Tabacum.

Chemistry of Nicotine. Pinner (Arch. Ph. 93, 378. Proc. 93, 856, & 94, 1134).

Histochemistry. Toni (Proc. 94, 941).

Assay. Hent (?Went) (Arch. Ph. 93, 658. Proc. 94, 555, & 95, 548).——Vedroedi (Zts. Anal. Ch. 93, 277. Proc. 94, 555).

Taraxacum.

Constituents at various seasons: In Sept. most taraxacin; March most extractive; Aug. most inulin; Oct. most levuline. Sayre (A. J. Ph. 95, 465. Proc. 93, 77; 94, 241, & 95, 203.)

Terebenum.

Jayne states, that all really pure and inactive terebenes give no fractions having a boiling point under 165° C., and a very few under 170° C. Commercial terebenes often contain a large p. c. of oil of turpentine, and as they appear to give satisfaction, it would seem a useless refinement to obtain a perfectly inactive terebene. (A. J. Ph. 94, 225. Proc. 94, 1167.)

Power & Kleber state that the sp. gr. is 0.855 at 15° C., and the boiling point 170 to 185° C. That it "resembles oil of turpentine in its chemical properties" is not correct. Upon the basis of their investigations, Power drew up an amended text which is as follows:

Terebenum, Terebene. An optically inactive liquid, obtained by the action of concentrated sulphuric acid on oil of turpentine and subsequent rectification with steam. It consists chiefly of the hydrocarbons Dipentene and Terpinene, with some Cymol and Camphene.

Terebene should be kept in well-stoppered bottles, in a cool place, protected from light.

A colorless, thin liquid, having an agreeable thyme-like odor, and an aromatic taste.

Specific gravity: About 0.855 at 15° C. (59° F.)

Only slightly soluble in water, but soluble in three times its volume of alcohol, and in an equal volume of glacial acetic acid, or of carbon disulphide.

It boils between 170° and 185° C. (338° and 365° F.)

On exposure to light and air, Terebene gradually becomes resinified, and acquires a yellowish color and an acid reaction.

Terebene should possess its characteristic, agreeable odor, should not redden moistened blue litmus paper (absence of *acids*), and should be completely inactive towards polarized light (absence of *unaltered oil of turpentine*).

If about 10 Cc. of Terebene be evaporated in a capsule, on a water-bath, not more than a very slight residue should be left (absence of

more than traces of *resinous matters*). Power (Circ. 285, pg. 1385. Pharm. Rdsch., N. Y. Jan. 1894).

Terebinthina Canadensis.

Chemistry of the volatile oil. Emmerich (A. J. Ph. 95, 135).

Solubility. It is miscible with 6.4 parts of absolute alcohol, 2.33 of alcohol, and 4.4 of acetone, all by volume. Morrison (Proc. 94, 309). Balsam of Oregon fir is completely soluble in alcohol.

(Tinctures.)

England shows that it is not possible to make fluid extracts, which on proper dilution will give tinctures corresponding in all essential particulars with those made in the regular way. He also gives tables showing discrepancy between strength and dose, as compared with fluid extracts. (A. J. Ph. 93, 438. Proc. 94, 657.)

Acetic acid has been suggested to replace part of the alcohol in some of the tinctures. A. P. A. Comm. (A. J. Ph. 95, 484), and McMahon (Proc. 94, 671).

Kring points out that maceration and expression is more economical than percolation, where recovery of alcohol is not possible. (Nat. Dr. 94, 41. Proc. 94, 627.)

Alkaloidal Tinctures. The most feasible plan for producing tinctures of constant strength, is to prepare strong tinctures by percolation, and then dilute them to the proper strength. These tinctures remain constant in strength, when properly kept. They also give a table showing the alkaloidal and extractive strength of five successive fractions; the largest proportion of alkaloid is found in the first fraction. Farr & Wright (Ph. J. & Tr. 93, Aug. 177, & 94, Aug. 123. Proc. 94, 629, & 95, 622).

Seeliger recommends to extract alkaloidal drugs by first moistening with water, rendered alkaline with ammonia, and macerating for a couple of days before proceeding with the percolation. He claims that the yield of alkaloids will be larger. If necessary, the ammonia might later be neutralized with the requisite amount of acid. (Ph. Centralh. 94, 44.)

Comparison of the strength of tinctures of the U. S. P. and those of the Ph. Br. (Bull. Ph. 94, 8. Proc. 94, 628.)

Assay. Comparison between gravimetric and volumetric methods. Farr & Wright (Ph. J. & Tr. Aug. 126. Proc. 95, 622).

Wulling proposes a series of concentrated tinctures, as a convenience. (Ph. Era, 94, 155.)

Recovery of Alcohol from the marcs, &c. Bird recommends the use of a conical head on the still, and claims that a comparatively low temperature is sufficient. Somewhat on the principle of Curtman's still. (Ph. J. & Tr. 95, Aug. 157).

Tinctura Aconiti.

In fractioning the percolate, Farr & Wright found that the first fifth contains 80 p. c. of the whole alkaloid; and that the drug may be practically exhausted by 3 parts of menstruum to one of the drug. (Ph. J. & Tr. 93, Aug. 178. Proc. 94, 630.)

The percolation should proceed slowly, not over ten drops in a minute, as the drug is not easily exhausted. Caspari (Pharmacy, p. 247).

Assay. Gravimetric and volumetric methods compared. Farr & Wright (Ph. J. & Tr. 94, Aug. 126. Proc. 95, 623).

Identity. Mix 2 Cc. with 3 Cc. of ether, and add 1 Cc. of ammonia and 4 Cc. of water with gentle agitation. Evaporate the separated ethereal solution to dryness, heat the residue in a water-bath with a few drops of dilute phosphoric acid, when a violet color will appear. Ph. Helvetica (Rdsch. N. Y. 94, 82).

Tinctura Aloes.

The reason for directing "purified" aloe is not apparent, Socotrine aloes would have done as well. Beringer (A. J. Ph. 93, 520).

Maceration would be better than percolation. Beringer (Ibid. 94, 22).

Identity. Add a little water, and shake out with ether. The ethereal solution is poured upon ammoniated water, when the lower layer acquires a cherry-red color, while the upper, ethereal layer is decolorized. The ethereal layer is evaporated to dryness, and over the residue is passed a glass-rod, dipped into sulphuric acid, when a brownish-yellow color is developed. Bourquelot (J. de Ph. & Ch. 95, xv. 361. Proc. 95, 533).

Tinctura Aloes et Myrrhæ.

"Purified" aloes appears to be a useless refinement. Beringer (A. J. Ph. 93, 520).

Maceration is better than percolation. Whether the licorice root makes the taste less disagreeable, is an open question. Beringer (A. J. Ph. 94, 22).

Tinctura Arnicæ Florum.

Should not the powder be moistened before packing? Beringer (A. J. Ph. 94, 22), and Caspari (Pharmacy, p. 247).

Tinctura Aurantii Dulcis.

Why not grate the rind, instead of cutting it?

Tinctura Belladonnæ Foliorum.

Nomenclature. See remarks under Extractum Belladonnæ Foliorum Alcoholicum.

The first fifth fraction of the percolate contains 60 p. c. of the total alkaloids. Farr & Wright (Ph. J. & Tr. 93, Aug. 178. Proc. 94, 630).

Assay. Comparison between the volumetric and the gravimetric methods. Farr & Wright (Ibid. 94, Aug. 126. Proc. 95, 623).

Cripps proposes a strength of 0.25 p. c. of alkaloids. (Ph. J. & Tr. 95, March, 796.)

Tinctura Benzoini.

There appears to be no sensible reason why this tincture should stand seven days, while two hours are considered sufficient for the compound tincture. MacPherson (Ph. J. & Tr. 94, March, 782).

Tinctura Benzoini Composita.

The use of "purified" aloes appears to be uncalled for. Beringer (A. J. Ph. 93, 520).

Tinctura Bryoniæ.

"Recently dried"—The root does not grow in the United States. Diluted alcohol will do as well as alcohol. Caspari (Pharmacy, p. 247).

Tinctura Calendulæ.

Is not diluted alcohol a better menstruum? Beringer (A. J. Ph. 94, 22).

Tinctura Cinchonæ.

In fractioning the percolate, Farr & Wright found that the first fifth portion contained about 45 p. c. of the total alkaloids. (Ph. J. & Tr. 93, Aug. 178. Proc. 94, 630.)

Assay. Comparison between volumetric and gravimetric methods. Farr & Wright (Ibid. 94, 126. Proc. 95, 623).

Tinctura Cinnamomi.

In the first issue the words "the remainder of the menstruum, and afterwards," after the words "gradually pour on," had been omitted.

Tinctura Colchici Seminis.

The seeds should be deprived of the oil before extraction. A. P. A. Comm. (A. J. Ph. 95, 485. Proc. 95, 240.)

Whole or ground seeds. As the active principle resides in the testa, grinding or powdering, would not appear to be necessary.

The first fifth fraction of the percolate contains about 80 p. c. of

the total alkaloid. Farr & Wright (Ph. J. & Tr. 93, Aug. 178. Proc. 94, 630). They found that the drug may be practically exhausted with three parts of menstruum.

Assay. Comparison between volumetric and gravimetric methods. Farr & Wright (Ibid. 94, Aug. 126. Proc. 95, 623).

Identity. Add a little water, and shake out with chloroform. Evaporate the chloroformic solution to dryness, and add a drop of sulphuric acid, when a deep-yellow color appears. On passing a glass-rod, dipped into nitric acid, over it, a pinkish-violet color will be noticed, which quickly disappears. Bourquelot (J. de Ph. & Ch. 95, 361. Proc. 95, 532).——Add to the residue of evaporation sulphuric acid and a fragment of potassium nitrate. On stirring, bluish-violet stripes will be noticed, which soon disappear. On now adding alcohol and an excess of ammonia, an orange-red color appears. Ph. Helvetica (Ph. Rdsch. N. Y. 94, 83).

Tinctura Conii.

The first fifth fraction of the percolate contains 70 p. c. of the total alkaloid. Farr & Wright (Ph. J. & Tr. 93, Aug. 178. Proc. 94, 630). They state that the drug may be exhausted with 4 parts of the menstruum.

Assay. Comparison between volumetric and gravimetric methods. Farr & Wright (Ibid. 94, 126. Proc. 95, 623).

Tinctura Digitalis.

The first fifth fraction of the percolate contains 60 p. c. of the total alkaloids. (Ph. J. & Tr. 93, Aug. 178. Proc. 94, 630.)

Tincturæ Herbarum Recentium.

Title. Why not make it: Tinctura Herbæ Recentis?

The amount of product should be stated, since the amount of moisture in the fresh herbs is a variable quantity. It would be better to direct only 900 Cc. of alcohol, and to make up the filtrate to 1000 Cc. Beringer (A. J. Ph. 94, 22).

Tinctura Gelsemii.

Assay. Farr & Wright (Ch. & Dr. 92, 263. Proc. 93, 460).—— Comparison between volumetric and gravimetric methods. Farr & Wright (Ph. J. & Tr. 94, 126. Proc. 95, 623).

Identity. Add a few drops of dilute HCl, and evaporate to dryness. Dissolve in water, and shake with ammoniated ether. Evaporate the ethereal solution to dryness, and add a few drops of sulphuric acid, and a fragment of potassium dichromate, when a violet-red color will be noticed, which, however, soon disappears. Ph. Helvetica (Ph. Rdsch. N. Y. 94, 83).

Tinctura Hyoscyami.

The first fifth fraction of the percolate contains 60 p. c. of the total alkaloids. Farr & Wright (Ph. J. & Tr. 93, Aug. 178. Proc. 94, 630).

Assay. Comparison between volumetric and gravimetric methods. Farr & Wright (Ibid. 94, Aug. 126. Proc. 95, 623).

Tinctura Iodi.

Trituration of the iodine is for many reasons inconvenient, and perfectly superfluous, except where the tincture has to be made in a hurry. Circulatory displacement is better. Put the iodine in a small bag, and fasten it so that it is a little under the surface of the alcohol.

Popiel finds that the tincture decomposes more rapidly in the dark, than when exposed to light; which is contrary to the general opinion. (Ph. Centralh. 95, 404. Proc. 95, 625) and Sapin (Rép. de Ph. 95, 197. Proc. 95, 625).

Estimation of Free Iodine and of Hydriodic Acid. Titrate a weighed amount with solution of sodium arsenite, using starch solution as indicator. This gives the free iodine. To another weighed portion add excess of sodium arsenite, which reduces the iodine to sodium iodide. Precipitate with an excess of silver nitrate, and filter. Acidulate strongly with nitric acid, which dissolves the silver arsenite and arsenate, but not the silver iodide, which is collected and weighed. The total amount of iodine, less the free iodine, gives the hydriodic acid. Nickerson (Bull. Ph. 93, 447. Proc. 94, 631, 679).

Tinctura Lobeliæ.

The first fifth fraction of the percolate contains 60 p. c. of the total alkaloid. Farr & Wright (Ph. J. & Tr. 93, Aug. 178. Proc. 94, 630).

Assay. Comparison between volumetric and gravimetric methods. Farr & Wright (Ibid. 94, Aug. 124. Proc. 95, 623).

Tinctura Moschi.

It is a question, whether the menstruum exhausts the 5 p. c. of musk. Two p. c. would seem to be sufficient. Beringer (A. J. Ph. 94, 23).

Hauer recommends to treat the musk, triturated with an equal part of rock candy or sand, with 10 parts of boiling water, containing 3 p. c. of sodium carbonate. The next day add 35 parts of alcohol, and macerate for a fortnight. Nearly all the musk will be dissolved. (Ph. Ztg. 95, 130.)

Caspari proposes to macerate the musk with the water for twelve hours, before adding the alcohol. (Pharmacy, p. 248.)

Tinctura Nucis Vomicæ.

The first fifth fraction contains 80 p. c. of the total alkaloids. Farr & Wright (Ph. J. & Tr. 93, Aug. 178. Proc. 94, 630.) They state that 3 parts of menstruum will practically exhaust the drug.

Assay. Comparison between volumetric and gravimetric methods. Farr & Wright (Ibid. 94, Aug. 126. Proc. 95, 623).

Identity. Add dilute sulphuric acid, and evaporate on a water-bath to dryness, when reddish-violet rings will be noticed on the sides of the capsule. Bourquelot (J. de Ph. & Ch. 95, 361. Proc. 95, 532).

Tinctura Opii.

Powdered Opium. Contrary to its custom, the Pharmacopœia has not indicated the fineness of the powder for the preparations of opium.

The commercial powder (usually No. 80) is liable to give a pasty mass with the menstruum, making percolation rather difficult, notwithstanding the admixture of calcium phosphate. Granulated opium has therefore been recommended by Caspari (Pharmacy, p. 249) and others, especially Kebler & La Wall, who state that the official process is not only tedious, but occasions loss of morphine. With the use of granulated opium, the loss is comparatively insignificant. The official process takes from 60 hours to 6 days, and the loss of morphine is from 1.4 to 2.42 p. c. With granulated opium it takes from 10 to 36 hours, and the loss is from 0.3 to 0.6 p. c. (A. J. Ph. 95, 554.)

Andres points out to those who prefer digestion to percolation, that maceration is preferable, heat being injurious to opium. (Ph. Ztg. Russl. 92, 807. Proc. 93, 465.)

Farr & Wright find that the proportion of morphine increases as the alcoholic strength of the menstruum decreases; the opposite being the case with the alkaloids other than morphine. They conclude that the best process is to break down the moist opium with cold water, then to add the alcohol, and to macerate for several days. (Ch. & Dr. 93, 312. Proc. 93, 465.)

Assay. Kebler proposes a modification of Squibb's method. (A. J. Ph. 93, 209. Proc. 93, 410.)——Moerck proposes a modification of the U. S. P. method. (A. J. Ph. 92, 354. Proc. 93, 410.)——Widlund follows the official method, but treats the morphine with benzin to remove alkaloids other than morphine. (Proc. 94, 653.)——Coblentz cautions against raising the temperature to the boiling point, in evaporating the tincture. (Pharmacy, p. 264.)——Farr &

Wright compare the volumetric method with the gravimetric one. (Ph. J. & Tr. 94, Aug. 126. Proc. 95, 623.)——Ph. Helvetica dilutes with water, and evaporates off the alcohol, rotates with dilute ammonia, and filters at once. Then the assay is to proceed according to Dieterich's acetic ether method. (Ph. Rdsch. N. Y. 94, 67.)

Tinctura Opii Deodorati.

Caspari prefers maceration with frequent agitation, as under "Opium deodoratum." As to Federer's process, by freezing (see "Digest" on U. S. P. 1880, p. 178), he states that he noticed a loss of morphine, which loss occurred in a dark deposit, separated during the freezing operation. (Pharmacy, p. 249 & 250.)

Tinctura Physostigmatis.

Should be preserved in small, well-stoppered vials, and kept in a dark place, the alkaloids being sensitive to light. Caspari (Pharmacy, p. 250).

Tinctura Rhei.

A tincture with strong alcohol contains chrysophan and tannin, but little or no cathartic acid. Weaker alcohol extracts from the marc cathartic acid, and but little of the tannin. Proof spirit should give a tincture, containing all that is active in rhubarb, both purgative and astringent. (Ch. & Dr. 94, Aug. 255. Proc. 95, 876.)

The amount of glycerin appears to be excessive. Beringer (A. J. Ph. 94, 24).

Tinctura Rhei Aromatica.

Glycerin. See under Tinctura Rhei.

Tinctura Rhei Dulcis.

Glycerin. See under Tinctura Rhei.

(Tinctura Stramonii Folii.)

Recommended for introduction, because the leaves and stems are richer in alkaloids than the seeds, and because the oil, taken up, would interfere in mixtures with other preparations. A. P. A. Comm. (A. J. Ph. 95, 484. Proc. 95, 240.)

Assay. Comparison between volumetric and gravimetric methods. Farr & Wright (Ph. J. & Tr. 94, Aug. 126. Proc. 95, 623).

Tinctura Strophanthi.

The oil should be removed from the seeds before extracting. Beringer (A. J. Ph. 94, 24), and Martindale (A. J. Ph. 95, 329. Proc. 95, 626).

Assay. Comparison between volumetric and gravimetric methods. Farr & Wright (Ph. J. & Tr. 94, Aug. 124. Proc. 95, 623).

Identity. Mix 6 drops with one drop of ferric chloride solution and 6 drops of sulphuric acid. A brown precipitate is formed, which turns distinctly green after one hour, and retains its color for three hours. Hartwich (Arch. Ph. 92, 401. Proc. 93, 628).

The Committee has received a communication from a prominent firm, stating that this tincture when prepared with the menstruum directed by the U. S. P. (65 vol. of alcohol and 35 vol. of water), does not keep well, but deposits a sediment; but that, if prepared with alcohol, after treatment of the seeds with ether, a satisfactory product is obtained.

Tinctura Sumbul.

Ten p. c. is too weak, it should be 25 p. c. Beringer (A. J. Ph. 94, 24).

Tinctura Tolutana.

Title. Inasmuch as "tolutana" implies that the tincture is merely impregnated with tolu, "Tinctura Tolu" would appear more appropriate, as the tincture is a complete solution of the balsam.

Tinctura Vanillæ.

The dilute (65:35) alcohol leaves the vanilla rather tough; it would be better to macerate the beans in alcohol, which makes them quite brittle.

Barnes beats the vanilla with only 50 Gm. of the sugar, and packs it in the percolator in alternate layers with the remainder of the sugar. He claims a brighter product and greater ease of manipulation. (Ph. Era, 95, xiv. 238.)

Tinctura Veratri Viridis.

The first fifth fraction of the percolate contains 70 p. c. of the total alkaloids. The drug may be practically exhausted by 4 parts of 70 p. c. alcohol, which is the best menstruum. Farr & Wright (Ph. J. & Tr. 93, Aug. 178. Proc. 94, 630).

Assay. Comparison between volumetric and gravimetric methods. (Ph. J. & Tr. 94, Aug. 126. Proc. 95, 623.)

Trituratio Elaterii.

Might have been omitted, the directions under "Triturationes" being amply sufficient. Beringer (A. J. Ph. 94, 92).

(**Trochisci.**)

Formulas for the following might have been given:

Benzoic acid; Cocaine; Guaiac; Guaiac compound; and Kino. Beringer (A. J. Ph. 94, 93).

Improved apparatus. Procter (A. J. Ph. 94, 138. Proc. 94, 500).

Trochisci Cretæ, and Trochisci Ipecacuanhæ.

Might have been omitted. Beringer (A. J. Ph. 94, 93).

Trochisci Cubebæ.

Are rather small. Beringer (Ibid.).

Trochisci Menthæ Piperitæ, and Trochisci Zingiberis.

Should be relegated to the confectioner. Beringer (Ibid.).

Ulmus.

Contains sufficient starch to respond to the iodine test, especially when to 2 Cc. of the iodine T. S. is added 8 Cc. of 10 p. c. sulphuric acid. Lloyd (A. J. Ph. 95, 460. Proc. 95, 194).

(**Unguenta.**)

Glycerinated extracts for ointments, see under "Extracta solida."

Degree of Subdivision of Insoluble Powders. Dieterich gives a table, showing the comparative degree of subdivision (fineness) as produced by machines and by hand. His table shows a great want of uniformity, and he proposes that a microscopical test for the official ointments should be prescribed. (Diameters in Micro Mm.) (Ph. Centralh. 93. . . . Proc. 94, 633.)

Boa objects to the usual direction to "stir until cold," contending that the air, which is unavoidably stirred in, promotes rancidity, &c. (Ph. J. & Tr. 94, April, 861. Proc. 94, 634.)

Biel recommends a mixture of 1 part of lanolin and 3 parts of petrolatum as a superior ointment-body. Bull. Ph. 96, 7.)

Unguentum.

Bezoinated lard would be an improvement. Beringer (A. J. Ph. 94, 93).

Unguentum Acidi Carbolici.

Separation takes place only when the acid is mixed by trituration with the ointment, but not if the acid is dissolved in the melted ointment. (Ph. Ztg. 94, 432. Proc. 94, 640.)

Unguentum Acidi Tannici.

Should be "freshly prepared." Beringer (A. J. Ph. 94, 93).