Rheum.

Proctor finds that, although the odorous principle may be removed by chloroform, and the chrysophanic acid by benzol, the root acquires odor again on exposure to moisture and air, and the acid is formed again by the action of air, water and potassa. (Ch. & Dr. 94, Aug. 255. A. J. Ph. 94, 462. Proc. 95, 876.)

Chemistry. Hesse (Ph. J. & Tr. 95, Oct. 325. A. J. Ph. 95, 615).

It should yield with alcohol (0.930) at least 33 p. c. of extract (dried at 100° C.). Ph. Helvetica (Ph. Rdsch. N. Y. 94, 82).

Rhus Toxicodendron.

A tincture is wanted. Beringer (A. J. Ph. 93, 470).

Morrison calls attention to an admixture with the leaves of Ampelopsis quinquefolia, which are easily recognized by their five leaflets. (A. J. Ph. 96, 131.)

Rosa Centifolia.

Is there any reason for retaining this variety, which is not directed in any preparation?

Rubus.

Analysis. Harms (A. J. Ph. 94, 580).

Sabina.

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

Saccharum.

Solubility. In water of different temperatures. Herzfeld (Proc. 93, 931).

Ultramarine. A better and quicker test, taking advantage of the development of hydrogen sulphide, is to suspend a strip of white paper, moistened with a solution of acetate of lead, over the solution of sugar containing free acid. Haussmann (A. Z. Ph. 95, 90).

Identity. To the aqueous solution add a few drops of a 5-p. c. solution of cobaltic nitrate, and a slight excess of a 50-p. c. solution of soda, which produces a violet color. *Glucose* gives a blue color, which soon disappears for a dirty-green. Papasogli (Ph. Centralh. 95, 570).

Saccharum Lactis.

Glucose and *Starch.* Tests for both would appear to be necessary. Beringer (A. J. Ph. 94, 17).

Ash. Allowable p. c. would seem to be necessary. Beringer (Ibid.).——The p. c. should not exceed 0.25. Several samples showed the presence of magnesium and calcium salts in the ash; their presence caused the milk, to which the milk-sugar was added, to coagulate on heating. Braithwaite (Ph. J. & Tr. 94, April, 853. Proc. 94, 966).

Sulphuric Acid. Kinzel suggests the introduction of a test for this acid. (Ap. Ztg. 94, 183.)

Cane Sugar. To a solution of 1 Gm. in 10 Cc. of water add a solution of 0.1 Gm. of resorcin in 1 Cc. of HCl: it should not turn red after boiling for five minutes. This test will detect 0.1 p. c. of cane sugar. Conrady (Ap. Ztg. 94, 984. Nat. Dr. 95, 369. Proc. 95, 878).

Manufacture in the U. S. Penny (Ph. Era, 94, 223. Proc. 95, 897).

Salicin.

Melting Point. At 201° C. Merck (Index, p. 208).

Color Reactions with nitric acid, followed by ammonia, and potassium cyanide. Formanek (Ph. Post, 95, 179. Ph. Rdsch. N. Y. 95, 242. Proc. 95, 979).

Salol.

On adding to salol a few drops of nitrosulphuric acid, the mixture will be colored yellowish, then brown, and finally green. On adding water, it will on stirring, turn reddish, but regain its greenish color on addition of ammonia. (J. Ph. d'Anvers, 93 . . . Ph. Rdsch. N. Y. 93, 294.)

Sambucus.

Ruetzou found a parcel of elder flowers adulterated with flowers of milfoil. (Farm. Tidskr. 94, 11. Ph. Rdsch. N. Y. 94, 214. Proc. 95, 850.)

Sanguinaria.

Microscopy. Bastin (A. J. Ph. 95, 4. Proc. 95, 872).

Assay. La Wall recommends benzin, supplemented by ether-chloroform. (A. J. Ph. 96, 305.)

Santonica.

Purity. Shake the powder with absolute alcohol, heat to boiling, filter, add a piece of potassa, and heat again. If pure, a distinctly red color will appear; if adulterated, either no color, or a yellowish-red. Astolfi (Boll. Ch. & Farm. 93 . . . Ph. Rdsch. N. Y. 93, 160).

Santoninum.

The color reaction with sulphuric acid and ferric chloride is best applied as follows: Dissolve santonin in sulphuric acid in one test-tube, in another mix about half a drop of ferric chloride solution with 1 Cc. of water. Mix the two solutions, and heat for a few seconds, when a violet color will be observed. Stadelmann (Suedd. Ap. Ztg. 93, 70. A. J. Ph. 93, 169. Proc. 93, 861).

Sapo.

Commercial. Examination. Knox (Proc. 95, 174).

Estimation of Total Alkali. Dieterich modifies Geissler's process as follows: Dissolve 1 Gm. of the soap in 30 Cc. of alcohol, add 5 Cc. $\frac{N}{10}$ sulphuric acid, and boil until the evolution of carbonic acid stops. After cooling, titrate with $\frac{N}{10}$ alkali, using phenolphthalein as indicator. (Helfenberg Annal. 92. Proc. 94, 608.)——Kinzel states that new soap stands the phenolphthalein test worse than old soap. (Ap. Ztg. 94, 183.)

Sapo Mollis.

Would not a definite yield of product be necessary? Beringer (A. J. Ph. 94, 17).

A better formula would be one with 1000 parts of olive oil, 360 parts of potassa and 3000 Cc. of water. A. P. A Comm. (A. J. Ph. 95, 485. Proc. 95, 241).

Sassafras.

Microscopy. Bastin (A. J. Ph. 95, 312).

Scilla.

Chemistry. Wanizewski (J. Ph. d'Anvers. 93, 252. A. J. Ph. 93, 498. Proc. 94, 907).——Kurtz and others. (A. J. Ph. 94, 245. Proc. 94, 907.)

Scoparius.

Alkaloid. 100 kilos. of dried broom yielded 800 to 1700 Gm. of sparteine sulphate. Adrian (Bull. Ph. 92, 486. Proc. 93, 819).

Scutellaria.

"50 Cms. long" is hardly found in the market. 20 to 25 Cms. would be nearer the actuality. Beringer (A. J. Ph. 94, 17).

Senega.

Methyl Salicylate. The presence of methyl salicylate in senega is normal. (Ph. J. & Tr. 95, June, 1195.)

Salicylic Acid. Extract twice with ether, and add to the last portion a few drops of HCl. Shake this portion with water of 40 to 50° C., and filter after the evaporation of the ether. Add one drop of solution of ferric chloride, when a violet color should appear. Ph. Helvetica (Ph. Rdsch. N. Y. 94, 82).

Contamination. Hartwich found the root of Triosteum in a parcel. (Arch. Ph. 95, 118. Ph. Rdsch. N. Y. 95, 104. Proc. 95, 875.)

Senna.

"Argel leaves frequently present"—However true in former times, they have of late years been seldom met with. Beringer (A. J. Ph. 94, 17).

Alexandria leaves are preferable to Tinnevelly, because the former leaves contain less gummy matter. Dilly (Proc. 94, 673).

Sinapis Alba.

Chemistry. Sayre (A. J. Ph. 95, 339).

Starch in the ground mustard. The Pharmacopœia should show explicitly how starch can be found. Lloyd gives the following: To 0.5 Gm. of mustard flour in a large test-tube add 8 Cc. of water and 1 Cc. of iodine test-solution, boil until the brown color has disappeared. Decant, and add to the cooled liquid 1 drop of the iodine test-solution, this will show as little as 0.1 p. c. of starch. (A. J. Ph. 95, 464. Proc. 95, 197.)

Sinapis Nigra.

Ash. Should not be more than 5 p. c. (Ph. Centralh. 93, 238.)

Starch in the ground mustard. See under Sinapis Alba.

Soda.

With present methods of manufacture and purification, it is not very likely that sulphide, cyanide or sulphocyanate of sodium be found. Curtman (Circ. No. 93, p. 452).

The remarks appended to "Potassa," regarding the rigorous requirements of the Pharmacopœia, have also been applied to this alkali.

Sodii Acetas.

Iron. The German Comm. tests for iron with potassium ferrocyanide. (Ap. Ztg. 94, 186.)

Melting Point. Authors differ. Flueckiger, 75° C.; Jeanell and Baumhauer, 58° C. (Circ. No. 93, p. 454.)

Identity. The acetic acid odor test, formerly given, is not perfectly reliable, because other *pure* fatty acids, as formic, propionic and especially butyric acid, have an odor hardly to be distinguished from that of acetic acid, and butyric acid is often found in pyroligneous acid. The ethers have a very different odor. Curtman (Circ. No. 93, p. 454).

Sodii Arsenas.

Solubility. In 2 parts of glycerin. Merck (Index, p. 212).

Efflorescence. The salt with 7 molecules of water does not readily effloresce, while that with 12 molecules, which is generally sold, effloresces readily. The salt does not lose the remainder of its water at 148° C., but only 2 molecules. The rest is lost at about 690° C., or at a bright-red heat. Below 30° C. the salt crystallizes with 12 molecules of water, of which 5 are lost spontaneously. Above 33° C. crystals form with 7 molecules. Curtman (Circ. No. 93, p. 456).

Sodii Bicarbonas.

Estimation of the quantity of mono- and bi-carbonate in the commercial salt. The chief factors are the p. c. of CO_2 found by actual analysis, and the theoretical p. c. of CO_2 calculated as bicarbonate. Wenzell (Ph. Era, xii, 94, 390. Proc. 94, 277), and Landis (Ph. Era, xii, 94, 490).

Solubility. In 14 parts of water; if soluble in less, the German Comm. ascribes it to loss of carbonic acid. (Ap. Ztg. 94, 186.)

Sodii Boras.

Borax volatilizes at a white heat. Waldbott (J. Am. Ch. Soc. 94, 410. Proc. 95, 962).

Iron. 50 Cc. of a 2 p. c. solution, acidulated with HCl, should not at once be colored blue, on adding 0.5 Cc. of a solution of potassium ferrocyanide. German Comm. (Ap. Ztg. 94, 175).

Sodii Bromidum.

Crystals, formed below 30° C., are prismatic and contain $2H_2O$; formed above 30° C., they are regular cubes and anhydrous. Curtman (Circ. No. 97, p. 477).

Water. The best guaranty for the exclusion of water is granulation in a steam pan. (Ibid.)

Strength. Curtman proposes that 98.5 p. c. of NaBr should be demanded in the dried salt, considering the ease with which it may be freed from the greater portion of sodium chloride and carbonate by recrystallization and removing the first crop of crystals. (Ibid.)

Iron. Should be tested for by potassium ferrocyanide. German Comm. (Ap. Ztg. 94, 187.)

Sodii Carbonas.

A saturated solution boils at 104° C. Curtman (Circ. No. 97, p. 480.)

Size of the crystals. It would be proper to designate expressly "small" crystals, which would exclude the commercial salt, consisting almost exclusively of the impure large crystals. In purifying the salt by re-crystallization, it must be stirred while crystallizing, which will produce small crystals. These are then leached out for further purification. Curtman (Ibid.).

Strength. Specimens of "purified carbonate of sodium" from various sources, were all found by Curtman to contain more than 99 per cent. of carbonate in the calcined salt. (Ibid. p. 481.)

Small Crystals. Mix 100 parts of effloresced sodium carbonate with 70 parts of water of 80° to 90° C. "Ine," crystalline needles will be formed. (Ph. Centralh. 93, 171. A. J. Ph. 93, 187. Proc. 93, 796).

Sodii Carbonas Exsiccatus.

The first heating should not exceed 25° C., for at 32.5° C. the crystals will melt, and the preparation be much denser. Curtman (Circ. No. 97, p. 482).

Sodii Chloras.

Solubility. The solubility in cold and in boiling alcohol, given in the U. S. P., vary in one respect decidedly from those of some authorities, inasmuch as the latter state that the salt is less soluble in boiling alcohol than in cold. Curtman has by a series of very carefully conducted experiments, proved the correctness of the Pharmacopœial statements. (Ibid. p. 485.)

Tartrate. As much of the salt is manufactured by mutual decomposition of potassium chlorate and sodium bitartrate, tartrate is liable to remain in the salt; this method of manufacture accounts for the presence of potassium.

A recently patented process by Muspratt, Hall and Eschellmann employs magnesia, which, therefore, is liable to be present. Curtman (Circ. No. 97, p. 484).

Sodii Chloridum.

Potassium. The flame test, given by some of the Pharmacopœias for the salts of sodium, is too exacting, as it is very difficult to obtain sodium salts absolutely free from potassium. The sodium-cobaltic nitrite test is sufficiently exact. Curtman (Circ. No. 97, p. 487).

Sodii Hypophosphis.

Phosphite. A test for phosphite would appear to be necessary. Roe (Ph. J. & Tr. 93, Dec. 473).

As the 2H in the formula are not replaceable by metals, Curtman prefers to write the formula $NaPH_2O_2$ or PH_2O_2Na. (Circ. No. 101, p. 507.)

In the second paragraph on page 360, the earlier copies have "an excess of ammonium chloride T. S." This has been changed to "an excess of mercuric chloride T. S."

Sodii Hyposulphis.

The aqueous solution imparts a faintly blue color to red litmus paper. German Comm. (Ap. Ztg. 94, 197.)

Melting Point. At 45° C., Kopp; 48.5° C. Debray & Kremers (Circ. No. 101, p. 508).

Nomenclature. "Schuetzenberger's" salt is derived from the acid H_2SO_2, at first named "hydrosulphurous" acid, to which recently the name "hyposulphurous" acid has been given; while the acid, to which until then the name "hyposulphurous" was applied, and which forms the salt of the U. S. P., has been called "thiosulphuric" acid, and thus by a change of names, sanctioned by long usage, a great deal of confusion has been created, as the change has not been universally adopted. The old name "hyposulphite" of sodium for $Na_2S_2O_3$ is still almost universally used in commercial circles and among photographers, paper millers, calico manufacturers, &c., who use vast quantities of this salt. It is also still retained as the principal name by many authors. Curtman (Circ. No. 101, p 508).

Solubility. The difference in the solubility in water among authors may possibly have been caused by this confusion of names, different salts having been used. (Ibid.)

Sodii Iodidum.

Alkalinity. Increasing alkalinity goes hand in hand with the liberation of iodine by the influence of atmospheric SO_2, hence a limit of alkalinity is necessary.

Cyanide. The presence of cyanide is due to the fact that iodine nearly always contains iodine cyanide.

Chloride and *Bromide.* Tests for these two are needed. Beringer (A. J. Ph. 94, 17).

Sodii Nitras.

Solubility. The solubility depends somewhat on the nature of the impurities permitted. The purer the salt, the more soluble it is. Curtman (Circ. No. 101, p. 513).

It is hardly ever used, and should therefore be omitted. Beringer (A. J. Ph. 94, 17).

"Deliquescent"—according to Hirsch, is too strong an expression; he prefers to call the salt "hygroscopic." (Ph. Rdsch. N. Y. 94, 13).

Sodii Nitris.

"97.6" p. c. of pure salt. Is that not too rigorous? Beringer (A. J. Ph. 94, 17).

Sodii Phosphas.

Carbonate. Geissler makes use of the fact, that pure sodium phosphate does not affect phenolphtalein solution, but which acquires a red color if only 0.1 p. c. of carbonate be present. (Ph. Centralh. 93, 729. Ph. Rdsch. N. Y. 94, 40.)

It is incompatible with alkaloids. Christiaens (Rép. de Ph. 94, 3. Ph. Rdsch. N. Y. 94, 88.)

Sodii Pyrophosphas.

Lower acids of phosphorus. A test for these is unnecessary, as they would be destroyed by coming in contact with air at the temperature necessary to manufacture the pyrophosphate. Curtman (Circ. No. 101, p. 516).

Sodii Salicylas.

Ferric Chloride Reaction. The color depends on the strength of the sodium salicylate solution; a strong solution causes a red precipitate, while a dilute solution gives the well-known violet-blue color. (Circ. No. 101, p. 518.)

"Odorless"—Even after having been kept in a closed container for a longer period, it should not evolve a disagreeable, pungent odor. German Comm. (Ap. Ztg. 94, 196).

"Amorphous powder"—The German Comm. states that the crystalline scales are anhydrous, while the powder contains water. (Ap. Ztg. 94, 196.)

Solvent Power. On creosote, phenol, volatile oils, fluid extract of cascara, &c. Conrady (J. Ph. d'Anvers, 92, 120. Ph. J. & Tr. 92, Oct. 345. Proc. 93, 797).

Sodii Sulphas.

Solubility. The solubility is irregular on account of the formation, in the solution, of three different salts: 1. The anhydrous, present at above 34° C. 2. The salt with 10 H_2O, below that temperature. 3. A salt with 7 H_2O, between 0 and 26° C. Curtman (Circ. No. 101, p. 519).

Arsenic. A special test for arsenic seems to be necessary. Hirsch

(Ph. Rdsch. N. Y. 94, 13).——One Gm. of the powdered salt, shaken with 3 Cc. of stannous chloride solution, should not turn brown within one hour. German Comm. (Ap. Ztg. 94, 196.)

Sparteinæ Sulphas.

Sparteine sulphate with $4H_2O$ contains 17.8 p. c. of water, hence the formulæ usually given (Hirsch, $8H_2O$; and Flueckiger, $3H_2O$) are wrong. Rice (Circ. No. 137, p. 864).

Identity. Warm gently with ⅓ its weight of chromic acid. The mass turns green (reduced acid), and gives off a distinct odor of coniine. (J. Ph. d'Anvers, 95, 223. Ph. J. & Tr. 95, Dec. 482.)

Spiritus Ætheris Nitrosi.

"770" Gm. of sodium nitrite are to be dissolved in "1000" Cc. of water. This does not agree with the solubility of sodium nitrite, which is given as 1:1.5 at .15° C. Either heating should be directed, or the quantity of water increased. Beringer (A. J. Ph. 94, 18).——The quantity should be increased to 1155 Cc. Hemm. (A. J. Ph. 94, 392.)——Rice states that "770" refers to potassium nitrite, which was originally directed: on changing it to sodium nitrite, it was forgotten to change the quantity, which should read: "635" Gm. (Dr. Circ. 94, 176.) In the last issue (Series D) the quantity of sodium nitrite has been altered to 635 Gm., and the specific gravity to "about 0.820."

Ford having found the relative quantities not in accordance with the theoretical quantities necessary, the reaction too violent and the numerous washings needless and wasteful, proposes the following formula, which works easily. The potassium carbonate is superfluous: Sodium nitrite, 136 Gm.; sulphuric acid, 104 Gm.; alcohol (0.816), 100 Gm.; water, 1000 Cc. (W. Dr. 94, 359. Proc. 94, 239.)

Harvey proposes to mix the sulphuric acid with alcohol instead of with water, thus forming ethylsulphuric acid, which is readily decomposed in contact with sodium nitrite. The reaction proceeds without violence, and nitric oxide is not evolved. (Proc. 94, 647.)

Acidity. Ford states that potassium bicarbonate will not effervesce even if the spirit be decidedly acid, except in the presence of water. (W. Dr. 94, 360.)——Smith recommends the addition of 5 to 10 p. c. of glycerin as greatly increasing the keeping quality of the spirit. (Ph. J. & Tr. 95, March, 809. Proc. 95, 599.)——Ph. German II. preserves it by the addition of a few crystals of potassium tartrate. (Ph. Centralh. 93, 400.)

Spiritus Ammoniæ Aromaticus.

The solution of ammonium carbonate in ammonia and water should be directed to stand for 24 hours in a closed flask, to insure conversion of the acid carbonate into the normal carbonate. This would in a great measure prevent the darkening of the volatile oils. Beringer (A. J. Ph. 94, 18).

Spiritus Aurantii.

Oil of "sweet" orange peel should be directed. Beringer (A. J. Ph. 94, 18).

Spiritus Aurantii Compositus.

Oil of "bitter" orange peel should be directed. Beringer (A. J. Ph. 94, 18).

Spiritus Camphoræ.

Assay. By polariscope. Holdermann (Ap. Ztg. 93, 306. A. J. Ph. 93, 382. Proc. 94, 611).——Precipitate with water, take up with ether, evaporate and weigh. Manseau (Bull. Ph. Bord. 93, 222. A. J. Ph. 93, 497. Proc. 94, 894).

Beringer thinks that 10 p. c. of water should be added. (A. J. Ph. 94, 18.)

Spiritus Glonoini.

It would be advisable to start from a 10 p. c. alcoholic solution, obtained from the manufacturers of nitroglycerin, and dilute it. The best way to assay it, would be to pour 50 Cc. into 2 liters of water, agitate, and let it stand over night. Siphon off most of the water, and pour the remainder into a graduate. The nitroglycerin should measure 2.5 Cc. Multiply this with 1.5, which gives 4 Gm. Nagelvoort (A. J. Ph. 94, 527. Proc. 95, 600).

A weighed quantity of the spirit (f. i. 10 Gm. of the 10 p. c., or 50 Gm. of the 1 p. c. alcoholic solution) is added to a measured volume of normal alcoholic potassium hydrate V. S. sufficient to remain in excess and previously heated, and saponification completed by a short continuance of the heat. The flask is then set aside, well-stoppered, in a cool place. The liquid is poured off through a pellet of cotton placed in a small funnel, and flask and funnel washed with alcohol. The excess of unsaturated potassium hydrate is then ascertained with normal acid, phenolphtalein being used as indicator. Each 1 Cc. of normal potassium hydrate solution neutralized corresponds to 0.0755267 Gm. of absolute nitroglycerin. Rice (Circ. 273.) In the original written circular and in the journals which printed it (f. i. Am. Dr. 95, xxvii, 7) "decinormal" solutions were given by inadvertence instead of "normal."

In view of the dangerous nature of nitroglycerin, it would be advisable to add the caution given by Coblentz, to pour a solution of potassa or of soda over the spots at once, in case of spilling, which will cause the rapid decomposition of the nitroglycerin. (Pharmacy, p. 255.)

Spiritus Phosphori.

Edel proposes to facilitate the preparation by first dissolving the phosphorus in a little chloroform. (Am. Dr. 94, July, 6.)

Spiritus Vini Gallici.

It is a question whether the specification "Gallicus" is in accordance with the actuality. One of the objections to recognizing "California" brandy is the peculiar flavor, which is apt to cause nausea. Rice (Circ. No. 174, p. 1040.)

The amount of residue on evaporation allowed by the U. S. P. (1.5 per cent.) has been criticised. Rice states that this figure was adopted designedly. (Circ. 264.) The subject needs further investigation.

Staphisagria.

A tincture is wanted. Beringer (A. J. Ph. 93, 470).

Localization of alkaloids. Clautriau (Ph. Rdsch. N. Y. 94, 264. Proc. 95, 980).

Stramonii Folia.

Alkaloid. Percentage. (A. J. Ph. 93, 479. Proc. 94, 939.)

Assay. With more or less modified Prollius' mixture. Schwickerath (Ph. Rdsch. N. Y. 93, 282, & 94, 139. Bull. Ph. 93, 535).

Stramonii Semen.

Alkaloid. Percentage. (A. J. Ph. 93, 479. Proc. 94, 939.)

Localization. Clautriau (Ph. Rdsch. N. Y. 94, 264. Proc. 95, 980).

The seeds should be superseded by the leaves and stems, because both contain more alkaloid, and the oil in the seeds renders preparations of them immiscible with other preparations; the menstruum for the seeds must also be stronger alcoholic. Dohme (A. J. Ph. 93, 482. Proc. 94, 231 & 940), and A. Ph. A. Comm. (A. J. Ph. 95, 485. Proc. 95, 240).

Assay. With more or less modified Prollius' mixture. Schwickerath (Ph. Rdsch. N. Y. 93, 282, & 94, 139. Bull. Ph. 93, 535).

Strontii Lactas.

As the salt forms no crystals, it is difficult to assign an absolutely correct amount of water. Curtman (Circ. No. 138, p. 875).

Strophanthus.

"Nearly inodorous"—is not quite correct; when crushed, a perceptibly disagreeable odor is noticed. Beringer (A. J. Ph. 94, 18).

Identity. On moistening a cross-section, with sulphuric acid, the endosperm assumes a green color, which is often preceded momentarily by a blue color. The green color changes through blue to red, and disappears in $\frac{1}{4}$ to 1 hour. In seeds, containing no strophanthin, the color will be red. Hartwich (Arch. Ph. 92, 401. Proc. 93, 628).

"Not altered on addition of iodine T. S."—Hartwich has repeatedly found starch in strophanthus. (Ph. Rdsch. N. Y. 94, 30.)

Strychnina.

Estimation. Nagelvoort gives a modification of Gerock's nitric acid method (see "Digest" on U. S. P. 1880, p. 328), (Proc. 93, 165), and Keller (Oester. Zts. 93, 563 & 586. A. J. Ph. 94, 45. Proc. 94, 531).

Stability of the strychnine molecule. Welborn (Ph. J. & Tr. 92, 440. Proc. 93, 865).

Indicators. Value. Kebler & LaWall (A. J. Ph. 95, 503).

Color Reactions. With nitric acid, followed by ammonia and potassa. Formanek (Ph. Post, 95, 179. Ph. Rdsch. N. Y. 95, 242. Proc. 95, 980).——Compared to those of acetanilid. Schaer (Arch. Ph. 94, 253. Proc. 95, 665).

Strychnine and Brucine. Beckurts states that brucine does not interfere with the chromic acid reaction unless it be present in a larger proportion than 20 parts to 1 part of strychnine, but then the quantity of strychnine to be examined must not be less than 1 Mgm. In the absence of brucine, $\frac{1}{100}$ Mgm. is sufficient. (Arch. Ph. 92, 551. Proc. 94, 1133.)

Strychninæ Sulphas.

Water of Crystallization. Rice has verified that this salt contains not more than 5 mol. of water. The SO_4, determined gravimetrically, was found to be 11.28 p. c. (theory demands 11.22 p. c.), which indicates 5 mol. (Circ. No. 137, p. 866.)

Dott recommends the hydrochlorate as being more soluble. (Ph. J. & Tr. 92, Sept. 197. Proc. 93, 865.)

Styrax.

Formation, chemistry, &c. Moeller (Oester. Zts. 96, 31 & 113).

"Not less than 70 p. c." residue—60 p. c. would be more in accordance with the commercial grades. Evers (Ph. Ztg. 96, 245).

Sulphuris Iodidum.

Although sulphur melts at 115° C. and iodine at 114° C., the compound is formed between 56 and 60° C., and fuses below 90° C.

The porcelain plate, upon which the melted mass is poured, should be coated with a very thin film of petrolatum. Curtman (Circ. No. 112, p. 699).

Sulphur Præcipitatum.

One part is soluble in 5 parts of carbon disulphide. Ph. German; Fittinger recommends this as a trustworthy test for purity. (Ph. Post, 94, 297. Proc. 95, 965.)

Sumbul.

Percentage of resin. Utesch (A. J. Ph. 93, 465. Proc. 94, 948).

Suppositoria.

Improved Shape (Pear-shaped). Wellcome (A. J. Ph. 93, 453. Proc. 93, 103).——New mould. Gautier (Monit. Ph. 93, 1213. Proc. 93, 451).——The "Genese." Caspari (Pharmacy, p. 396. Proc. 94, 230).

Rectal suppositories of 1 Gm. are rather small for adults; 2 Gm. would be better. Vaginal suppositories of 3 Gm. should be 6 Gm., for the same reason. Beringer (A. J. Ph. 94, 18).

In devising new bases for suppositories, glycerin and soap should be avoided, as they both act on the bowels, and some suppositories are intended to remain inserted for as long a time as possible. (Merck, Market Rep. 95, 288.)

Willen recommends an addition of 5 to 10 p. c. of paraffin. The solidification takes place sooner and better. (Ph. Ztg. 94, 815.)

Suppositoria Glycerini.

"Freshly" prepared, is quite unnecessary; when properly kept, they keep well. Beringer (A. J. Ph. 94, 19).

These suppositories can be more easily made with cacao butter, and keep well. Melt the butter at 32° to 35° C., and shake or triturate, with an equal weight of glycerin, until the mixture begins to solidify on pouring into the moulds. Thumann (J. Ph. Al.-Lorraine, 92, 121. A. J. Ph. 93, 368. Proc. 93, 450).——Gieseke recommends cocoanut oil, as congealing more rapidly. (W. Dr. 92, 300. Proc. 93, 450.)——Thompson uses cocoanut-stearin and wax. (A. J. Ph. 94, 462. Proc. 95, 602.)——Ryan finds agar-agar superior; the suppositories leave the mould quite easily, and they stand exposure much better. (A. J. Ph. 95, 599.)

England proposes to keep them separately in small wide-mouthed vials, corked and sealed. (A. J. Ph. 93, 6. Proc. 93, 450.)——Bondurant dips them quickly into melted paraffin. (Proc. 94, 662.)——Boni makes them with gelatin, and dips them into a mixture of wax and cacao butter. (Giornal. Farm. Trent. 93 . . . Merck, Market Rep. 93, 176.)

The heat of the water-bath is not sufficient, a low flame is preferable. Sodium bicarbonate, which contains no water of crystallization, is to be preferred. Beringer (A. J. Ph. 95, 642).

(Syrupi.)

Some concession should be made to the Southern States, to insure the keeping during the heated term; for instance, an addition of 10 p. c. of glycerin.

Preservation. Barbi recommends an addition of 1 p. c. of solution of hydrogen peroxide. (Ph. Ztg. 95, 258. Ph. Rdsch. N. Y. 95, 161.)——Cesaris proposes the addition of $\frac{1}{1000}$ part of benzoic acid. (Boll. Ch. Farm. 95, 2. Am. Dr. 95, 338. Proc. 95, 612.)

Since the sugar in acid syrups is prone to conversion into invert-sugar, it is advisable to add the acids to the cold syrups. Martenson (Ph. Rdsch. Prag. 93, 306).

Syrupus.

The necessity of using "distilled" water is not apparent. Nearly all the other syrups have to be made with ordinary water.

Syrupus Acaciæ.

The formula of U. S. P. 1870 is much to be preferred. (With acacia and sugar.) Beringer (A. J. Ph. 94, 19), and Lowe (A. J. Ph. 94, 353. Proc. 95, 654).

Syrupus Acidi Hydroiodici.

Twelve Gm. of tartaric acid are insufficient to decompose the potassium iodide and hypophosphite. 13.19 is the correct quantity. [Has been made 14 Gm.] The acid should be directed in crystals, the commercial nearly always causing liberation of iodine. It would be better to direct the acid solution to be filtered into the sugar, and sufficient water added to dissolve by shaking. Beringer (A. J. Ph. 94, 20).

Glucose, wholly or in part, to replace the syrup, is an excellent preservative. Klie (Proc. 94, 684).——Hill adds 5 p. c. of glycerin. (Proc. 95, 605.)

Syrupus Aurantii Corticis.

Identity. Mix with water, and shake out with acetic ether. Evaporate the ethereal solution to dryness; on adding a few drops of sulphuric acid, a yellow color appears, which gradually darkens. Bourquelot (J. de Ph. & Ch. 95, 361. Proc. 95, 534).

The peel should be grated, and macerated with the alcohol for 2 to 3 days. Then express, and wash the marc with alcohol. Beringer (A. J. Ph. 94, 20).

Syrupus Calcis.

Patterson finds that the syrup contains on an average 2.69 p. c. of calcium oxide, and that the specific gravity is about 1.164. (Apoth. 94, 18. Proc. 95, 609.) He thinks it better to dissolve the sugar in the water, bringing the solution to a boil, and then to add the lime.

Syrupus Calcis Lactophosphatis.

Is not stronger orange-flower water intended? The acids are in a decided excess. Beringer (A. J. Ph. 94, 20).

Patch recommends the following proportions: 20 Gm. calcium carbonate, 25 Gm. phosphoric acid (50 p. c.), 50 Gm. lactic acid (75 p. c.), 125 Gm. orange-flower water, 950 Gm. sugar, 5 Gm. benzoic acid, 1 Gm. hydrochloric acid, and water up to 1670 Gm. (Proc. 94, 677.)

Caspari finds it better to dilute the phosphoric acid with twice its volume of water, because then the calcium phosphate will dissolve as soon as formed. (Pharmacy, p. 224.)

Syrupus Ferri Iodidi.

Preservation. Roussillon proposes to replace the syrup by glycerin. (J. de Ph. Ch. 93, 243. A. J. Ph. 93, 551. Proc. 94, 621.) ——Lyon finds that pure glucose to the extent of 10 p. c. will preserve. (Ph. J. & Tr. 94, 863. Proc. 94, 622), and so does Klie. (Proc. 93, 684.)——Worthrup adds 1 grain of citric acid to the fl. oz. (Proc. 94, 669, & 95, 606.)——Bradley adds hypophosphorous acid. (Proc. 94, 690.)

The red color, observed at times, is due to the use of sugar containing ultramarin. Martenson (Ph. Ztg. Russl. 93, 100. A. J. Ph. 93, 220. Proc. 93, 453, & 94, 621).

This syrup is a good reagent for ammonia, which changes the color to yellow or brown; addition of citric acid will restore the color. Bernick (Ph. Ztg. 92, 373. A. J. Ph. 92, 408. Proc. 93, 453).

Stick proposes the use of powdered iron. (Dr. Circ. 93, 178.) So do Levy (Am. Dr. 94, 173), and Schobert (Ph. Ztg. 93, 298). See (Proc. 94, 621).

Assay. To 8 Gm. of the syrup add 2 Cc. of a 5-p. c. solution of potassium chlorate, and heat until the mixture assumes a red color; after cooling add 5 Cc. of pure chloroform, agitate cautiously, and allow to stand. The liberated iodine will color the chloroform. Decant, add water, and estimate with normal sodium hyposulphite. Griggi (Boll. Ch. Farm. . . . A. J. Ph. 94, 103. Proc. 94, 623).

Table comparing the strength of the syrup in different Pharmacopœias. Bourquelot (J. de Ph. & Ch. 95, 170. Proc. 95, 606).

Syrupus Ferri, Quininæ et Strychninæ Phosphatum.

Title. As the formula does not direct the phosphates of the alkaloids, the title should, by right, be: "Syrupus ferri phosphatis, quininæ et strychninæ." Rice (Circ. No. 190, p. 1090).

Preparation. McDonnel proposes: 100 grains of scale phosphate of iron, 100 grains of quinine alkaloid, 3 grains of strychnine, 1 fl. oz. of phosphoric acid (50 p. c.), and sufficient glucose to make 12 fl. oz. (Pacif. Dr. 93, 37. Proc. 94, 648.)

Harvey makes the syrup extemporaneously by using acid solutions of the different salts. (Am. Dr. 93, 89. Proc. 94, 649.)

Assay. Dilute with water, heat to expel the alcohol, add ammonium citrate, make alkaline with soda, shake with chloroform, which takes up the alkaloids; the remainder is examined for iron and phosphoric acid. Schaak (A. J. Ph. 94, 179. Proc. 94, 1036).

Syrupus Hypophosphitum.

600 Gm. of sugar would be better. Beringer (A. J. Ph. 94, 21).

Syrupus Hypophosphitum cum Ferro.

Hypophosphite of iron should have been directed instead of the lactate. Beringer (A. J. Ph. 94, 21).

Syrupus Ipecacuanhæ.

The first filtrate should measure 450 Cc. instead of 500. Rice (Am. Dr. 95, Febr. 110).

Syrupus Lactucarii.

Does not the water precipitate the most valuable portion of the tincture? A better formula would be: tincture, 100 Cc., glycerin, 100 Cc., syrup, 800 Cc.; mix. This precipitates very little. Beringer (A. J. Ph. 94, 21).

Syrupus Pruni Virginianæ.

It is a question, whether a better syrup would not be obtained by using only a small portion of the glycerin in the menstruum, and adding the remainder to the percolate. Glycerin extracts too much tannin. Beringer (A. J. Ph. 94, 21), and England (A. J. Ph. 94, 349. Proc. 95, 651).

Syrupus Rhei Aromaticus.

Caspari recommends the addition of ½ p. c. of sodium borate, to be dissolved in the tincture, before adding the syrup: the resulting syrup will then be perfectly clear. (Pharmacy, p. 227.)

Syrupus Rubi Idæi.

The addition of a little sugar (2 p. c. of the weight of the fruit) to the juice, hastens the fermentation, preserves the color and facilitates filtration. Caspari (Pharmacy, p. 222).

Syrupus Scillæ Compositus.

Edel proposes an addition of glycerin, which will insure its keeping clear. (Merck, Market Rep. 94, 5. Proc. 94, 624.)

It would be desirable to emphasize that the filtrate should be "clear." Caspari (Pharmacy, p. 227).

Syrupus Senegæ.

Caspari lays stress on the necessity to have a perfectly clear filtrate. (Pharmacy, p. 228.)

Syrupus Sennæ.

"755 Cc. to be filtered, and to the filtrate add water to 550 Cc." This would imply that the precipitate occupied a space of 205 Cc., which can hardly be correct. It is proposed to direct to evaporate 600 to 400 Cc., then to add water, &c. Beringer (A. J. Ph. 94, 21). The change has been made.

Twenty-four hours is too long for the digestion, which is both unnecessary and hurtful. Caspari (Pharmacy, p. 228).

Syrupus Tolutanus.

Wearn triturates the balsam with half its weight of magnesium carbonate and sufficient water, filters, and adds the sugar. (Am. Dr. 94, 88. Proc. 94, 625.)

Yvon proposes to melt the balsam, mix it with well-washed sand, and dry. After cooling, powder it, percolate with warm water, add the sugar, &c. (Schweiz. Woch. 93, 232.)

Caspari heats to 60° C. before filtering; this will extract the odorous principles better. A still better plan is to allow the alcohol to remain, in which case the amount of water and sugar must be reduced correspondingly. (Pharmacy, p. 222.)

Preservation. Ausaldy adds ½ Gm. of benzoic acid to the liter. (Union Ph. 93, 425. A. J. Ph. 93, 550. Proc. 94, 625.)

Syrupus Zingiberis.

Caspari states, that the following will give a better flavored syrup: Mix 20 Cc. of alcohol with 30 Cc. of fluid extract, and incorporate 30 Gm. of calcium phosphate; gradually add 450 Cc. of water, and set the mixture aside with frequent agitation for 6 to 8 hours. Filter, and wash the filter with water to obtain 500 Cc. of filtrate, in which dissolve 800 Gm. of sugar by agitation. (Pharmacy, p. 223.)