"Anatolian" Licorice root. Nickum (A. J. Ph. 95, 306. Proc. 95, 865).

Copper. P. c. (Ph. Ztg. 94, 30. Proc. 94, 566.)

Glycyrrhizinum Ammoniatum.

"Readily soluble in water and in alcohol" . . . Mr. Albert C. Plant, of Messrs. Lehn & Fink, N. Y. City, in a communication addressed to the Committee of Revision, points out that, while the compound is soluble in water and in diluted alcohol, it is insoluble in pure alcohol. In fact, on adding to its solution in equal parts of water and alcohol another volume of alcohol, the glycyrrhizin is precipitated.

Granatum.

Assay. Shake the powder with ammoniated ether-chloroform, evaporate off the ethereal liquid, and titrate with $\frac{N}{10}$ sulphuric acid. Stoeder (Ap. Ztg. 94, 163. Ph. Rdsch. N. Y. 94, 88. Proc. 95, 542).

Grindelia.

Assay. Schneegans (J. Ellsass-Lothr. 92, 133. A. J. Ph. 92, 369. Proc. 93, 638).

Guaiaci Resina.

Constituents. Luecker (Ph. Centralh. 93 . . . Proc. 94, 953).

Rosin. Rub to a very fine powder, and shake it vigorously with 4 to 5 times its bulk of benzin. Filter (any color of the filtrate would indicate the presence of other resins), and shake with an equal volume of solution of cupric acetate (1:1000). A green color indicates rosin. Hirschsohn (Ph. Ztg. Russl. 95, 514).

Guarana.

Assay. Thoms. (Ph. Centralh. 92, 431. A. J. Ph. 92, 525. Proc. 94, 934.)

Ph. Helvet. gives the following directions: Boil a mixture of guarana and calcium hydrate with chloroform, add water, and distil off the chloroform. Filter after cooling, and evaporate to dryness. Guarana should contain at least 3 p. c. of caffeine.

Hamamelis.

Beringer states that under this heading the Dispensatories describe the medicinal properties of the bark, and not that of the leaves. He asserts that most of the fluid extract is made from the bark, and suggests, therefore, that the bark be introduced instead of the leaves. (A. J. Ph. 93, 473.)

(Homatropinæ Hydrobromas.)

Should be introduced. Beringer (A. J. Ph. 93, 598).

Hydrargyri Chloridum Corrosivum.

Action of Cotton on Sublimate. Cotton apparently dissociates the salt, mercury being fixed upon the cotton, chiefly as oxide, a certain proportion of mercurous chloride being also formed. Vignon (J. de Ph. & Ch. 93, 13. A. J. Ph. 93, 451. Proc. 94, 574). See also Sclavo & Manuele (Orosi. 94, 10. Ph. Rdsch. Prag. 95, 23. Proc. 95, 586).

Volatility at the ordinary temperature. Arctowski (Zts. anorgan. Ch. 94, 167. Proc. 95, 950).

Solubility. The statements are somewhat at variance, but the official figures are very nearly correct. Thiesen (Ph. Rdsch. N. Y. 90, 205), obtained the solubility in water as 1:17.74, and in alcohol as 1:2.72, but it is quite possible that the solutions may not have been perfectly saturated, or the temperature accurately adjusted. In consideration of the criticism of Beckurts & Hirsch (Handb. Pharm. II, p. 112), and of Hirsch & Schneider (Commentar, p. 350), that any arsenic present is liable to be in the form of mercuric arsenate, and not reduced to hydrogen arsenide by the hydrogen developed in alkaline solution, it has been deemed safer to adopt the simple test of the Germ. Ph. In this test for arsenic, however, the precaution has been included to saturate the warm solution with hydrogen sulphide, and allow it to stand for some time, so that no arsenic present as an arsenate can escape precipitation and detection. Power (Circ. No. 112, p. 652).

Hydrargyri Chloridum Mite.

Manufacture in Japan. (J. Soc. Ch. Ind. 94, 108. A. J. Ph. 94, 232. Proc. 94, 1046.)

Test for Bichloride. Add a drop of a 10-p. c. alcoholic solution of soap to a drop of a recently prepared 10-p. c. solution of guaiac resin and 2 Cc. of ether, and mix well with the mercurous chloride by means of a glass rod. After evaporation of the ether, an intensely green color will be observed if bichloride be present. Sensitive to 1:30,000. (Mon. de Ph. 95, 1696. Ph. Rdsch. N. Y. 95, 213.)

Chemical Formula. On the strength of the investigations of Harris & Meyer, that calomel is not volatile as such, but that the "vapor" is completely dissociated into mercury and mercuric chloride (Berichte, 94, 1482. Proc. 95, 951,). Filoth rejects the formula Hg_2Cl_2, because then the vapor density should be much nearer 16.28 than 8.16, as actually obtained. (J. prakt. Ch. 95 . . . Proc. 95, 952.)——Power prefers the formula HgCl, which would appear to be correct, according to the determination of the vapor density made in an atmosphere of mercuric chloride vapor, when no dissociation takes place. (Circ. No. 112, p. 654.)——Curtman maintains that dissociation is not absolutely excluded in an atmosphere of bichloride vapor; if it were, the dissociation could not take place in a vacuous space, for the dissociated vapor of $Hg + HgCl_2$ soon fills that. Moreover, the easy dissociation by light alone and by many chemical agents speaks for the correctness of Hg_2Cl_2. (Ibid.)

Hydrargyri Iodidum Flavum.

Caution, not to prescribe it with a soluble iodide, should be added.

Preparation. François proposes to make it by making use of the reducing action of aldehyde on iodomercurammonium iodide. He dissolves mercuric iodide in a mixture of aniline and alcohol by heat, and treats the mother liquor from the separated crystals of diphenyl-diammonium iodide with commercial ether, when the mercurous iodide separates after a certain time. (J. de Ph. & Ch. 94, 67. Proc. 94, 1047.)——The precipitation process (the official process) has hitherto not been regarded with favor by many writers (Nat. Disp. III edit. p. 783, and Hager, Comm. Ph. Germ. II, vol. II, p. 101), owing to an assumed danger of its contamination with mercuric iodide, but Power finds that by working with care, and especially by following the process given by Soetje (Digest on U. S. P. 1880, p. 228), that the danger is groundless. (Circ. No. 112, p. 658.)

Melting Point. At 290° C. (Merck's Index, p. 159.)

(Last two lines on p. 207.) "Wash with alcohol . . . as long as the clear, colorless washings . . . ." Hirsch points out, that traces of the very fine precipitate are apt to pass through the filter. (Ph. Rdsch. N. Y. 93, 278.)

Hydrargyri Iodidum Rubrum.

Solution in oil, formula. Delacour (J. de Ph. & Ch. 93, 603. A. J. Ph. 93, 451. Proc. 94, 1047).

Preparation. The present proportion of potassium iodide to mercuric chloride (5:4) is more suitable than the former of U. S. Ph. 1880 (11:9); the slight excess of iodide of potassium will prevent the formation of the chloriodide of mercury ($2HgCl_2.HgI_2$). A slight opalescence, on adding solution of silver nitrate to the wash-water, has to be allowed, because mercuric iodide cannot be washed with water until the washings cease to give any reaction with silver nitrate, owing to the slight solubility of the salt. Power (Circ. No. 112, p. 660).

Hydrargyri Oxidum Rubrum.

Preparation. Egeling states that this oxide can be prepared by precipitation so that the resulting product cannot be distinguished from that made by ignition. Into a boiling solution of mercuric chloride (1:5) pour a boiling concentrated solution of potassa, until the dark-brown color of the oxychloride is changed to a bright red, and the liquid reacts faintly alkaline. Then pour into 20 volumes of boiling water, collect and wash. (Ph. Ztg. 92, 517. A. J. Ph. 92, 567. Proc. 93, 785.)

Metallic Mercury. To test for mercury, in the oxide prepared by ignition, add 1 part of the oxide to 20 parts of water in a test tube, and then drop by drop HCl until the oxide is dissolved, when the solution should be perfectly clear and limpid. Patein (J. de Ph. & Ch. 93, 390. Proc. 94, 1048).

Nitrate. The test for nitrate with sulphuric acid and ferrous sulphate does not detect with certainty less than ½ p. c., while the one adopted will readily detect ¼ p. c. Power (Circ. No. 112, p. 663).

Hydrargyri Subsulphas Flavus.

Although theoretically only 27.7 Cc. of 96 p. c. sulphuric acid are required, it has been thought best to increase the amount to 30 Cc., as there will always be some loss in the operation.

The solubility in water (1:2000) has been given on the authority of Schwanert. (Ph. Chemie, II. p. 535.) Power (Circ. No. 112, p. 665).

Hydrargyrum.

The amount of mercury contained in its different salts. Boquillon & Fischer (Ph. Era, 93, 175. Proc. 93, 783).

Boiling point. Ph. Germ. has 350° C. (Ph. Rdsch. N. Y. 93, 278.)

Hydrargyrum Ammoniatum.

"Almost insoluble." Hirsch queries the correctness of this expression, in view of the fact that water, little by little, deprives it of ammonium chloride. (Ph. Rdsch. N. Y. 93, 279.)

The directions of the Brit. Ph. "to wash it until it ceases to give a precipitate with nitrate of silver in presence of nitric acid," can hardly be correct, because, if the washings are continued to this extent, a considerable degree of decomposition would result. Flueckiger's statement, that ammonium carbonate can be used instead of ammonia in making this salt, is not correct, since the freshly precipitated salt is very readily soluble in ammonium carbonate. Power (Circ. No. 112, p. 667).

Hydrargyrum cum Creta.

The process for the extinction of the mercury is hardly adapted for the retail pharmacist, and something better than honey is wanted. Hemm (A. J. Ph. 94, 392).

The complete absence of mercuric oxide must be insisted upon; the clinical experience of irritating properties is too widespread to disregard the necessity of absolute absence. Curtman (Circ. No. 112, p. 669).

(Hydrastina or its Hydrochlorate.)

Might have been introduced. Beringer (A. J. Ph. 93, 598), and A. P. A. Comm. (A. J. Ph. 95, 485. Proc. 95, 240.)

Reactions. Vitali (Orosi. 92, 405. A. J. Ph. 92, 414. Proc. 93, 852).

Hydrastininæ Hydrochloras.

Should be "Hydrochloride." A. P. A. Comm. (A. P. A. 95, 484. Proc. 95, 240.)

Hydrastis.

Localization of alkaloids. Pohl (Ch. Ztg. Rep. 94, 134. Ph. J. & Tr. 94, July, 30. Proc. 94, 925).

ALKALOIDS. The dry root was found to contain from 2.62 to 3.14 p. c. of hydrastine, according to the process employed. The fresh root, by the same processes, from 2.32 to 2.42 p. c. In the case of the dry root, 0.485 Gm. (or 18.5 p. c.) of the hydrastine was found to be in the free state. In the fresh root, 31.7 p. c. of the alkaloid was free. Dohme & Engelhardt (Ph. Rdsch. N. Y. 95, 235). Relation of hydrastine and berberine to one another, and their mode of combination. Both exist in the free state in the root, and may be extracted by ether or benzol. Dohme (W. Dr. 95, 58. Proc. 94, 188).

Assay. An assay should be given, and a definite p. c. of hydrastine required. A. P. A. Comm. (Proc. 95, 240).

Exhaust with hot alcohol, acidulate with HCl and sulphuric acid, and add ether. The precipitate is berberine. Render the filtrate alkaline with ammonia, and extract with chloroform, which gives hydrastine. Titrate with $\frac{N}{20}$ sulphuric acid. Thompson, who claims

3 to 4 p. c. berberine and 1 to 2.5 p. c. hydrastine. (A. J. Ph. 93, 371. Proc. 93, 691.)——See also Eberhardt (A. J. Ph. 93, 375 & 376. Proc. 93, 546).

Keller treats the root with ammoniated ether, extracts with 1-p. c. hydrochloric acid water, makes the acid solution alkaline with ammonia, and takes up the alkaloid with ether-chloroform. He states that hydrastine cannot be titrated. (Ap. Ztg. 94, 52 & 133. A. J. Ph. 94, 201. Proc. 94, 546.)

Schwickerath. With more or less modified Prollius' mixture. (Ph. Rdsch. N. Y. 93, 285, & 94, 138. Bull. Ph. 93, 538. Proc. 94, 547.)

Identity. Add to an infusion of the root nitric acid, when a copious precipitate appears, soluble on boiling, and on cooling separating as yellow crystals (nitrate of berberine).——To a very dilute infusion add sulphuric acid, and blow vapors of bromine over the liquid, when the surface will be colored blood-red. Ph. Helvet. (Ph. Rdsch. N. Y. 94, 92).

Hyoscinæ Hydrobromas.

Should be "Hydrobromidum." A. P. A. Comm. (A. J. Ph. 95, 484. Proc. 95, 240).

"Scopolaminæ hydrobromas" might be given as a synonym, since it is highly probable, according to the researches of Schmidt, that hyoscine does not exist. (Ap. Ztg. 95, 91.)

Melting point. Merck states that it begins to shrivel up at 187° C., and is fully melted at 191° C. Dohme finds that the water of crystallization is lost in part, probably at 56.5° C., and that it melts at 65° C., while the anhydrous salt melts at 168.5° C. (Circular No. 125. p. 800.)

Solubility. In 4 parts of water and in 21.5 parts of alcohol. Merck (Berichte, 92, 11. Proc. 93, 863).

Behavior to potassa, auric chloride, bromine, picric acid, platinic chloride. Wormley (A. J. Ph. 94, 513. Proc. 95, 1013).

"Neutral." Ph. Germ. says "faintly acid." (Ph. Rdsch. 93, 279.)

Identity. The tests given are not very precise, and would not serve to distinguish it from the salt derived from Scopolia. (Ph. J. & Tr. 93, Sept. 242.)——Concurred in by Curtman. (Circ. No. 144, p. 916.)

Hyoscyaminæ Hydrobromas.

Should be "Hydrobromidum." A. P. A. Comm. (A. J. Ph. 95, 484. Proc. 95, 240).

Solubility. In water, 1:0.34; in alcohol, 1:2.2. Melting point. 149–150° C. Merck (Circular, No. 125, p. 801).

Hyoscyaminæ Sulphas.

Melting point. It is questionable whether there is any practical advantage in giving melting points, either so difficult to recognize that wide limits must be allowed, or where various authorities, all of whom are presumed to operate with care, obtain widely different results. The latter are probably due to difference between the samples examined and to personal error. It would seem best to omit all such uncertain figures from the Pharmacopœia. (Circular, No. 125, p. 802.)

Behavior to potassa, auric chloride, bromine, picric acid, platinic chloride. Wormley (A. J. Ph. 94, 513. Proc. 95, 1013).

Hyoscyamus.

Alkaloids. P. c. Dohme (A. J. Ph. 93, 481).

Assay. Should be introduced. A. P. A. Comm. (A. J. Ph. 95, 484.)

Schwickerath. With more or less modified Prollius' mixture. (Ph. Rdsch. 93, 282, & 94, 138. Bull. Ph. 93, 535.)

Beckurts finds that Keller's method gives the most uniform results. (Ph. Centralh. 94, 566. Am. Dr. 94, Nov. 328. Proc. 95, 535.)

Copper. P. c. (Ph. Ztg. 94, 30. Proc. 94, 566.)

Illicium.

Should be omitted. Beringer (A. J. Ph. 93, 470).

Oil. Yield. Morrison & Jackson (Proc. 94, 682).

Infusa.

The Pharmacopœia should direct "expression" in addition to "straining." Caspari (Pharmacy, p. 216).

An infusion made in winter time is likely to differ from one made during warm weather, and a large quantity from a small one, because of the unequal cooling of the liquid. "Let it stand for half an hour:" it should be added "in a warm place."

Not all substances, suitable for infusions, can stand boiling water; calumba, for instance.

Infusum Digitalis.

England proposes to leave out the cinnamon, and to add 90 minims of ammonia to each pint. (A. J. Ph. 92, 361. Proc. 93, 425.)