Report on the Progress of Pharmacy

For the Year 1912

(Sixth Installment.)

Cultivation of Drugs: Suggestions Regarding Its Possibilities with Particular Reference to the British Possessions.—J. H. E. Evans contributed a highly interesting paper at the 1912 meeting of the British Pharmaceutical Conference, written with the purpose of awakening greater interest in the cultivation of drugs in the British possessions. He says that while the government departments in the United States of America, Germany, and elsewhere foster the cultivation of drugs, what advancement is made in Great Britain is almost entirely the result of private enterprise. The facts to which he draws attention in particular are in brevity the following: The present sources of supply of crude vegetable drugs are in quantity and quality, restricted in area, and thus dependent on forces which cannot be controlled—such as weather, time and method of collection, available labor, carelessness in methods of preparing for market. He considers that the influence of the natural causes might often be controlled, both as regards quantity and quality, by systematic cultivation, but such cultivation must be scientific and organized, and some of the conditions to be observed in such cultivation are discussed. He further considers it quite possible that much of the vegetable materia medica might be cultivated in the British Colonies, and that improved methods of transportation would encourage this object. Finally, the author mentions a few products which are at present cultivated more or less successfully: *Calumba,* in Ceylon; *Eucalyptus* and *Patchouli,* in the Tropics; *Belladonna,* in England, France, and America; *Cocoa,* in the West Indies, Ceylon, and Zanzibar; *Kola-nuts,* in the Tropics generally; *Cinnamon,* in Ceylon; *Ginger,* in Japan; *Tumeric,* in the Tropics; *Ipecacuanha,* in India; *Valerian,* in England, Germany, and America; *Manna,* in Sicily; *Benzoin,* in the Straits Settlements, etc.—From Brit. Pharm. Conf., 1912; through Pharm. Jour. and Pharmacist., Aug 3, 1912, 125.

Drugs of German East Africa.—Dr. K. Braun in "Der Pflanzer" describes 73 plant products sold in native markets and Indian bazaars of German East Africa giving native name, uses and method employed. Among those of pharmaceutical interest are the following aromatics: Amber, ajowan from *Carum copticum;* the fruit of *Cuminum Cyminum,* cinnamon, nutmeg, curcuma patchouli and black pepper, while the following are used as medicine: The seed of *Nigella indica* as febrifuge and stomachic; sulphur (in Sesame Oil) for skin troubles; myrrh from *Commiphora Abyssinica* as application to wounds; blue stone (with bruised leaves of *Vigna sinensis*) used as caustic paste for cancerous growth; asafoetida, chiefly as an amulet; senna as purgative; dill (in watery paste) for rubbing the breast in fever; ginger (in watery paste) for rubbing forehead in headache; foenugreek (decoction) in gonorrhoea; black antimony as cosmetic. Unfortunately, while the writer occasionally mentions that a certain article is imported, he makes no clear distinction, especially as far as spices are concerned, as to which are native grown.—Schw. Wschr. f. Chem u. Pharm. L (1912), No. 20, 289.

H. V. A.

Japanese Aconite Root: Botanical Source. At the meeting of the British Pharmaceutical Conference, 1912, Mr. E. M. Holmes contributed an exhaustive research regarding the botanical source of Japanese aconite root, which, as is well known, is referred in most text books to *Aconitum Fischeri.* The results of his research, which is given in great detail, lead him to the belief that this reference is incorrect. He says there is so little known of the aconites cultivated for ornament or medical use in Japan that it is not astonishing if an error should have occurred.

Even the illustrations of *Aconitum Fischeri* in native Japanese works on botany appear to represent different species, and the specimens in the British national herbaria apparently also represent several species under one name. The author's present researches, however, leave but little doubt that the bulk of Japanese aconite root of English commerce is the product of *Aconitum uncinatum,* var. *Japonicum,* Regal, and that possibly mixed with it occur the roots of "Dzuru or Tsuru torikabuto," which has been identified by Dr. Shimoyama as the *Acontium volubile,* Pallas. Either to this plant or to *Aconitum Napellus,* apparently, belong the roots with a stellate meditullium found in Japanese aconite. But while there seems to be some confusion between the two twining plants, *A. volubile* and *A. uncinatum* var. Japonicum, there is no doubt in Mr. Holmes' mind that the Japanese aconite is derived from both these species.—Trans Brit. Parm. Conf., 1912; through Pharm. Jour. and Pharmacist, Aug. 3, 1912, 147.

Agar: Microscopical Determination in Jams, Jellies and Similar Fruit Products—Improved Method.—In place of the customary ashing or ashing-methods, Albert Schneider finds it more satisfactory to dissolve about 10 gm. of the substance in 200 cc. of distilled water and centrifugalize for half an hour; decant the supernatent liquid and examine the residue microscopically. If agar has been present, characteristic agar diatoms, undissolved agar fragments and remnants of undissolved parasitic algal forms are found. If the usual ashing or ashing-acid process is used, no matter how carefully, many of these characteristic diatoms are comminuted and destroyed. One or more diatoms and one or more algal remnants in one ordinary slide mount (or 5 to 20 fields of view) is conclusive evidence that agar has been added but it is not possible to determine accurately the amount present. It is essential that only distilled water be used making the examination.—Pacific Pharm., June, 1912, 36.

C. M. S.

Aralia Japonica: A New Glucoside from the Leaves.—According to L. Danzel, the fresh leaves of *Aralia Japonica* (the *Aralia sieboldii* of horticulture) contain glucose and a glucoside, aralin, which is insoluble in water, and is not hydrolysed by emulsion. They contain no water-soluble glucoside. Aralin is extracted by digesting the material in boiling alcohol (96 per cent), filtering while hot, and diluting with water to about 85 per cent of alcohol. On standing, the impure glucoside is thrown down. It is collected, dried and washed with ether, then further purified by re-solution in hot alcohol and reprecipitation. It is finally purified by recrystallization from hot 96 per cent alcohol. It then occurs as a colorless transparent crystalline mass; melting at 260° C.; at 52.5° in alcoholic solution; almost insoluble in most organic solvents except strong alcohol and acetic ether. It contains no nitrogen. When hydrolysed with dilute sulphuric acid it forms insoluble aralidin and glucose. Aralidin separates from alcohol as a very hard, white crystalline mass, melting at 246 to 248° C. It is an acid, combining with alkali carbonates. Aralin appears to be closely allied to hederin, the glucoside of ivy, which belongs to the same natural order.—Journ. de Parm. et Chim., 1912 (5), p. 530.

Bael Fruit: Presence of Starch.—In the microscopical examination of a powder believed to be entirely or in part composed of bael fruit, J. C. Shenstrone was struck with the presence of some tissues which, while resembling the tissues of bael fruit in other respects were loaded with starch grains. Upon referring to descriptions of bael fruit by such careful observers as Flückiger and Hanbury, Dymock, Warden, Hooper, etc., no reference was found to starch grains in bael fruit. The author therefore considered it desirable to examine a number of samples of the fruit, and discovered that whilst bael fruit is mostly composed of tissues devoid of starch, specimens often occur, the cells of which are laden with starch grains. These starch grains are characteristic, being oval compound grains, varying considerably in size, from 0.0063 to 0.013 mm. and 0.005 to 0.01 mm. in breadth. The grains escaping from the cells usually divide in halves along their narrow diameter, each portion resembling a half-egg in shape. These grains respond to the usual chemical and optical tests for starch. Bael fruit offered upon the market varies considerably in size, from 1.5 to 3.5 inches. The specimens in which starch-laden tissue was discovered were from 2.5 to 3.75 inches in diameter. It is likely that the fruit is gathered at varying periods of unripeness, and should subsequent examination show that starch grains are only found in fruits of a certain stage of growth, we may conclude that starch is deposited to provide nourishment for the final effort in the ripening of the fruit.—Trans. Brit. Pharm. Conf., 1912; through Pharm. Journ. and Pharmacist, Aug. 3, 1913, 146.

Japanese Chillies: Botanical Source.—In a paper read before the British Pharmaceutical Conference, 1912, Mr. E. M. Holmes records the results of his investigations regarding the botanical source of the bright red Japanese chillies that have been imported into England during recent years. They are of a brighter color and cleaner appearance than any other in the market, but are deficient in pungency, so that they are preferred for garnishing or for adding to pickles, though unsuitable for making cayenne pepper. After describing the various types of these chillies met with in England, Mr. Holmes remarks that the evidence obtained from his inquiries points to the small Japanese chillies, called "Takanotsumi," as being derived from either *Capsicum conoides,* or *C. frutescus,* or both, and that the slightly larger chillies, called "Tenjuku n amori," are derived from a form of *Capsicum fastigiatum,* Rl., for which he proposes the name *Capsicum fasciculatum.*—Trans. Brit. Pharm. Conf., 1912; through Pharm. Journ. and Pharmacist, Aug. 3, 1912, 149.

Diervilla Florida: Narceine Among the Proximate Constituents of the Fruit.—Lowell E. Dawson has made a proximate examination of the fruit of the "Bush Honeysuckle," *Diervilla Florida,* a shrub of China and Japan, cultivated in our gardens, the fruits examined being gathered at Lisbon, Iowa. The dark red berries, resembling ripe currants in color, are very bitter and produce nausea when a small quantity are eaten. Two berries grow on a stem. They are quite juicy, and the yield is abundant. They yielded 38.04% of sugar which was identified as fructose; 3.75% of fixed oil, difficult to saponify and seemingly belonging to the castor oil group; proteins corresponding in quantity to 2.86% of nitrogen; and 3.5% of ash. The acid tests revealed the presence of both tartaric and citric acid, but the most interesting observation was the presence of an alkaloid which the author regards as being

Narceine, although he has not succeeded in isolating this alkaloid in a pure crystalline condition. The tests described by the author seem to confirm this assumption. While the quantity of this alkaloid has not been determined, it may exist in paying quantities in the fruit if it should prove to be narceine.—Chem. News, July 12, 1912, 18-20.

Digitalis: Relative Activity of Leaves Gathered at Different Times in the Year, of Leaves and Petioles, Etc.—At the meeting of the British Pharmaceutical Conference, Gordon Sharp, M. D., and F. W. Branson reported the results of an investigation undertaken with the object primarily to ascertain if a tincture of digitalis made with 90 per cent. alcohol remained active for a longer time than the ordinary B. P. preparation, made with 60 per cent. alcohol. Incidentally also, other points kept in view refer to the relative activity of the petioles, and of the tinctures prepared from leaves gathered at different times of the year, to leaves growing wild, or partially cultivated, and to leaves from plants which had flowered or had not flowered. The results showed:

(1) That tinctures prepared from the petioles were only about one-half the strength of those prepared from the leaves.

(2) That a potent preparation can be produced from both wild and half-cultivated plants.

(3) That leaves gathered in November are as active as those gathered in August.

(4) That leaves collected from plants which had flowered and from plants which had not flowered were equally toxic.

(5) That there is no apparent advantage resulting from the use of the stronger alcoholic menstruum. Indeed, the results are rather in favor of the 60 per cent. menstruum, since of the nine tinctures prepared from different kinds of leaves with 60 per cent. alcohol, seven were up to the standard at the end of twenty months, whereas only four of those made with 90 per cent. alcohol came up to the standard.

At the end of twenty-eight months only one tincture in each set had retained its standard, both having been prepared from leaves of partly cultivated plants, collected in October and November (1909) respectively.—From Brit. Pharm. Conf. 1912; through Pharm. Journ. and Pharmacist, Aug. 3, 1912, 131.

Dulcamara: Chemical Composition.—G. Masson, commenting on the method of the French Pharmacopœia of preparing extract of dulcamara, observes that however completely the extraction with water has been effected, the drug residue, dried and extracted *de novo* with boiling 95 per cent. alcohol, yields a notable amount of extract. From its green color this was thought to be chlorophyll, which the extract resembles in many ways, but a closer examination showed that chlorophyll was in reality present only in very small amount, and that it consisted largely of saponoids. It is therefore recommended that the drug should be extracted with aqueous alcohol, and the author goes on to show that dulcamarin is not an immediate principle, but a glucoside, resembling and at the same time differing from the solanine of the potato. Besides inactive bodies, e. g., albuminoid, gummy, and saccharine matter, the active principles are stated to be three in number, namely: (1) A non-glucoside saponoid, *dulcamaretic acid;* (2) A glucosidic acid saponoid, *dulcamaric acid;* (3) An alkaline glucoside, *solaceine.* The "solanine" of dulcamara in solution in hot concentrated alcohol deposits from it in the form of a jelly, and in this respect it differs from the solanine of the potato as well as in its product of decomposition. The amount of solaceine found in the plant was an average of 1 per cent.—Bull. Sci. Pharmacol., May, 1912, 283.

Swiss Ergot of 1911: *Quality.*—C. Hartwich describes the ergot collected in the Canton of Luzern in 1911 and states that the dry summer produced unusually large sclerotia, some specimens measuring as much as 7.7 cm. The last Swiss Pharmacopœia directs rejection of all ergot longer than 25 mm. and that on the presumption that small ergot is richer in alkaloid than is the large. Assay of the large ergot of 1911 showed 8.41% water, 15.48% fat, 2.68% ash and 0.096% alkaloid. While this alkaloidal content is less than the average of commercial ergot—e. g., Caesar and Loretz's figures of 1906, 0.027 to 0.364%—Keller's figures of the Swiss ergot of 1893 showed an alkaloidal content of 0.095%—exactly that of the large ergot of 1911—this seeming to show that size did not affect alkaloidal strength.

In the crop of 1911, were found sclerotia that were yellow white, which even spectroscopic examination showed absolutely devoid of the violet coloring matter sclererythrine. This bleached ergot has been called by the collector, Dr. Sidler, *leuco sclerotium,* and while the amount collected was insufficient for an assay, superficial examination gave distinct evidence of alkaloid. The paper concludes with reference to the description of Swiss ergot and illness produced by ergotized rye given in a book of 1717 and the fact that the common name ergot in Switzerland is "Wolff-Zähne," "Roggenbrand" and "Turf," the German "Mutterkorn" not being used by the German-speaking peasants of Switzerland.—Schu. Wschr. f. Chem. & Pharm. L (1912), No. 19, 281. H. V. A.

Ipecacuanha: Glucosidal Constituent.—Some time ago the observation was made by H. Finemore and Dorothy Braithwaite that when ether is added to a concentrated alcoholic extract of Johore ipecacuanha a crystalline precipitate was produced, which proved to be a glucoside, and this precipitate the authors have since obtained (presumably of the same identity) from different specimens of Brazilian (Matto Grasso and Minas) ipecacuanha. In view of the limited knowledge regarding the non-alkaloidal constituents of the drug, the authors have subjected this glucoside, for which they propose the name,

Ipecacuanhin, to nearer examination. When purified by recrystallization it forms tufts of colorless needles, sparingly soluble in cold, but readily soluble in hot water; it is practically insoluble in ether, sparingly soluble in chloroform, acetone, and ethylacetate, but readily soluble in petroleum ether. It appears to be that constituent of ipecacuanha which gives a green color with ferric chloride, the green color being changed to a reddish-purple on addition of sodium carbonate. Ipecacuanhin contained in the root to the extent of at least 0.4 per cent. and is apparently inoccuous, having been introduced intravenously into rabbits in quantities up to 1 gm. without apparent effect. It contains no nitrogen, and is possibly identical with the *ipecacuanhic acid* described by Willick (1850) as an amorphous product from ipecacuanha, to which he assigned the formula $C_{14}H_{18}O_7$. The authors find that ipecacuanhin may be hydrolyzed either by means of dilute acid or emulsin, and that it is a B. glucoside as revealed by the glucosazone obtainable by suitable treatment.—Trans. Brit. Pharm. Conf., 1912; through Pharm. Journ. and Pharmacist, Aug. 3, 1912, 136.

"Lawang" (or Massoi) Bark: Yield and Properties of Volatile Oil.—E. W. Mann has distilled and examined a volatile oil, in a yield of 0.5 per cent. from a bark shipped from the Dutch East Indies, where it passes by the name of "Lawang," but which submitted to Mr. E. M. Holmes was indentified as being one of the barks passing under the name of "massoi-bark," and doubtless derived from some species of *Cinnamomom*, or *Litsea*, or allied genus. The oil, which is heavier than water, possesses a striking odor recalling nutmeg, sassafras, and cloves, and gave the following contents: Sp. gr. at 15.5°, 1.0104; rotation (in 100-mm. tubes) at 20°—6.97°; refact. index at 15.5°, 1.5111 (at 20° =1.5095); acid val., 1.15; sapon. val., 43.02; ester val., 41.87; sapon. val. after acetylation, 121.91. Readily soluble in 2 vol. of 80 per cent. alcohol.— Trans. Brit. Pharm. Conf., 1912; through Pharm. Journ. and Pharmacist, Aug. 3, 1912, 145.

Tragacanth Gum: The Volatile Acidity Compared With That of Indian Gum.—F. O. Emery in comparing volatile acidity of gum tragacanth with that of Indian gum (*Sterculia urens*), found that the volatile acidity of the two was fairly constant: sufficiently so, to serve as a means of detecting or estimating the purity or quantity of either, alone, or in admixture. The volatile acidity of Indian gum was found to be nearly 7.5 times as great as that of tragacanth. The volatile acidity is estimated as acetic acid by treating a 1 gm. sample with water and phosphoric acid, first in the cold, then by boiling under reflux condenser, after which the sample is subjected to steam distillation and the acidity of the distillate titrated with N/10 KOH. The acidity found on gum tragacanth ran from 2.15 to 2.20 per cent: Indian gum gave 15.79 to 15.97 per cent. acetic acid.—Journ, Ind. & Eng. Chem., May, 1912, 374. L. A. B.

Commercial Proteins: Suitability for Pharmaceutical Purposes.—In a paper read before the British Pharmaceutical Conference, 1912, F. W. Crossly Holland calls attention to the more extended use during the last few years of protein substances in various connections, and that at the present time, judging by the attention which is being paid to the properties and possibilities of these substances, we are brought to realize that the near future will probably witness a much wider utilization of the various commercial proteins now offered on the market. The arts have profited by the investigations of proteins, inasmuch as a good deal of this work has resulted in its practical application to the production of preparations into which protein substances largely enter. This wide employment of protein substances in the arts has led to the inquiry into their suitability for extended employment in pharmacy; and while pharmaceutical uses of proteins are at present restricted, there is every indication of a more extended use owing to the greater interest which is being shown in protein foods and protein compounds of therapeutical and pharmaceutical significance, and prescriptions of the present day support this view. Natural difficulties and disadvantages probably account for the comparatively small position which proteins have hitherto held in pharmacy; but difficulties apart, there is a real and increasing call from the progressive faction of medical men for pharmaceutical protein products, and the author's description of the nature and characters of the available products is therefore both timely and valuable. It must suffice here to simply mention the proteins discussed by the author, these being both of vegetable and animal origin, leaving the detailed description for consultation in the original.

The Vegetable Proteins offering pharmaceutical interest are represented by wheat protein, soja bean protein, and castor oil bean protein. There exist also proteins prepared from various leguminous seeds, but these have no particular interest other than as adulterants of higher priced proteins.

The Animal Proteins which claim pharmaceutical interest are: Egg-albumin, gelatin, serum-albumin, and milk-casein. Animal proteins have found a limited use in pharmacy as emulsifying agents, but—notably the milk-casein—are capable of greater use in pharmacy.—Trans. Brit. Pharm. Conf., 1912; through Pharm. Journ. and Pharmacist, Aug. 3, 1912, 154.

Proteins and Amido Acids: Action of Light and Hydrogen Peroxide.—J. Effront observes that the changes which the proteins and amino-acids undergo by the photochemical action of light are similar to those caused by proteolytic bacteria and aminases. The action of sunlight is due in the first place to the formation of hydrogen peroxide, which in time completely decomposes the protein molecule with formation of ammonia and nitrates. In alkaline solution hydrogen peroxide acts on proteins and amino-acids at the boiling point and completely removes the amino-groups—97-99 per cent. of nitrogen is found as ammonia in the distillate, the remainder being present in the residue in the form of nitrates. The primary products of the reaction are ammonia and oxyacids, the latter then being more or less completely oxidized to volatile fatty acids and oxalic acid.—Compt. rend. 154 (1912), 1111.

Blood: Chemical Detection, Especially in Blood-Stains.—Prof. Edward Schaer communicated a short paper to the British Pharmaceutical Conference in which he draws attention to the existence of several older and newer absolutely correlative chemical reactions which, under the same conditions, invariably give analagous results in the presence of blood and also the means of easy and thorough solution of blood in blood-stains. For the detection of blood he mentions that of the many reactions that have in the course of time been proposed almost all are based on the curious quality of the coloring matter of blood, for the first time thoroughly studied by Schoenbein, to act in a catalytic way like a "peroxydase" upon hydrogen peroxide in presence of certain oxidizable substances readily forming some deeply colored oxidation products, and the author mentions and describes five reactions coming under this head.

Regarding the different methods for extracting blood from blood-stains that have been proposed, Professor Schaer says that after an experience of many years he is convinced that no dissolving liquid is more adapted to this purpose than a concentrated solution of chloral hydrate (70 to 80 per cent).—Trans. Brit. Pharm. Conf., 1912; through Pharm. Journ. and Pharmacist, Aug. 3, 1912, 159.

Trypsin: Measurement of Its Relative Activity.—A. R. Smith observes that the standardization of trypsin, to the presence of which enzyme pancreatin owes its proteolytic properties, is of importance both from medicinal and commercial points of view. The tryptic activity of a substance is shown by its action on some protein substratum, such as a slightly alkaline solution of casein or egg-albumin under certain conditions. The author finds the method of Sorensen as being best adapted for this purpose, since by its use it is possible to follow the course of proteolysis by titration, and has applied this method to measure the relative activity of pharmaceutical preparations. The method as carried out upon five samples of pancreatin obtained from well known manufacturers, and also on two samples of "trypsin," is described in detail, and the results exhibited in the form of a table plainly indicate its utility for the purposes of standardization. —Trans. Brit. Pharm. Conf., 1912; through Pharm. Journ. and Pharmacist, Aug. 3, 1912, 137.

Bacterial Vaccines: Characters and Preparation.—Introducing his subject with a reference to the revolution in medical practice caused by the successful use of such animal products as thyroid extract, adrenine, etc., Dr. Lan Struthers Stewart observes that bacterial vaccines, though not so well known, have a much wider field of usefulness than that of other organic substances, and they bid fair to oust all other remedies in the treatment of diseases of bacterial origin. Two types of vaccines are used, autogenous and stock, the former being made from the organism causing the patient's disease, and the latter containing several strains of one bacterium cultivated from different sources. The balance of opinion seems to be in favor of the autogenous vaccine. It is usual in cases of extreme urgency to use an appropriate stock vaccine for the first inoculations, the minimum time for the preparation of an autogenous vaccine being from twenty-four to forty-eight hours. Stock vaccines of staphylococci are very satisfactory on the whole, though occasionally a case is met with where an autogenous vaccine is necessary. On the other hand, with *Bacillus Coli* it is usually necessary to prepare a fresh vaccine for each case. The first step towards the preparation of a vaccine is the collection of material from the patient. This may consist of blood, pus, sputum, urine, or faeces, but it must be collected with strict asepsis. It is important that, whenever possible, the vaccine should be made from a primary virulent culture, and as in a general way an organism on sub-culture becomes less virulent, it is essential to keep as near to the primary culture as possible. Every care must be taken to make sure that the true cause of infection is found. The author describes the methods of preparing the vaccine, and of the bacterial emulsion in detail, which vary according to conditions and kind, and gives also the methods employed for their standardization and sterilization. These vaccines are generally supplied in small glass capsules, hermetically sealed, and labeled with the number of organisms contained in 1 cc. of the emulsion.—Trans. Brit. Pharm. Conf., 1912; through Pharm. Journ and Pharmacist, Aug. 3, 1912, 128.

Potent Tinctures: Keeping-Properties Determined by Physiological Tests.—In a paper read before the British Pharmaceutical Conference, Dr. Alexander Goodall, maintaining that it is unjustifiable to dispense such potent tinctures as Tincture of Digitalis, Strophanthus, or Squill, which have not been tested, describes and gives the results of the determination of the potency and keeping qualities of a large number of each of the tinctures during several years by physiological tests. These tests were carried out upon male frogs, usually about 20 grams in weight, the potency accepted as normal being the amount of a standard tincture required to kill a frog of 20 grams in four hours. The results are shown in the following summary:

Tincture of Digitalis.—Of twenty-three samples made by manufacturers of repute, eleven showed a departure from the normal potency, six being below the average and five above the average of potency. As regards keeping properties, the tincture is not reliable after a year.

Tincture of Strophanthus. — Four of twenty-one samples showed a deviation from the normal potency, two above and two below the adopted standard. Similarly fourteen samples of tincture prepared according to the B. P. 1885, showed three deviations above and three below the normal potency. The official tinctures retained their full activity for at least three years. Those of the B. P. 1885, only two years.

Tincture of Squill.—Of ten samples examined, only five conformed to the standard, the other five possessing a potency above the normal standard. The tincture deteriorates after two years.

The author emphasizes that a very real danger may arise from excessive potency of these tinctures, and insists that only those which have recently been prepared and submitted to physiological tests should be dispensed.—Trans. Brit. Pharm. Conf., 1912; through Pharm. Journ. and Pharmacist, Aug. 3, 1912, 130.

Tincture of Iodine: Improved Method of Preparation.—E. A. Geyer believes that many samples of tincture of iodine found to be below pharmacopœial strength are so, because of carelessness in preparing same and that the iodine and potassium iodide are not entirely dissolved. He recommends placing the solids on a cotton diaphragm in a glass funnel and percolating with the alcohol. This method is claimed to completely and quickly dissolve the solids. — Bull. Pharm., April, 1912, 167. C. M. S.

Elixir Terpin Hydrate and Heroin: Improved Manipulation.—J. C. Arthur St. John says this preparation may be quickly made and without subsequent separation, if one-fourth of the glycerin be heated to 100° C. and the powdered terpin hydrate then stirred to solution. The balance of the ingredients are added in the regular manner. This also applies to other elixirs containing terpin-hydrate.—Bull. Pharm., March, 1912, 123.
C. M. S.

Fluidextract of Goldenseal: Variability of Unofficial Preparations.—W. A. Puckner reports that while fluidextract of goldenseal of U. S. P. quality may be had, the examination of the so-called "colorless hydrastis" and "non-alcoholic fluidextract" of hydrastis, as found on the market, showed them to be quite variable in composition. Out of ten firms' products that were examined, but one approached the requirements for the official fluidextract of hydrastis.—Journ. Am. Med. Assoc., 1912, 1157. M. I. W.

Old India Rubber: Regeneration by Means of Terpineol.—Ordinary solvents have little action on used rubber, especially if vulcanized, and the utilization of old rubber is a difficult problem. According to "Rev. scientifique," however, terpineol is found to be an excellent solvent, and is applied in the following way: Two parts of terpineol and one part of the rubber are heated together in a closed vessel at a temperature above 100°. The solution is shaken with four volumes of petroleum spirit, and the mixture after decantation is distilled. The residue after treatment with alcohol and acetone closely resembles raw rubber; it is resistant to chemical agents, and allows of the addition of mineral substances, and so may be revulcanized.—Rep. de Pharm., 1912 (6), p. 286.

Fireless Cooker: Uses in Making Preparations.—Hugh M. Reid says the fireless cooker may be successfully used in the preparation of benzoinated lard, soap liniment, camphor liniment, and similar preparations. —Bull. Pharm., Aug., 1912, 339. C. M. S.

Salvarsan: Use of.—John A. Fordyce, in discussing the administration of salvarsan in syphilis, points out that the efficiency of this drug bears a direct relation to the age of the infection. In the early stage three or four doses supplemented by mercury will in many cases cure the disease in from six months to a year. The florid stage requires more intensive treatment. In the primary stage it is possible permanently to reverse the blood reaction with salvarsan, but, as the disease grows older, the probabilities of changing it with only a few doses grow less. —Journ. Am. Med. Assoc., 59 (1912), 1231-1235. M. I. W.

Carbon Tetrachloride as a Solvent: An unsigned article (J. Am. M. Assoc., 1912, v. 59, p. 1470) points out that carbon tetrachloride is being adopted as a solvent in industrial extraction processes as a substitute for petroleum benzin. One of its chief advantages is its lack of inflammability and danger of explosion which has made it particularly useful in dyeing and cleaning establishments. M. I. W.

Iodides: Determination by Direct Titration.—J. W. Turrentine states that iodides may be titrated direct in the presence of bromides or chlorides by the use of standard potassium permanganate, the liberated iodine being removed from the solution by means of carbon tetra-chloride, the end point being when the pink color of the potassium permanganate persisted for one minute.—Journ. Ind. & Eng. Chem., June, 1912, 455. L. A. B.

Iodic Acid: Detection in Nitric Acid.—G. Deniges detects iodic acid in nitric acid as follows: The solution is made alkaline with ammonia and filtered if necessary. A small quantity of a 1 to 2 per cent. solution of silver nitrate is then added, and a little ordinary zinc. In the presence of iodic acid a white turbidity due to colloidal silver iodide appears on shaking. — Bull. de Pharm. der Sud-Est., 1912 (V), 244.

Sulphur: Action on Vegetation.—E. Boullanger finds that flowers of sulphur, when added in minute quantity to the soil, has a remarkably favorable influence on the growth of carrots, haricot beans, celery, lettuce, potatoes, spinach, onions, and all other crops. The proportion used for experiments in pots was only 0.70 gm. of sulphur for 30 kilos of earth. The result was even more marked when manure was added as well as sulphur. When sterilized soil was employed the addition of sulphur appeared to have but little influence in increasing the crop. It appears, therefore, that the favorable action of sulphur is indirect. Probably it modifies the bacterial flora of the soil and prevents the development of certain organisms. The subject is being investigated further. — Comp. & Rear., 154 (1912), p. 369.

BORIC ACID IN BUTTER.

An experiment has been made by the Food Export Department of Victoria, (Australia), which must help to confirm the use of boric acid as preservative in butter. Victorian butter factories were asked to submit four boxes from one churning, to two of which boric acid in the amount permitted by the Australian Commonwealth (0.5 per cent.) had been added, while the other two were free from preservatives. One of each was shipped to England while the duplicates were retained in the local cool stores. Cable messages have been received from London that the trade is strongly in favor of the retention of the preservative, and that the butter containing the boric acid has a market preference of $2 per hundredweight, mainly on the score of flavor.—*Journ. A. M. A. (London Correspondence.)*