(Digitalinum.)

Really pure digitalin (Boehringer & Sons). Virliana (Arch. Ph. 92, 250. Proc. 93, 845).

Test of digitalin granules. Color reactions on addition of sulphuric acid alone, and in combination with ferric chloride, HCl and phosphoric acid. Nagelvoort (Ph. Rdsch. N. Y. 94, 86. Proc. 94, 598).

Digitalis.

The leaves should be deprived of the stems and the large midrib, in which case they contain about 0.1 p. c. digitalin; the stems and midrib contain only 0.051 p. c. Collected after flowering, in September, the leaves contain only traces. Duquesnel (J. de Ph. Lorraine . . . W. Dr. 92, 463. Proc. 93, 701).

The leaves should be dried over unslaked lime, in order to retain their activity. Falkenberg (Ph. Ztg. . . . Proc. 93, 700).

Alkaloids. Kiliani finds that the glucosides of the leaves are different from those of the seeds. (Arch. Ph. 95, 310. Ph. Rdsch. N. Y. 95, 218.)

Elaterinum.

"Slightly acrid, bitter taste." The taste is "very" bitter. (Merck, Index, 88.)

(Elixirs.)

The U. S. Ph. might have recognized more elixirs. Beringer (A. J. Ph. 93, 524).

Emplastrum Belladonnæ.

The strength of 1:5 is rather excessive, and might give rise to unpleasant symptoms. (Ph. J. & Tr. 93, Sept. 243.)

Cripps proposes a strength of 0.5 p. c. of the alkaloids. (Ph. J. & Tr. 95, Mrch. 795. Proc. 95, 560.)

Emplastrum Plumbi.

Would it not be advisable to direct the evaporation of at least some of the water with which the plaster was kneaded for the purpose of removing the glycerin? Hirsch (Ph. Rdsch. 93, 252).

Emulsum Amygdalæ.

"Should be freshly made, when wanted," would not be out of place. The addition of acacia is superfluous, as every German pharmacist knows.

Emulsum Chloroformi.

"15 Gm." of tragacanth is greatly in excess of what is needed. Caspari proposes to reduce the quantity by one-third. (Pharmacy, p. 294.)

(Emulsum Oleosum.)

A formula for this emulsion might be given. Beringer (A. J. Ph. 93, 519).

Ergota.

Relative Value of the Commercial Varieties. Dohme puts the Spanish at the head of the list, then the German, and lastly the Russian. (A. J. Ph. 95, 487. Proc. 95, 263.)——Keller puts it thus: Russian, Austrian, Spanish, German, Swiss. (Schweiz. Woch. 94, 121. Am. Dr. 94, 97. Proc. 95, 544.)——Beckurts has: Russian, Austrian, Spanish, German. He finds that the larger "spurs" contain less active matter than the smaller. (Oest. Zts. 96, 33.)

Assay. Keller removes the oil with benzin, and shakes the dry powder with ether and milk of magnesia. The ethereal solution is shaken with acidulated water (0.5 p. c. HCl), and the acid solution with ammonia and ether. The ethereal solution is then evaporated and weighed He prefers to call this alkaloid "cornutin," and he finds that it is much more stable than generally supposed, a properly packed and kept powdered ergot keeping undecomposed for a year. (Ph. Ztg. 94, 361. Ph. Rdsch. N. Y. 94, 113. Proc. 95, 542.) See also (Ph. Rdsch. Prag. 96, 177, 193, 209, 225. Ph. Ztg. 96, 143.) Keller found that Kobert's cornutin is a transformation product of ergotinine and produced by the action of acids, being identical with Tanret's ergotinine. (Ph. Rdsch. Prag. 96, 210. Ph. Ztg. 96, 143.)

Test for Ergotinine. Shake powdered ergot vigorously with ether, and filter after 15 minutes. Add to the filtrate about ten drops of hydrochloric acid ether (5 Cc. HCl and 100 Cc. ether, let stand to separate and pour off the ether) when hydrochlorate of ergotinine is precipitated. Wash with a little ether, and dissolve in 2 Cc. of glacial acetic acid. Pour this on top of sulphuric acid, and add a trace of ferric chloride solution, when a splendid blue color will appear. (Schweiz. Woch. 95, 303.)

Eriodictyon.

Microscopy. Ritter (A. J. Ph. 95, 565).

Eucalyptol.

Specific gravity. Should not be below 0.925. Barbour (Ph. J. & Tr. 95, April, 885).

Euonymus.

A fluid extract is suggested. Beringer (A. J. Ph. 93, 526).

Eupatorium.

Analysis. Kaercher (A. J. Ph. 92, 510. Proc. 93, 638).

Eupatorin. Preparation, properties and chemistry. Shamel (Am. Ch. J. 92, 224. A. J. Ph. 92, 511. Proc. 93, 847).

(Extracta.)

The fresh stems and stalks yield a greater amount of extractive matter than the fresh leaves, which is contrary to the general belief. Extracts, obtained by treating the unfiltered expressed juice of the fresh leaves with alcohol, etc., are richer in alkaloids than when the juice is filtered previous to treatment. Ranwez (Nat. Dr. 95, 181. Proc. 95, 564).

"Pilular" Consistence. This very indefinite term bears no definite relation to the crude drug. It is therefore proposed to make dry extracts, either of full strength or suitably diluted, according to the nature of the extractive matter. (Bull. Ph. 95, 535.)

Powdered Extracts. A line of them is needed. Beringer (A. J. Ph. 93, 470).——Hallberg proposes to let these extracts represent four times the drug, for which he suggests the name of "Quatracta." The powdered extracts of the market are variable in strength and certainly not equal to the solid extracts. (W. Dr. 94, 321. Proc. 94, 244.)——Squire & Conroy suggest the use of calcined magnesia as absorbent in making powdered extracts. About 10 p. c. of the weight of a pilular extract will be sufficient. (Caspari, Pharmacy, p. 269.)

Glycerin. "Ten p. c." (U. S. Ph., p. xlii), of glycerin to keep extracts soft, is probably too much for most extracts. "5" p. c. would be sufficient. Beringer (A. J. Ph. 93, 525).

Menstrua. Is there any necessity or advantage in using different menstrua for extracts and fluid extracts of the same drug? A change in menstruum would imply a change or difference in the proximate principles dissolved. See also Macpherson (Ph. J. & Tr. 94, Mrch. 782).——Squibb proposes acetic acid (60 p. c.), especially for drugs containing volatile oils and aromatic resins. If considered necessary, the excess of acid may be approximately neutralized with an alkali. (Ph. Rdsch. N. Y. 93, 40. Proc. 93, 418.) See also Thompson (A. J. Ph. 94, 600).——Hallberg finds 94 p. c. alcohol and methyl alcohol poor menstrua, and speaks highly of a mixture of 75 Cc. alcohol and 25 Cc. chloroform. (W. Dr. 94, 321. Proc. 94, 244.)

Ointments. Rother proposed years ago to heat equal parts of ex-

tract, water and glycerin until the evaporation of the water. Being half strength, double the quantity is to be taken. (Ph. Era, 94, 350. Proc. 94, 566.)

Copper. Percentage. (Ph. Ztg. 94, 30. Proc. 94, 566.)——Hell states that copper will be found in nearly all drugs, and that therefore complete absence should not be demanded. The usual test with polished steel indicates in aqueous solutions 1:500,000, but in solution of extracts only 1:5,000 to 1:20,000. (Ph. Ztg. 94, 237, 370.)

Standardization. La Wall proposes to make an extract with a menstruum containing less alcohol than the official, assay it, and use this weak extract to correct the stronger one. (A. J. Ph. 96, 369.)

Assay. Dieterich relies on the p. c. of moisture, ash and potassium carbonate in the ash. (Ph. Rdsch. Prag. 93, 792, & Ph. Centralh. 94, 608. Proc. 95, 564.)

Schwickerath recommends three methods, to be used according to the peculiar nature of the drug. 1) The extract is disintegrated thoroughly with dilute sulphuric acid, filtered into a "perforator" (Ledden-Hulsebosch), washed with ether, or ether-chloroform, ammonia added and extracted ("perforated") with ether, or other ethereal liquid. The ethereal solution is evaporated to dryness, and the alkaloids dissolved in $\frac{N}{10}$ sulphuric acid. Excess of acid is titrated with $\frac{N}{100}$ Na, cochineal being used as indicator. 2) Dissolve the extract in dilute alcohol, mix with oak sawdust, and allow the alcohol to evaporate. The dry mixture is shaken for several hours with a dilute Prollius' mixture. Filter off an aliquot part, mix with water and dilute sulphuric acid, and proceed as above. (Ph. Rdsch. N. Y. 93, 283. Bull. Ph. 93, 535.) 3) As above, but replacing the ether with benzin, and the ether-chloroform with benzin-chloroform, also in Prollius' mixture. The advantages are, not only decrease of cost, but avoidance of water in the alkaloidal solution, thus facilitating the drying. (Ph. Rdsch. 94, 57, 136. Bull. Ph. 94, 246. Proc. 94, 533.)

Itallie modifies his former method (see "Digest on U. S. P. 1880," p. 297, under Extractum Aconiti) as follows:—The filtrate from the lead precipitate is shaken with ammoniated ether-chloroform, the ethereal liquid separated and titrated. (Ph. Post, 95, 236. Proc. 95, 545.)

Beckurts dissolves the extract in an ammoniated mixture of 1 part of alcohol and 2 of water, and shakes the solution out with three different portions of chloroform. Evaporate to dryness, and dissolve the alkaloids in excess of $\frac{N}{10}$ HCl, re-titrating with $\frac{N}{100}$ alkali. He admits, however, that Schweissinger-Sarnow's method is to be preferred, as being more convenient. This method is as follows:—Render the aqueous solution of the extract alkaline with ammonia,

and shake out once with a mixture of 15 parts of chloroform and 25 parts of ether. Allow to separate, pour off one-half of the ethereal solution, evaporate and titrate with acid. (Ap. Ztg. 94, 661.) Beckurts finds the shaking-out method easier than the precipitation method. Emulsionizing is avoided by either method by shaking the ammoniated alcohol solution with chloroform. (Ap. Ztg. 94, 600.)

Liljenstroem modifies Dieterich's method by substituting infusorial earth for the lime, in consequence of which any menstruum may be employed. The extract is dissolved or rubbed with water or alcohol, mixed with an excess of solution of subacetate of lead, and sufficient infusorial earth added to absorb all moisture. Percolate with ether, chloroform, etc. (Ph. Ztg. 94, 493.)

Dieterich finds that the only practical assay methods are those of himself (Helfenberger ether-lime methods), Schweissinger-Sarnow, and Van Ledden-Hulsebosch. Schweissinger-Sarnow's is the easiest, unless very exact results are desired, in which case his own method is preferable. (Oest. Zts. 95, 242.)

Keller speaks equally favorably of Schweissinger-Sarnow's method. (Schweiz. Woch. 92, 501, 509. Proc. 93, 402.)

(Extracta Fluida.)

Fluid Extracts vs. Tinctures. England comes to the conclusion that it is not possible to make fluid extracts which, on proper dilution, yield products identical with tinctures. (A. J. Ph. 93, 438. Proc. 94, 657.) He also gives a table, showing discrepancies between dose and strength of fluid extracts and the corresponding tinctures. (A. J. Ph. 93, 445.)

Menstrua. Is there any valid reason for the difference in menstruum directed for extract and fluid extract of the same drug? A difference in menstruum should make a difference in the proximate principles extracted.——Patch shows the effect of various menstrua (Proc. 93, 84).——Havenhill gives the solvent power of alcoholic menstrua of various strength, and shows that there is no relation between p. c. of alkaloids and p. c. of extractive. (Proc. 94, 167.)

Acetic Acid. Comparison of yield of extractive and alkaloid by the use of officinal menstruum and a 15 to 18 p. c. acetic acid. (Proc. 94, 671.)

Salt. Bernegau recommends a 2 p. c. solution of sodium chloride as a much better menstruum for some drugs than water. (Ph. Ztg. 95, 309. Ph. Rdsch. N. Y. 95, 137. Proc. 95, 492.)

Strength. Ebert and Martindale plead for 50 p. c. fluid extracts. (Proc. 93, 84.)

Commercial. Examination. Russell (Proc. 92, 419), and Haussman (A. J. Ph. 95, 291. Proc. 95, 564).

Glycerin. Desvignes deprecates the use of glycerin in the menstruum, and also the use of a fine powder. Glycerin may be added to the evaporated second percolate wherever turbidity on mixing with the first percolate is likely to occur, but very little will suffice. He collects the first $\frac{4}{5}$, percolates to exhaustion, and evaporates this second part to $\frac{1}{5}$, when it is mixed with the first portion, and, if necessary, a small quantity of glycerin added. Filter after an absolute rest of 4 to 5 days. (Merck, Report, 93 . . . Proc. 94, 565.)

Estimation. Remove coloring matter by lead subacetate, acidulate filtrate with dilute sulphuric acid, and precipitate with phosphotungstic acid. Filter, add soda in slight excess, evaporate to syrupy consistence, and extract the glycerin with ether-alcohol. A loss of about 5 p. c. is unavoidable. Linde (P. Centralh. 94, 39. A. J. Ph. 94, 141. Proc. 94, 565).

Dextrin and Glucose. The use of these two substances to replace glycerin, and of acetic acid to replace part of the alcohol, are suggested by A. P. A. Comm. (A. J. Ph. 95, 484. Proc. 95, 239).

Alcohol. Recovered in a water-bath by the use of a cone-shaped condenser (which is the well-known Hager's "Dunstsammler"). It is stated that the alcohol can be recovered by slowly heating to 60° C. Bird (Ph. J. & Tr. 95 . . . A. J. Ph. 95, 472).

Assay. By titration more accurate than by the gravimetric method. Caspari & Dohme (A. J. Ph. 93, 473. Proc. 93, 118).——Controverted by Farr & Wright (Ph. J. & Tr. 94, Aug. 125. A. J. Ph. 94, 461).

Methods of Lyons, Lloyd, Thompson and Beckurts compared. Dohme (A. J. Ph. 93, 478).

Stieglitz. Uses a modification of Prollius' mixture. (Ph. Rdsch. N. Y. 92, 181. Proc. 93, 418.)

Schwickerath. Evaporates the fluid extract at a moderate heat, or, better, in a vacuum exsiccator in the cold, and then proceeds as given under "Extracta." (Ph. Rdsch. N. Y. 93, 283, & 94, 57, 136. Bull. Ph. 93, 536. Proc. 94, 538.)

Dieterich relies on the p. c. of dry residue and of ash, besides the specific gravity. (Ph. Rdsch. Prag. 93, 793.)

Kinzel thinks that the p. c. of dry residue should be stated. (Ap. Ztg. 94, 183.)

Extractum Aconiti.

Yield and p. c. of alkaloids. La Wall (A. J. Ph. 96, 368).

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

It might be directed to be made from the fluid extract. Caspari (Pharmacy, p. 269).

Extractum Aconiti Fluidum.

Commercial. Examination. Russell (Proc. 93, 419).

Assay. Titration is better than the gravimetric method. Caspari & Dohme (A. J. Ph. 93, 477, 478. Proc. 93, 121), and Kebler (Am. Dr. 94, Sept. 179).——Titration is worthless. Farr & Wright (Ph. J. & Tr. 94, Aug. 125. A. J. Ph. 94, 461).

A nearly clear solution should be obtained on mixing 0.5 Cc. with 3 drops of dilute HCl and 9.5 Cc. of water, which on addition of Mayer's test gives a flocculent precipitate. Ph. Helvet. (Ph. Rdsch. N. Y. 94, 82).

Extractum Aloes.

There is no apparent reason for directing the use of "distilled" water for this extract, while ordinary water is considered good enough for all the other extracts.

Extractum Arnicæ Radicis Fluidum.

There is no apparent reason why diluted alcohol should not be used, as it is directed for the solid extract. Beringer (A. J. Ph. 93, 527).

Extractum Aspidospermatis Fluidum.

Assay. Schwickerath. With a more or less modified Prollius' mixture. (Ph. Rdsch. N. Y. 93, 285, & 94, 136 & 139. Bull. Ph. 93, 538. Proc. 94, 549.)

Extractum Belladonnæ Foliorum Alcoholicum.

Nomenclature. Since "Semen," "Radix," etc., are used in the singular, in a collective sense, it seems that "Folium" might be used in the same way.

Yield and p. c. of alkaloid. La Wall (A. J. Ph. 96, 368).

Assay. With a more or less modified Prollius' mixture. Schwickerath. (Ph. Rdsch. N. Y. 93, 283, & 94, 136 & 137. Bull. Ph. 93, 535.)

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

Extractum Belladonnæ Radicis Fluidum.

Commercial. Examination. Russell (Proc. 93, 419 & 420).

Assay. By titration better than by gravimetric method. Caspari & Dohme (A. J. Ph. 93, 477 & 478. Proc. 93, 121). Kebler (Am. Dr. 94, Sept. 179), and Farr & Wright (Ph. J. & Tr. 94, Aug. 125. A. J. Ph. 94, 461).

Schwickerath. With more or less modified Prollius' mixture. See "Extracta." (Ph. Rdsch. N. Y. 93, 283, & 94, 137. Bull. Ph. 93, 535.)

Lloyd's and Thompson's methods compared. Pattison (Ph. Rdsch. N. Y. 92, 239).

An aqueous solution is well shaken with ammoniated ether, and the separated ethereal solution evaporated. The residue is heated with a few drops of fuming nitric acid. On adding an alcoholic solution of potassa to the residue, a purple color is observed. Ph. Helvet. (P. Rdsch. N. Y. 94, 82).

Extractum Buchu Fluidum.

Commercial. Examination. Haussmann (A. J. Ph. 95, 292. Proc. 95, 565).

Extractum Calumbæ Fluidum.

Commercial. Examination. Haussmann (A. J. Ph. 95, 292. Proc. 95, 565).

Extractum Cannabis Indicæ.

Yield. La Wall (A. J. Ph. 96, 371).

This extract is not completely soluble in alcohol. Hell finds that when made by percolation, it contains more insoluble matter than when made by digestion. (Ph. Ztg. 94, 272.)

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

(Extractum Carnis.)

P. c. of albumose and pepton. Goldmann (Ph. Post, 94, 1. Proc. 94, 572).

Extractum Castaneæ Fluidum.

The exhaustion of the leaves with cold water, and subsequent evaporation of the necessarily large amount of water, is a tedious operation. Caspari proposes to express the leaves strongly after maceration with hot water, and repeat this operation once or twice with half the quantity of hot water; the virtual exhaustion will then be complete. (Pharmacy, p. 261.)

Extractum Chiratæ Fluidum.

Commercial. Examination. Hausmann (A. J. Ph. 95, 292. Proc. 95, 565).

Extractum Cimicifugæ.

Yield. La Wall (A. J. Ph. 96, 371).

Extractum Cimicifugæ Fluidum.

Commercial. Examination. Haussmann (A. J. Ph. 95, 292. Proc. 95, 565).

Extractum Cinchonæ.

Yield and p. c. of alkaloids. La Wall (A. J. Ph. 96, 368).

Menstruum. It is not clear why the menstruum for moistening should differ from that for percolating. Caspari (Pharmacy, p. 268).

Assay. Triturate the powder with water, and shake with ammoniated ether. Filter, remove the ether, take up with dilute alcohol, and titrate with $\frac{N}{10}$ HCl. Keller (Oest. Zts. 93, 563 & 586. A. J. Ph. 94, 47. Proc. 94, 532).

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

An aqueous extract is recommended by Kollo, who mixes the powder with 10 p. c. of magnesia, macerates with cold water, and percolates to exhaustion. (Ph. Ztg. 94, 161.)

Extractum Cinchonæ Fluidum.

Commercial. Examination. Russell (Proc. 93, 419).

Assay. Titration better than the gravimetric method. Caspari & Dohme. (A. J. Ph. 93, 477 & 478. Proc. 93, 121), and Kebler (Am. Dr. 94, Sept. 179).——Titration is unsatisfactory. Farr & Wright (Ph. J. & Tr. 94, Aug. 125. A. J. Ph. 94, 461).

Keller adds water, and shakes with ammoniated ether. Remove the ether, dissolve residue in dilute alcohol and titrate with $\frac{N}{10}$ HCl. (Oest. Zts. 93, 563 & 586. A. J. Ph. 94, 47. Proc. 94, 532.)

Schwickerath. Shake the fluid extract with dilute HCl. Place an aliquot part in the "perforator," and wash with benzin. Pour off the benzin, alkalinize with soda, and extract with a mixture of 2 parts of benzin and 1 part of chloroform. Evaporate, dry and weigh. (Ph. Rdsch. N. Y. 94, 57. Bull. Ph. 94, 56. Proc. 94, 542.)—— Also with a modified Prollius' mixture. (Ph. Rdsch. 94, 136, 137, 138.)

Extractum Cocæ Fluidum.

Menstruum. A 65 p. c. alcohol is better than dilute alcohol. Kebler (A. J. Ph. 95, 574).

Assay. Titration better than the gravimetric method. Caspari & Dohme (A. J. Ph. 93, 477 & 478. Proc. 93, 121), and Kebler (Am. Dr. 94, Sept. 179), which latter recommends Keller's method. (A. J. Ph. 95, 574.)

Schwickerath. With more or less modified Prollius' mixture. (Ph. Rdsch. N. Y. 93, 284. Bull. Ph. 93, 537. Proc. 94, 544.)

Extractum Colchici Radicis.

Yield and p. c. of alkaloid. La Wall (A. J. Ph. 96, 368).

Extractum Colchici Radicis Fluidum.

Assay. Titration better than the gravimetric method. Kebler (Am. Dr. 94, Sept. 179).

Schwickerath. With more or less modified Prollius' mixture. (Ph. Rdsch. 93, 284. Bull. Ph. 93, 537. Proc. 94, 545.)

Extractum Colchici Seminis Fluidum.

Repeated attention has been called to the fact that grinding or powdering of the seeds is not an absolute necessity, the active principle residing in the testa. The grinding may be facilitated by boiling the seeds for 15 minutes in part of the water of the menstruum, which will soften them. (Ph. Rdsch. Prag. 93, 10.)

The seeds should be deprived of the oil, before extraction. A. P. A. Comm. (A. J. Ph. 95, 485).

Assay. Titration better than the gravimetric method. Caspari & Dohme (A. J. Ph. 93, 477 & 478. Proc. 93, 121), and Kebler (Am. Dr. 94, Sept. 179). Titration is worthless. Farr & Wright (Ph. J. & Tr. 94, August, 125. A. J. Ph. 94, 461).

Schwickerath. With more or less modified Prollius' mixture. (Ph. Rdsch. N. Y. 93, 282. Bull. Ph. 93, 537. Proc. 94, 545.)

Identity. On mixing one drop with 10 drops of dilute sulphuric acid, and adding one drop of dilute nitric acid, a violet color will be observed, which however, disappears soon. On now adding 1 Cc. of alcohol, and super-saturating with ammonia, a red color appears. Ph. Helvet. (Ph. Rdsch. N. Y. 94, 82).

Extractum Colocynthidis Compositum.

Beringer proposes to direct the soap in fine powder, and to merely mix all the ingredients, omitting the use of the alcohol and of the heating as unnecessary. (A. J. Ph. 93, 525.)

Hirsch thinks that the heat directed, 120° C., is excessive. (Ph. Rdsch. 93, 254.)

Extractum Conii.

Yield and p. c. of alkaloid. La Wall (A. J. Ph. 96, 369).

It might be directed to be made from the fluid extract. Caspari (Pharmacy, p. 269).

Assay. Liljenstroem finds, that while coniine can be extracted with ether, the total quantity will never be recovered by continuous extraction, unless there be placed in the receiver an excess of $\frac{N}{100}$ acid. (Ph. Ztg. 94, 56. A. J. Ph. 94, 199. Proc. 94, 545.)

Schwickerath. With more or less modified Prollius' mixture. (Ph. Rdsch. N. Y. 93, 284, & 94, 136 & 138. Bull. Ph. 93, 537. Proc. 94, 545.)

Extractum Conii Fluidum.

Assay. Schwickerath. As above.

Titration better than the gravimetric method. Caspari & Dohme (A. J. Ph. 93, 477 & 478. Proc. 93, 121), and Farr & Wright (Ph. J. & Tr. 94, Aug. 125. A. J. Ph. 94, 461).

Identity. On gently heating with solution of soda, the odor of coniine will be noticed. Ph. Helvet. (Ph. Rdsch. 94, 83).

Extractum Cubebæ Fluidum.

Commercial. Examination. Hyers (A. J. Ph. 95, 519), and Haussmann (A. J. Ph. 95, 292. Proc. 95, 565).

Extractum Cusso Fluidum.

The usefulness of a fluid extract is questionable. Cusso, it is asserted, is active only in a mechanical way, and not because it contains an especially active principle. Beringer (A. J. Ph. 93, 470).

Extractum Cypripedii Fluidum.

Menstruum. A mixture of 3 parts of alcohol and 1 part of water would be better. Beringer (A. J. Ph. 93, 527).

Extractum Digitalis.

Yield. La Wall (A. J. Ph. 96, 371).

Might be directed to be made from the fluid extract. Caspari (Pharmacy, p. 269).

Extractum Digitalis Fluidum.

Commercial. Examination. Haussmann (A. J. Ph. 95, 292 Proc. 95, 565).

Preparation. Ph. Danica macerates 1000 parts of digitalis with 450 parts of diluted alcohol and 50 parts of glycerin, and percolates with diluted alcohol to 6000 parts. Distil off 5000 parts, dilute the remainder with 2000 parts of water, evaporate to 1500 parts, filter and evaporate to 500 parts, to which 500 parts of alcohol are added. It mixes clear with water, and, properly diluted, represents the infusion. (A. J. Ph. 93, 550. Proc. 94, 568.)

Identity. Dilute with water, add a few drops of solution of subacetate of lead, shake and filter. Shake filtrate with ammoniated ether and evaporate the ethereal solution to dryness. Dissolve the residue in sulphuric acid and add bromine water, when a violet color should appear. Ph. Helvet. (Ph. Rdsch. N. Y. 94, 83.)

Extractum Ergotæ.

Beringer contends that an aqueous extract would better answer the requirements of physicians. Percolate the ergot with benzin,

dry and extract with a mixture of 1 part of alcohol and 9 parts of water. Distil off the alcohol, and evaporate to proper consistence. (A. J. Ph. 93, 525.)

Keller. Dampen 1000 parts of ergot with 500 parts of diluted alcohol, and allow it to stand for 12 hours. Exhaust with dilute alcohol, evaporate the percolate to 250 parts, add 250 parts of water, and warm for a short time. Filter from oil and resin, add 50 parts of 10 p. c. HCl, shake, and let stand 24 hours. Filter from the sclererythrin, and add 20 parts of crystallized sodium carbonate. Evaporate to 150 parts, add 15 parts of glycerin, and evaporate to 125 parts. It dissolves perfectly clear in water. (Schweiz. Woch. 94, 141. Proc. 94, 568.)

Bernegau prefers a solution of sodium chloride (containing 5 p. c. of the weight of the ergot) as much more satisfactory than water alone. (Ph. Ztg. 95, 308. Ph. Rdsch. N. Y. 95, 137. Proc. 95, 572.)

Dialyzed Extract. Hager deprives ergot of the oil by ether, exhausts with absolute alcohol, distils off the alcohol from the marc, and exhausts with warm water. Evaporate to a suitable consistence, mix with alcohol, let stand 24 hours, and strain. After cooling, dialyse. (Ph. Post, 95, 455.)

Kremel states that a good extract should be perfectly soluble in 70 p. c. alcohol. (Ph. Ztg. 94, 91.)

Assay. A direct approximately quantitative test is given by Keller:—Acidify 10 Cc. of the aqueous solution (1:20) with 5 drops of dilute HCl, and add a solution of picric acid (1:50), when the mixture should become turbid at once, and yield a flocculent precipitate of cornutine picrate after a few minutes. He does not confirm Kobert's statement that the solution soon loses its activity; he further states Bonjean's extract contains only traces of cornutine. (Schweiz. Woch. 94, 141. Proc. 94, 569.)

Yield. La Wall (A. J. Ph. 96, 371).

Extractum Ergotæ Fluidum.

Hallberg thinks that a menstruum with less alcohol would be preferable, as not extracting so much fixed oil. (Proc. 95, 265.)——Edel, also, questions the advisability of increasing the strength of the alcohol. (Am. Dr. 94, July, 5.)

Gaudin macerates a mixture of powdered ergot, tartaric acid and animal charcoal with cherry laurel water, and percolates with water. Evaporate rapidly to syrupy consistence, and add calcium carbonate. After 12 hours add sufficient alcohol to precipitate the mycose and phosphoric acid, filter, and evaporate to 1:1, adding a little salicylic acid. (Rep. de Ph. 96, 1. Ph. Ztg. 96, 57.)

On page 135, U. S. P., line 3 from below, "Diluted Alcohol" was printed in the first issues. This was changed to "of the mixture."

Extractum Gelsemii Fluidum.

Assay. Titration better than the gravimetric method. Caspari & Dohme (A. J. Ph. 93, 477 & 478. Proc. 93, 121).

Schwickerath. With more or less modified Prollius' mixture. (Ph. Rdsch. N. Y. 93, 284, & 94, 136 & 138. Bull. 93, 538. Proc. 94, 545.)

Extractum Gentianæ.

Menstruum. "Cold" water should be expressly directed. The temptation to use hot water (which yields nearly twice as much extract, largely made up of pectic matter) is great. Caspari (Pharmacy, p. 274).

Yield. La Wall (A. J. Ph. 96, 371).

Extractum Gentianæ Fluidum.

Commercial. Examination. Haussmann (A. J. Ph. 95, 292. Proc. 95, 565).

Extractum Glycyrrhizæ.

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

Extractum Glycyrrhizæ Fluidum.

Commercial. Examination. Haussmann (A. J. Ph. 95, 292. Proc. 95, 565).

Morrison finds that the precipitate caused by the addition of ammonium chloride is mainly glycyrrhizin, and that the larger the proportion of water in the menstruum, the smaller is the precipitate. (Montreal Ph. J. 93, 147. Proc. 94, 570.)

Edel favors a return to the old method, well-known to the Germans. Break the sticks in pieces, and place in the percolator in alternate layers with straw, using cold water for extraction. (Dr. Circ. 94, 195.)

Extractum Glycyrrhizæ Purum.

There is no apparent reason to direct "distilled" water, while ordinary water is considered pure enough for all the other extracts.

Hager proposes to mix the aqueous solution with powdered talcum, adding ammonia and alcohol, and allow to deposit. Filter and evaporate. (Ph. Ztg. 92, 650. A. J. Ph. 92, 615. Proc. 93, 422.)

Dieterich exhausts with water, evaporates to half the weight of the licorice, adds twice as much alcohol, filters, distils off the alcohol,

and evaporates to a thick extract. Helfenberg. Annal. 93 . . . Proc. 94, 571.)

Yield. La Wall (A. J. Ph. 96, 371).

Extractum Grindeliæ Fluidum.

Fluid Extract, freed from Resin. Pack and macerate with hot water, percolating with the same. Sixty p. c. are reserved, and the remainder is evaporated to a soft extract. Add to this 25 p. c. of alcohol, the reserved portions, and sufficient water to the original weight. Filter after some time. Juergens (Ph. Zts. Russl. 95, 314. Ph. Era, 95, xiv. 141).

Extractum Guaranæ Fluidum.

Menstruum. Miner states that a mixture of 2 parts of alcohol and 1 part of water gives better results. (Apoth. 94, 16. Merck, Report, 94, 265. Proc. 95, 573.)

Assay. Titration is better than the gravimetric method. Kebler (Am. Dr. 94, Sept. 179).——By Lloyd's method. Pattison (Ph. Rdsch. N. Y. 92, 239).

Extractum Hæmatoxyli.

Donath calls attention to impurities found in the commercial extract, due to putrid urine, with which the wood has been sprinkled during fermentation. (Ch. Ztg. 94, 277. Proc. 94, 571.)

Yield. La Wall (A. J. Ph. 96, 371).

Extractum Hydrastis Fluidum.

Assay. A good fluid extract should not contain less than 2 p. c. of hydrastine. Thompson (A. J. Ph. 93, 373).——See also Van Ledden-Hulsebosch, and Itallie (Ph. Weekbl. 91 . . .), and Eberhardt (A. J. Ph. 93, 374. Proc. 94, 546).

Schwickerath separates the berberine by treatment with ether, acidulated with hydrochloric and sulphuric acids, filters, adds ammonia until merely faintly acid, filters, mixes with oak sawdust, and treats with a modified Prollius' mixture. (Ph. Rdsch. N. Y. 93, 285, & 94, 133. Bull. Ph. 93, 538. Proc. 94, 548.)

Eberhardt treats the fluid extract with ammoniated ether, and filters through cotton to separate the crystals from the extractive matter. (Am. J. Ph. 93, 374. Proc. 94, 546.)

Identity. Dilute with water, and add chlorine water, when a red color will appear. Ph. Helvet. (Ph. Rdsch. 94, 83.)

Commercial. Examination. Haussmann (A. J. Ph. 95, 292. Proc. 95, 565).

Extractum Hyoscyami.

Might be directed to be made from the fluid extract. Caspari (Pharmacy, p. 269).

Menstruum. It is not clear why the menstruum for moistening should differ from that used for the percolation. Caspari (Pharmacy, p. 268).

Assay. Schwickerath. With a more or less modified Prollius' mixture. (Ph. Rdsch. N. Y. 93, 283, & 94, 138. Bull. Ph. 93, 536. Proc. 94, 538.)

Yield and p. c. of alkaloid. La Wall (A. J. Ph. 96, 368).

Extractum Hyoscyami Fluidum.

Assay. Titration better than the gravimetric method. Caspari & Dohme (A. J. Ph. 93, 477 & 478. Proc. 93, 121), and Kebler (Am. Dr. 94, Sept. 179).——Also Farr & Wright (Ph. J. & Tr. 94, Aug. 125. A. J. Ph. 94, 461).

Schwickerath. With more or less modified Prollius' mixture. (Ph. Rdsch. N. Y. 93, 283 & 94, 138. Bull. Ph. 93, 536. Proc. 94, 538.)

Identity. Acidulate with HCl and dilute with water, shake twice with ether, decant the ether, add ammonia to the aqueous residue, and shake again with ether. The ethereal liquid is evaporated on a water-bath with a few drops of fuming nitric acid. The dry residue will then be colored purple on addition of an alcoholic solution of potassa. Ph. Helvet. (Ph. Rdsch. 94, 83).

Extractum Ipecacuanhæ Fluidum.

Indicators. Value. A P. A. Comm. (Proc. 95, 192).

Assay. Titration better than the gravimetric method. Caspari & Dohme (A. J. Ph. 93, 477 & 478. Proc. 93, 121), and Kebler (A. J. Ph. 95, 29. Am. Dr. 94, Sept. 179).

Keller. Shake with ammoniated ether-chloroform. Evaporate an aliquot part of the filtrate to dryness, take up with alcohol, and titrate with $\frac{N}{10}$ HCl. (Schweiz. Woch. 92, 501 & 509. A. J. Ph. 93, 82. Proc. 93, 407 & 847.)

Schwickerath. With more or less modified Prollius' mixture. (Ph. Rdsch. N. Y. 93, 285, & 94, 139. Bull. Ph. 93, 538. Proc. 94, 549.)

Identity. On very gently heating 2 drops with 6 drops of dilute HCl and a fragment of potassium chlorate, a brilliant orange-yellow color appears. Ph. Helvet. (Ph. Rdsch. N. Y. 94, 83).

Extractum Jalapæ.

Yield. La Wall (A. J. Ph. 96, 371).

Extractum Juglandis.

Should be omitted. Beringer (A. J. Ph. 93, 526).

Yield. La Wall (A. J. Ph. 96, 371).

Extractum Leptandræ.

Might be directed to be made from the fluid extract. Caspari (Pharmacy, p. 269).

Yield. La Wall (A. J. Ph. 96, 371).

Extractum Lupulini Fluidum.

If lupulin is moistened previous to packing, as directed, it is liable to form an impermeable mass. Caspari recommends therefore to pack it dry. (Pharmacy, p. 262.)

(Extractum Malti.)

Should have been retained and a fixed diastatic value required. Beringer (A. J. Ph. 93, 527).

Commercial. Constituents. Helbing & Passmore (Helbing, Ph. Rec. 93, 13. Proc. 94, 571).

Extractum Menispermi Fluidum.

Should be omitted. Beringer (A. J. Ph. 93, 527).

Extractum Nucis Vomicæ.

Preparation. The process might be simplified by depriving the seed of the oil by benzin, previous to extraction with alcohol, etc. The benzin residue may be washed with acidulated water. Beringer (A. J. Ph. 93, 526).——Lucas macerates and percolates with chloroform water containing 5 p. c. of acetic acid. (Ph. J. & Tr. 94, Aug. 137. Proc. 95, 574.)

Indicators. Value. A. P. A. Comm. (Proc. 95, 192.)

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

Assay. Keller. Triturate with water, shake out with ammoniated ether-chloroform, evaporate the ethereal solution to dryness, take up with ether-chloroform and water, and titrate with $\frac{N}{10}$ HCl, using eosin as indicator. (Oest. Zts. 93, 563. A. J. Ph. 94, 44. Proc. 94, 530.)

Coblentz compares the methods of Beckurts, Lyons, Lloyd and Dunstan and himself, using a combination of the official method with Lloyd's ferric carbonate method. (Ph. Rdsch. N. Y. 93, 159. Proc. 94, 551.)

Ph. Helvetica follows Keller's method, but merely weighs the dry residue, which must amount to at least 15 p. c. (Ph. Rdsch. N. Y. 94, 66.)

Extractum Nucis Vomicæ Fluidum.

Preparation. Beringer suggests to make the fluid extract from the solid extract, in analogy with the tincture. 10 Gm. to make 100 Cc. of fluid extract. (A. J. Ph. 93, 528.)——Coblentz considers dilute acetic acid a better menstruum than the official one. (Pharmacy, p. 344.)

Commercial. Examination. Russell (Proc. 93, 419 & 420).

Assay. It is better to "rotate" the chloroformic mixture instead of "agitating" it, otherwise the mixture is likely to emulsionize. Coblentz (Pharmacy, p. 347).

Titration better than the gravimetric method. Caspari & Dohme (A. J. Ph. 93, 477 & 478. Proc. 93, 121), and Kebler (Am. Dr. 94, Sept. 179).——Also Farr & Wright (Ph. J. & Tr. 94, Aug. 125. A. J. Ph. 94, 461).

Schwickerath. With more or less modified Prollius' mixture. (Ph. Rdsch. 94, 57 & 139. Bull. Ph. 94, 56. Proc. 94, 550.)

Extractum Opii.

Since opium is directed to contain at least 9 p. c. of morphine, it would appear useless to order powdered opium, because it is very easy to prepare from the gum opium a dry and powdery extract containing 18 p. c. of morphine. Beringer (A. J. Ph. 93, 526).

Since morphine is liable to be converted into the very mild oxymorphine, the heat of evaporation should not exceed 50° C., or in a vacuum not over 30 to 35° C. (Ph. Centralh. 93, 399.)

Ph. Helvetica requires 18 to 20 p. c. of morphine. (Ph. Rdsch. 94, 67.)

Preparation. Caspari recommends to rub the opium to a smooth paste with water in a mortar, wash this carefully into a flask or bottle, add the remainder of the water, cork the bottle, and shake vigorously every hour or two; this procedure is easier than the official one. "Wash the residue until the filtrate is nearly colorless," it is as well to add "and only faintly bitter." (Pharmacy, p. 276.)

Extractum Physostigmatis.

Yield and p. c. of alkaloids. La Wall (A. J. Ph. 96, 368).

Extractum Phytolaccæ Fluidum.

Commercial. Examination. Haussmann (A. J. Ph. 95, 291. Proc. 95, 565).

Extractum Pilocarpi Fluidum.

Assay. Titration better than the gravimetric method. Caspari & Dohme (A. J. Ph. 93, 477 & 478. Proc. 93, 121), and Kebler

(Am. Dr. 94, Sept. 179).——Also Farr & Wright (Ph. J. & Tr. 94, Aug. 121. Proc. 95, 623).

Extractum Pruni Virginianæ Fluidum.

Commercial. Examination. Haussmann (A. J. Ph. 95, 291. Proc. 95, 565).

Menstruum. The official menstruum is unnecessarily strong. Caspari recommends a mixture of 2 volumes of alcohol, 2 of glycerin, and 6 of water. He states that a number 30 powder is better, and that repercolation is eminently adapted for this fluid extract. (Pharmacy, p. 262.)——Galen, Jr., macerates first with water for twelve hours, using only sufficient to moisten. Then he percolates with a mixture of 1 part of alcohol, 1 of glycerin and 2 of water. (Am. Dr. 95, Mrch. 135. Proc. 95, 575.)——Dillenbach uses a mixture of 1 part of glycerin and 2 parts of water, and a limited repercolation. (Ph. Era, 95, xiv. 9.)

Extractum Quassiæ.

Yield. La Wall (A. J. Ph. 96, 371).

An addition of 10 p. c. of glycerin will prevent its becoming tough. Caspari (Pharmacy, p. 277).

Extractum Rhamni Purshianæ Fluidum.

Bark which has been stored two years should be used, to overcome the tendency to griping. Caspari (Pharmacy, p. 262).

Identity. Add a little water, and shake out with ether. Pour the ethereal solution off, and add ammoniated water, and shake. The aqueous layer will be colored cherry-red. Evaporate the ethereal layer to dryness, and pass over it a glass-rod, dipped in sulphuric acid, when a saffron-yellow color will be produced. Bourquelot (J. de Ph. & Ch. 95, 361. Merck, Report, 95, 222. Proc. 95, 533).

Commercial. Examination. Haussmann (A. J. Ph. 95, 291. Proc. 95, 565).

Extractum Rhei.

"Spontaneous evaporation of the reserved portion." Although the medicinal virtues of rhubarb are injured by heat, Caspari thinks that a temperature of below 50° C. may be employed to recover the alcohol. In evaporating the last percolate, it will be advisable to stir assiduously with a glass-rod (or porcelain spatula) in order to prevent a granular separation of the resin. Caspari (Parmacy, p. 277).

Yield. La Wall (A. J. Ph. 96, 371).

Identity. Dissolve in water, shake the turbid solution with ether, and shake the ethereal solution with ammoniated water. The

aqueous layer will be colored cherry-red. Evaporate the ethereal layer to dryness, and pass over it a glass-rod dipped in sulphuric acid, when a pinkish color will appear. Bourquelot (J. de Ph. & Ch. 95, 361. Merck, Report, 95, 222. Proc. 95, 534).

Extractum Rhei Fluidum.

Commercial. Examination. Haussmann (A. J. Ph. 95, 291. Proc. 95, 565).

Extractum Rosæ Fluidum.

It would be advisable to expressly point out, that the use of metal in any shape is to be avoided.

Dieterich extracts with dilute alcohol, evaporates to syrupy consistence, and adds sufficient glycerin to bring the whole up to 25 p. c. of the weight of the roses. (Helfenberger, Annal. 93 . . . Proc. 94, 572.)

Extractum Sabinæ Fluidum.

Should be omitted. Beringer (A. J. Ph. 93, 527).

Extractum Sarsaparillæ Fluidum Compositum.

Commercial. Examination. Haussmann (A. J. Ph. 95, 291. Proc. 95, 565).

Extractum Sanguinariæ Fluidum.

Assay. Titration better than the gravimetric method. Caspari & Dohme (A. J. Ph. 93, 477 & 478. Proc. 93, 121), and Kebler (Am. Dr. 94, Sept. 179).

Extractum Scoparii Fluidum.

The words "using the same proportions of alcohol and water as before," which will be found in the earlier issues, should be cancelled.

Extractum Scutellariæ Fluidum.

Menstruum. Two volumes of alcohol and 1 of water is preferable; made with the officinal menstruum, the fluid extract does not keep well. Caspari (Pharmacy, p. 263).

Extractum Senegæ Fluidum.

Menstruum. A mixture of 2 volumes of alcohol, 1 of water and 5 p. c. of ammonia exhausts the drug thoroughly, and yields a permanent preparation. The stronger alcoholic menstruum of the Pharmacopœia is therefore unnecessary. Caspari (Pharmacy, p. 263).

Commercial. Examination. Haussmann (A. J. Ph. 95, 291. Proc. 95, 565).

Extractum Sennæ Fluidum.

Commercial. Examination. Haussmann (A. J. Ph. & Proc. Ibid.).

Extractum Serpentariæ Fluidum.

Commercial. Examination. Haussmann (A. J. Ph. & Proc. Ibid.).

Extractum Stillingiæ Fluidum.

Commercial. Examination. Haussmann (A. J. Ph. & Proc. Ibid.).

Menstruum. Since this fluid extract is liable to gelatinize upon standing, a mixture of 3 volumes of alcohol and 1 of water is better adapted; or the addition of 12 p. c. sugar to the official menstruum. Caspari (Pharmacy, p. 263).

(**Extractum Stramonii Folii.**)

Recommended for introduction, because the leaves and stems are richer in alkaloids than the seeds. A. P. A. Comm. (A. J. Ph. 95, 484).

(**Extractum Stramonii Folii Fluidum.**)

Recommended for introduction because the leaves and stems are richer in alkaloids than the seeds. A. P. A. Comm. (A. J. Ph. 95, 484).

Identity. Dilute with water, and shake vigorously with ammoniated ether. Separate the ethereal solution, and evaporate it with a couple of drops of HCl to dryness. On adding an alcoholic solution of potassa, a purple color appears. Ph. Helvet. (Ph. Rdsch. N. Y. 94, 83).

Extractum Stramonii Seminis.

Reducing the seed to a No. 60 powder is difficult on account of the oil. It would be better to remove the oil by benzin, before powdering. Caspari (Pharmacy, p. 277).

Yield and p. c. of alkaloid. La Wall (A. J. Ph. 96, 368).

Assay. Schwickerath. With more or less modified Prollius' mixture. (Ph. Rdsch. N. Y. 93, 283. Bull. Ph. 93, 536.)

Extractum Stramonii Seminis Fluidum.

Assay. Titration better than the gravimetric method. Caspari & Dohme (A. J. Ph. 93, 477 & 478. Proc. 93, 121), and Kebler (Am.

Dr. 94, Sept. 179). Also Farr & Wright (Ph. J. & Tr. 94, Aug. 125).

Schwickerath. With more or less modified Prollius' mixture. (Ph. Rdsch. N. Y. 93, 283. Bull. Ph. 93, 536.)

Extractum Taraxaci.

Should not the albuminous matter be removed before evaporation?

Yield. La Wall (A. J. Ph. 96, 371).

Extractum Taraxaci Fluidum.

Commercial. Examination. Haussmann (A. J. Ph. 92, 291. Proc. 95, 565).

Extractum Tritici Fluidum.

Commercial. Examination. Haussmann (A. J. Ph. 95, 291. Proc. 95, 565).

Caspari prefers to digest the finely-cut drug, to repeat this once or twice, concentrate the infusion rapidly, and when cold, mix with alcohol, then proceed as in the Pharmacopœia. (Pharmacy, p. 264.)

Extractum Uvæ Ursi.

Yield. La Wall (A. J. Ph. 96, 371).

Menstruum. Diluted alcohol yields a more satisfactory product. Caspari (Pharmacy, p. 277).

Extractum Uvæ Ursi Fluidum.

Caspari prefers to leave out entirely the glycerin, and to use diluted alcohol. (Pharmacy, p. 264.)

Extractum Veratri Viridis Fluidum.

Of questionable utility, being only 2½ times stronger than the tincture. Caspari (Pharmacy, p. 264).

Assay. Titration better than the gravimetric method. Caspari & Dohme (A. J. Ph. 93, 477 & 478. Proc. 93, 121), and Kebler (Am. Dr. 94, Sept. 179).——Farr & Wright declare titration unsatisfactory. (Ph. J. & Tr. 94, Aug. 125. A. J. Ph. 94, 461.)

Ferri Carbonas Saccharatus.

The exact final weight being 100 Gm., the U. S. P. preparation conforms exactly in strength to that of the Ph. Germ. III. The suggestion made in the U. S. Dispensatory to add sugar or syrup to the two solutions before mixing, seems entirely unnecessary, as in the first precipitation the ferrous carbonate is contained in a liquid charged with carbonic acid, resulting in part from the reaction, and