Adrenalin. Solutions of tutocaine (2 cc. of 2% solution) with adrenaline (5 drops), even when in sealed tubes, began to turn yellow within a week after sterilization. However, when 0.15% benzoic acid and 0.20% sodium bisulfite were added, the solution was still colorless after it stood 13 months.—GINO BARATTINI. *Ann. chim. applicata*, 26 (1936), 558-560; through *Chem. Abstr.*, 31 (1937), 7594. (F. J. S.)

PHARMACEUTICAL EDUCATION

American Association for the Advancement of Science—Pharmacy and the. A brief discussion of the relations of organizations and workers in pharmacy to the American Association for the Advancement of Science.—HENRY BALDWIN WARD. *J. Am. Pharm. Assoc.*, 26 (1937), 752. (Z. M. C.)

English for Pharmacists. The author discusses at some length the teaching of English in schools of pharmacy and particularly how it is taught at Western Reserve University. The paper contains much of value in it for pharmacists who have completed their college courses.—ADELAIDE E. HARRIS. *J. Am. Pharm. Assoc.*, 26 (1937), 849. (Z. M. C.)

Iowa Interprofessional Association—Its Purpose and Possibilities. The author directs attention to the rapid changes that have occurred in pharmacy and relates how the Iowa Interprofessional Association came to be organized. The objectives, as they are stated in the constitution, are discussed individually and the possibilities of this organization and for interprofessional relations generally are presented.—WALTER F. MEADS. *J. Am. Pharm. Assoc.*, 26 (1937), 755. (Z. M. C.)

PHARMACEUTICAL LEGISLATION

Census of American Business—Chain and Independent Drug Store Situation as Revealed by the. A thorough discussion of some of the findings of census with suggestions about what may be done.—FRANK A. DELGADO. *J. Am. Pharm. Assoc.*, 26 (1937), 292. (Z. M. C.)

Chemical Patent Laws in Europe. IV. The patent laws of Hungary are reviewed.—ANON. *Riechstoff-Ind. Kosmetik*, 12 (1937), 191–192. (H. M. B.)

Homeopathic Conference—International, Things of Pharmaceutical Interest from. A report is given of the topics of pharmaceutical interest discussed at the homeopathic congress held in Berlin, Aug. 8th to 15th.—K. HAAS. *Schweiz. Apoth.-Ztg.*, 75 (1937), 606. (M. F. W. D.)

Medicinal Economics and Pharmacy. Some reasons why medical economics committees should be representative of all groups concerned with the cost of medical care.—R. T. LAKEY. *J. Am. Pharm. Assoc.*, 26 (1937), 831. (Z. M. C.)

Narcotics—Exempt, under the Uniform State Narcotic Act—Status of. Names of states which have passed the law are given, also the history and purposes of the law. The definition of cannabis is no longer adequate and changes have been made in Maryland and also in the bill passed by Congress in 1937. The question of exempt narcotics is discussed in some detail. The Uniform State Narcotic Act departs from the federal law by providing that official written order forms may be supplied: (*a*) To a manufacturer, wholesaler, pharmacist or pharmacy owner. (*b*) To a physician, dentist or veterinarian. (*c*) To a person in charge of a hospital, but only for use by or in that hospital; provided, the official written order is signed by a physician, dentist, veterinarian or pharmacist connected with such hospital. (*d*) To a person in charge of a laboratory, but only for use in that laboratory for scientific and medicinal purposes. In effect these limitations restrict the sale and distribution of cannabis and its preparations and exempt narcotics "to those enumerated, in reality to professionally trained people." No enforcement activity exists in the states that have adopted the law. What this involves is discussed. An attempt has been made to deal with the situation in Maryland. The provisions of the Uniform State Narcotic Act when carried out should be all that is necessary to handle the situation in the states.—ROBERT L. SWAIN. *J. Am. Pharm. Assoc.*, 26 (1937), 835. (Z. M. C.)

Pharmaceutical Administration in Estonia. A review of the methods which have been used to supervise the practice of pharmacy in Estonia since April 1, 1936.—ANON. *Pharm. Ztg.*, 82 (1937), 644. (N. L.)

Pharmaceutical Inventions—Early American. Formerly a model of an invention had to accompany application for patent. Now only a drawing is required. The collection of models was disposed of. Those sent to the Division of Medicine of the United States National Museum include those of pharmaceutical nature. In this paper the author gives a brief description of more than forty patented articles and there are illustrations of several cases of them with a guide to the numbers.—CHARLES WHITEBREAD. *J. Am. Pharm. Assoc.*, 26 (1937), 918. (Z. M. C.)

Trade-Marked Articles—Monopoly and Competition in. Attention is directed to the importance in any study of trade-marked articles, of considering the economic concepts concerning monopoly and competition as well as remedies and procedure in protecting rights of public and trade-mark owner. The economic concepts and standards of legality are considered, a trade-mark is defined and its objects stated. Infringement and its remedies are discussed and a number of cases cited. The pharmacist's duty is very definitely set forth.—B. OLIVE COLE. *J. Am. Pharm. Assoc.*, 26 (1937), 738. (Z. M. C.)

PHARMACEUTICAL HISTORY

Apothecaries—German, History of, in Siebenbürgen and Banat.—ERNST BOTH. *Apoth. Ztg.*, 52 (1937), 1051–1053. (H. M. B.)

Apothecaries—Saxony, Development of, until the Middle of the 19th Century. Historical.—A. ADELUNG. *Apoth. Ztg.*, 53 (1937), 1061–1064, 1079–1082. (H. M. B.)

Basle Pharmaceutical Association—75th Anniversary of. The author gives a brief history of the beginning of drug stores in Basle and of the development of several Swiss pharmaceutical societies.—O. ESS. *Schweiz. Apoth.-Ztg.*, 75 (1937), 566. (M. F. W. D.)

Himmelbaur, Wolfgang—Obituary of. A brief biographical sketch.—R. WASICKY. *Scientia Pharm.*, 8 (1937), 117. (M. F. W. D.)

Keller, Dr. O. Biographical sketch of this Jena pharmacist.—ANON. *Apoth. Ztg.*, 52 (1937), 1040–1041. (H. M. B.)

Linde, Dr. Otto, of Braunschweig—a Life of True Fulfilment of Duty. Biographical.—W. KERN. *Apoth. Ztg.*, 52 (1937), 1064–1065. (H. M. B.)

Pharmacy—History of. History of pharmacy is valuable because it stimulates a love of the profession. A study of the history of pharmacy will suggest the fields of science that are the best grounds for further research, and will indicate what is yet undeveloped and indefinite. A complete history of pharmacy has yet to be written, but a handbook is described which, it is said, will serve as an inducement to many to make a more thorough study of a subject of fascinating interest. The bibliography provided at the end of this book will undoubtedly be a help in this direction. In Part I is summarized the medicine of ancient Egypt, Babylonia and Assyria, and then deals with Hebrew medicine and the emergence of the art of pharmacy in the Greco-Roman period. Part II is devoted to herbal remedies and active principles, with historical sketches of selected drugs, and includes accounts of adulteration and sophistication as practiced in ancient times, leading on to analytical chemistry. In Part III is a brief sketch of alchemy and its development into the science of chemistry, together with an account of the evolution of the pharmacopœia. Part IV contains a description of some of the strange animal remedies employed in ancient times, a survival of which we have in a more refined form in the organo-therapy of today. The concluding Part V is devoted to "Poisons and Antidotes" and the rise of toxicology in the Eighteenth Century, together with a summary of poison legislation and drug addiction.—C. J. S. THOMPSON. *Pharm. J.*, 139 (1937), 651. (W. B. B.)

State Association Proceedings—a Plea for the Collection and Preservation of. The author presents a plea for this effort in the interest of pharmaceutical history and urges that association secretaries who usually retain office for some time become the archivists of all documents.—EDWARD KREMERS. *J. Am. Pharm. Assoc.*, 26 (1937), 655. (Z. M. C.)

Swinemünde—150 Years of the Adler Apothecary.—ANON. *Apoth. Ztg.*, 52 (1937), 1144–1145. (H. M. B.)

PHARMACOPŒIAS AND FORMULARIES

Pharmacopœia—New Portuguese. A review.—WILLY LINDNER. *Apoth. Ztg.*, 52 (1937), 1092–1093, 1118–1121, 1170–1174. (H. M. B.)

Pharmacopœia—New, a Study of. The article is a reprinting of an address pointing out some inconsistencies of the Swiss Pharmacopœia and recommending some changes.—C. BÉGUIN. *Schweiz. Apoth.-Ztg.*, 75 (1937), 673. (M. F. W. D.)

Pharmacopœia of U. S. Translated into Spanish. The U. S. P. XI has been translated into Spanish for use of Latin American countries. Is a work of scientific collaboration between scientists of international reputation. Editorial.—*Bol. Oficina Sanit. Pan-Americana*, 16 (1937), 888. (G. S. G.)

U. S. P.—Error in. The limit of insoluble residue upon evaporation of floral waters in the U. S. P. is set at 0.001%. This is criticized on the grounds that usual methods of manufacture do not permit such a small amount and the figure 0.004% is suggested. Editorial.—*Am. Perfumer*, 35 (1937), 47. (G. W. F.)

NON-OFFICIAL FORMULÆ

Cosmetics for the Skin. IV. Oily (or Fatty) Cosmetics. Oily or fatty cosmetics include oily or fatty pigments and coloring matter, as Sudan dye and lakes, or oily or fatty bases, as vaseline, liquid petrolatum, ceresin, paraffin, wax, lanolin, stearin, triethanolamine, etc. A number of formulas for the preparation of cosmetics containing oily or fatty substances are given, and the perfuming and coloring of such preparations are discussed.—H. JANISTYN. *Seifensieder Ztg.*, 64; *Der Parfümeur*, 11 (1937), 418–420. (N. L.)

Emulsifiers—New Cosmetic. The uses of glycol glyceryl stearate and laurate are discussed and the following typical formula for a cold cream is given: glycol glyceryl stearate 12 Gm., petrolatum 9, paraffin wax 6.5, mineral oil 14, diethylene glycol ether 3, water 55.5. Dissolve the ether in the water heated to 65–70° C. The oils and waxes are melted together and heated to about the same temperature; add the water solution slowly with stirring to the oil-wax mixture at about 60–65° C. Almond oil may replace the mineral oil and lanolin the petrolatum.—EDWARD ROSENDAHL. *Drug and Cosmetic Ind.*, 41 (1937), 497–498. (H. M. B.)

Inhalations for Chronic Laryngitis. The following inhalation, four times daily, has been found useful for dispersing the inflammation: (1) oil of lemon, oil of thyme, of each 20 drops; tincture of tolu, 20 Gm.; tincture of benzoin, 100 Gm.; (2) tincture of tolu, tincture of myrrh, of

each 30 Gm.; tincture of eucalyptus, 60 Gm.; (3) powdered menthol, Peruvian balsam, oleoresin of turpentine, of each 5 Gm.; tincture of eucalyptus 300 Gm. The last of these is specially indicated in stubborn cases. The temperature of the water used for the inhalations should be about 80° C.; boiling water should never be employed. Smoking and alcohol should be prohibited.—M. BOUCHET. *Med. Internat. Illust.* (Oct. 1936), through *L'Union pharm.*, 78 (1937), 73; through *Quart. J. Pharm. Pharmacol.*, 10 (1937), 594. (S. W. G.)

Lipsticks—Preparation of. The details of manufacture are given and the following formulas offered: (1) Beeswax 50 Gm., ceresin 63, paraffin, 55, lanolin 20, liquid petrolatum 50 and spermaceti 12. Mix this mass (per 100 parts) with the following color mixture: Middle red 22 Gm. and Fixative red 1 No. 46, 3.5 Gm.; (2) *Oxidizing Lipstick.*—Lanolin 60 Gm., ceresin 25, cetiol, 34, hydrogenated peanut oil 50, beeswax 131. Preserve with about 0.6 Gm. Nipasol. Color with about 7–8 Gm. eosin treated with sulfuric acid; (3) Ceresin 200 Gm., white wax 15, cocoa butter 100, lanolin 60, liquid petrolatum 150. Color with 15% of the weight of the mass of Alloxan; (4) cocoa butter 100 Gm., stearin 50, lanolin 100, beeswax 50, liquid petrolatum or sesame oil 30. For each 100 parts of the mass color with 6–8 Gm. of fat soluble red dye; (5) Ceresin 40 Gm., almecerin 30, stearin 30, olive or peanut oil 100, beeswax 140, liquid petrolatum 30, olive oil 30, ceresin 60, paraffin 40, beeswax 20; preserve with Nipasol or Nipagin.—KENAN. *Riechstoff-Ind. Kosmetik*, 12 (1937), 182–185. (H. M. B.)

Manicure Products. Powder and paste polishes have been almost completely replaced by lacquers consisting of nitrocellulose with the addition of a so-called plasticizer to give flexibility to the film, gum to increase adhesion and a resin to increase lustre and hardness of the film. All these ingredients are dissolved in a suitable solvent which must evaporate at a moderate speed, should not mix with water, must dissolve the chief ingredients and deposit them uniformly. The color may be a soluble dye or insoluble finely ground pigment. The best polish removers are probably the various glycol solvents (ethers, esters) because they have intermediate boiling points, are not strong solvents for natural oils and mild in odor; a small amount of vegetable oil or lanolin may be added for emollient effect. Nail white is available as (1) a cream, a combination of titanium oxide in a vanishing cream, (2) a paste made with methyl cellulose or one of the usual gums and (3) a stick, a beeswax-oil mixture containing pigment. Cuticle removers, oils and creams, nicotine remover and nail bleaches are also mentioned. The following tested formulas are offered: (1) *Polish Remover.*—Glycol methyl ether 97.0, peanut oil 2.5, perfume 0.5, (2) *Polish Remover.*—Glycol ethyl ether 46.0, ethyl acetate 15.0, paraffin 5.5, beeswax 6.5, stearic acid 20.0, triethanolamine 6.0, perfume 1.0, (3) *Nicotine Remover.*—Beeswax 10.0, paraffin 5.0, mineral oil 46.0, pumice 8.0, borax 0.5, water 30.0, perfume 0.5, (4) *Cuticle Remover.*—Potassium hydroxide 3.0, glycerine 8.0, rose water 50.0, water 39.0, (5) *Nail White.*—Stearic acid 22.0, mineral oil 7.5, triethanolamine 2.0, titanium dioxide 7.5, glycerine 7.0, water 53.0, perfume 1.0, (6) *Cuticle Cream.*—Lanolin absorption base 25.0, lanolin 10.0, mineral oil 19.0, water 45.0, perfume 1.0.—JOSEPH KALISH. *Drug and Cosmetic Ind.*, 41 (1937), 492–493, 506. (H. M. B.)

Perfumes—Composition of. The formulas for the following modern, well-known perfumes are given: Acacia, Amaryllis, Amber, Champacablüte, Corylopsis, Eglantia, Fleurs d'Orange, Genista, Glycine, Camellia Blossoms, Cherry Blossoms and Spaniola.—FRITZ SCHULZ. *Seifensieder Ztg.*, 64; *Der Parfümeur*, 11 (1937), 435–436. (N. L.)

Soaps—Coconut Oil, Prepared by Saponification with Carbonate. The preparation (on a small scale) of satisfactory soaps from coconut oil fatty acids, alone, or admixed with other acids, by neutralizing with sodium carbonate, and finishing off with sodium hydroxide (potassium hydroxide) is described.—ANON. *Allgem. Oel- u. Fett-Ztg.*, 34 (1937), 138; through *J. Soc. Chem. Ind.*, 56 (1937), B., 805. (E. G. V.)

Soaps—Solvent-Containing, Preparation of. The preparation of soaps containing solvent (mineral oil, aromatic hydrocarbons), which shall give clear solutions in water, are described. The analysis of two commercial products (one containing aluminum calcium naphthenate and sulfonated acids) is detailed.—E. PYHALA. *Öle, Fette, Wachse*, No. 4 (1937), 1; through *J. Soc. Chem. Ind.*, 56 (1937), B., 805. (E. G. V.)

Tooth Paste. An acidic tooth paste consists of an anhydrous mixture of substances comprising an acid salt of a weakly acid compound such as potassium dihydrogen phosphate or acetylsalicyclic acid, an acid-resisting emulsifying agent such as saponin, calcium carbonate and an oil such as olive oil, etc., with which the other ingredients are incorporated.—GEORG BEHR. U. S. pat. 2,089,529, Aug. 10, 1937. (A. P.-C.)