

is not a safe criterion, since the color of the malt employed is liable to vary also according to the method and care in manufacture. The consistence of a properly-made extract of malt should be thick syrupy, depending on a content of about 25% of water, and the odor should be agreeably aromatic, malt-like. The merely physical characters are, however, liable to be misleading, and must be substantiated by a knowledge of the chemical character of the preparation. It may be of good consistence and yet be deficient in maltose (of which it should contain about 55%) with corresponding excess of dextrin, while diastase, nitrogenous bodies (particularly albuminoids) and mineral substances are important constituents which must be taken into account. Of the nitrogenous bodies in malt extracts the albumoses and the phosphorus containing nucleo-proteids, which are rendered soluble by the peptases of the malt, are the most important constituents on account of their ready assimilability. These should be present to the amount of from 4 to 6%. The acid contents, mainly lactic acid, should be insignificant (only a few pro mille). Of the mineral constituents, the readily assimilable phosphorus and iron compounds are also of therapeutic importance, and should not be neglected in a chemical valuation of malt preparations.—Pharm. Ztg. LVI (1911), No. 27, 273; from Med. Klin., 1911, No. 12.

Honey: Rapidity of Inversion of Cane-Sugar by Bees.—A. Korndoerfer observes that the nectar of flowers consists principally of cane-sugar, which when it is collected by bees and placed in their honey bags, undergoes inversion and is then deposited in the cells of the comb. To study this change more exactly, the author placed two colonies of bees, in autumn, into empty combs and supplied them with a 50% solution of cane-sugar. After half an hour sufficient had been taken by the bees to be extracted from the comb and examined; it was then found to contain 42 to 44% of invert sugar, showing that in passing once through the honey bags four-fifths of it had been inverted. Observation showed that bees took two minutes to fill their honey bags and an equal time to empty them into the cell, and this large amount of chemical change occurs in that short time.—Apoth. Ztg. XXVI (1911), No. 64, 659.

Pharmaceutical Formulas

PROPOSED FOR A. PH. A. RECIPE BOOK.

(Continued from page 173)

In the present installment a number of formulas, domestic and foreign, are given for lubricating jellies or pastes to be used for surgical instruments, catheters, etc. There seems to be a wide range of opinion as to the proper amount of tragacanth, and also of glycerin in this preparation.

The Chairman of the Committee on Recipe Book has made a number of experiments along these lines and finds that from 2.5 to 3 percent of tragacanth is required to form a jelly which is thick enough to be put up into collapsible tubes. This undoubtedly is the proper method of dispensing this lubricant, in order to preserve its sterility.

Inasmuch as there is quite a demand for such a preparation, I believe the pharmaceutical profession should have a reliable formula for same, so each pharmacist can prepare it himself.

Comments and criticisms are invited.

Respectfully submitted,

OTTO RAUBENHEIMER, Chairman.



(For Abbreviations, see February, Page 169.)

No. 23.

PARENOL LIQUIDUM.

Liquid Parenol.

B. P. Cx.

Liquid Petrolatum	70 Cc.
White Wax	5 Gm.
Distilled Water, a sufficient quantity	_____
To make	100 Cc.

Melt the Wax in the Liquid Paraffin, pour the mixture into a warm mortar, and gradually add the Distilled Water, previously warmed.

This is a *neutral* liniment which is readily absorbed by the skin and causes no irritation.

It does not become rancid and besides being useful in the treatment of skin diseases and as a vehicle for injections, it is also a lubricant for catheters, etc.

This emulsion was originated by John Humphrey, Secretary of the Pharmaceutical Society of Great Britain.

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No. 24.

OLEUM LUBRICANS.

Lubricating or Catheter Oil. Lund's Oil. Modified Lund's Oil.

B. P. Cx.

Oleum Carbolicum—Carbolic Oil.

P. J. F.

Phenol	5 Gm.
Castor Oil	20 Cc.
Expressed Oil of Almond, a sufficient quantity	_____
To make	100 Cc.

Dissolve the Phenol in the mixed Oils. This oil is used to lubricate catheters. Pasta Lubricans and also Glyceritum Lubricans, formulas for which follow, are used for the same purpose, and are sometimes preferred, as they can be removed by water and do not attack the material of which the catheter is composed.

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No. 25.

PASTA LUBRICANS.

Lubricant Paste.

Catheter Paste. Kraus' Catheter Lubricant.

B. P. Cx.

Phenol	3 Gm.
Glycerin	10 Cc.
Tragacanth	2.5 Gm.
Distilled Water, a sufficient quantity	_____
To make	100 Cc.

Dissolve the Phenol in 80 Cc. of Water; then mix the Glycerin with the Tragacanth, add the aqueous solution gradually with constant trituration, and make up the required volume by the addition of Distilled Water.

This paste is used as an antiseptic lubricant for catheters.

This is the original formula for a catheter or lubricant paste. It was originated by Dr.

Oscar Kraus of Carlsbad, Bohemia. As is to be expected the 2.5 percent of tragacanth produces a rather thick paste. O. R.

<>

No. 26.

GLYCERITUM LUBRICANS.

Glyceritum Tragacanthae Compositus.

Lubricant Glycerite. Compound Glycerite of Tragacanth.

Tragacanth	3 Gm.
Alcohol	8 Cc.
Distilled Water	120 Cc.
Phenol, liquefied	4 Cc.
Glycerin, a sufficient quantity	_____

To make

Agitate the powdered Tragacanth in a bottle with the alcohol, add the Distilled Water and set aside over night. Then add the Liquefied Phenol and sufficient Glycerin to make 200 Gm., which by volume is about 180 Cc. If necessary, sterilize.

Raubenheimer, Am. D., 1912, 312.

Note: This preparation has the consistence of a thick liquid. When intended for collapsible tubes, it should be made into a paste by increasing the amount of Tragacanth to 5 Gm.

The collapsible tubes have the advantage of neatness and also of preventing waste and keeping the jelly sterile.

The Phenol can be replaced by Solution of Formaldehyde, 0.2 Cc. O. R.

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No. 27.

LUBRICATING JELLY.

Tragacanth, whole	3 Gm.
Glycerin	25 Cc.
Phenol	1.5 Gm.
Distilled Water, a sufficient quantity	_____

To make

The Tragacanth is broken in small pieces, put into a wide-mouth bottle, the other ingredients are added and the bottle frequently shaken.

This preparation is used in the German Hospital, Philadelphia.

Submitted by J. K. Thum.

No. 28.

KATHETER PURINE.

Dr. Melzer's Formula.

Hager E. B. 401.

Tragacanth	3	Gm.
Distilled Water	100	Gm.
Glycerin	20	Gm.
Mercuric Oxycyanide	0.246	Gm.



No. 29.

*Formula of Dr. Arth. Strauss, Barmen.
Therap. Monatsh.*

Tragacanth	1.6	Gm.
Distilled Water	50	Gm.
Mercuric Oxycyanide	0.1	Gm.
Glycerin, a sufficient quantity		

To make 100 Gm.

Triturate the powdered Tragacanth with the Distilled Water, add the Glycerin and then sterilize. After sterilization, add the Mercuric Oxycyanide.



No. 30.

ANTISEPTIC LUBRICANT.

Tragacanth	30	Gm.
Boric Acid	15	Gm.
Solution of Formaldehyde....	4	Cc.
Oil of Gaultheria.....	5	drops
Oil of Rose Geranium.....	3	drops
Alcohol	120	Cc.
Water	720	Cc.

Dissolve the Tragacanth in the Water in which the Boric Acid has previously been dissolved. Then add the solution of the Oils in the Alcohol slowly to the mucilage, shaking after each addition. Lastly, add the Formaldehyde.

This preparation is non-greasy, non-irritating, smooth and of perfect consistency. It is used in the Pennsylvania Hospital, Philadelphia, to lubricate surgical instruments, catheters, sounds and also the hands to facilitate the putting on and removal of rubber gloves. —John T. Harbold, Proc. A. Ph. A., Vol. 55, 136.

COMMITTEE ON NATIONAL FORMULARY.

The following are the proposed new formulas for Granular Effervescent Salts that have been suggested for inclusion in the forthcoming edition of the National Formulary. The Committee is desirous of having them thoroughly tried by pharmacists in different sections of the country so as to avoid, as much as possible, unfavorable comment after the final publication of the book. Comments and criticisms based on practical experiences will be welcome. All communications should be addressed to the Chairman of the Committee,

PROF. C. LEWIS DIEHL,
932 Cherokee Road, Louisville, Ky.,

who will submit the comments to the subcommittee having the matter in charge.

GENERAL FORMULA FOR GRANULAR EFFERVESCENT SALTS.

The citric acid directed in the formulas should be in clear, uneffloresced crystals and be finely powdered just before using. All other ingredients should be well dried at a temperature not exceeding 50° C., until they cease to lose weight and then finely powdered and passed through a No. 60 sieve. As atmospheric dampness, if present, will be absorbed by the finished granules and destroy the effervescent character of the salt, it is important that these preparations be made in a dry atmosphere.

DIRECTIONS FOR GRANULATING IN AN OVEN.

Having prepared the Citric Acid and the other ingredients of the formula, as directed above, intimately mix the powders, without trituration, adding the Citric Acid last, and spread the resulting product evenly, about 9.5 mm. (3/8 inch) thick, on a sheet of paper on a canvas tray, glass plate or shallow porcelain or enameled dish, and place it in an oven, heated to a temperature between 95° and 105° C. Allow the powder to remain in the oven, without stirring, until it has become moist and acquired the proper consistency, about that of dough, then immediately force the mass through a No. 6, tinned-iron sieve and dry the granules at a temperature not exceeding 50° C. When dry, again pass the granular powder through a No. 6, tinned-iron sieve, transfer it to dry bottles or containers and hermetically seal them.

DIRECTIONS FOR GRANULATING ON A WATER-BATH.

If a small quantity of the Salt is to be prepared, say 100 Gm., the mixed powders may be transferred to a covered dish on a water-bath or to a double boiler, heated by water actively boiling, the inner dish being actually in contact with the water, and the resulting pasty mass stirred until dry. The dry granules should be immediately passed through a No. 6 tinned-iron sieve and transferred to a dry container, which should then be hermetically sealed.

GRANULAR EFFERVESCENT ARTIFICIAL CARLSBAD SALT.

Citric Acid	250 Gm.
Sodium Bicarbonate	300 Gm.
Carlsbad Salt, Artificial.....	266 Gm.
Tartaric Acid	157 Gm.
Sodium Bicarbonate	100 Gm.

To yield about.....1000 Gm.

Prepare an Effervescent Salt by the method described in the General Process given above.

GRANULAR EFFERVESCENT ARTIFICIAL KISSINGEN SALT.

Citric Acid	250 Gm.
Sodium Bicarbonate	300 Gm.
Kissingen Salt, Artificial.....	400 Gm.
Tartaric Acid	94 Gm.
Sodium Bicarbonate	106 Gm.

To yield about.....1000 Gm.

Prepare an Effervescent Salt by the method described in the General Process given above.

GRANULAR EFFERVESCENT ARTIFICIAL VICHY SALT.

Citric Acid	250.0 Gm.
Sodium Bicarbonate	300.0 Gm.
Vichy Salt, Artificial.....	250.0 Gm.
Tartaric Acid	164.5 Gm.
Sodium Bicarbonate	185.5 Gm.

To yield about.....1000 Gm.

Prepare an Effervescent Salt by the method described in the General Process given above.

GRANULAR EFFERVESCENT ARTIFICIAL VICHY SALT WITH LITHIUM.

Citric Acid	250.0 Gm.
Sodium Bicarbonate	300.0 Gm.
Vichy Salt, Artificial.....	250.0 Gm.
Lithium Citrate	83.3 Gm.
Tartaric Acid	125.35 Gm.
Sodium Bicarbonate	141.35 Gm.

To yield about....1000 Gm.

Prepare an Effervescent Salt by the method described in the General Process given above.

Note: The Lithium Citrate should be dried on a water-bath until anhydrous before adding it to the mixture.

GRANULAR EFFERVESCENT POTASSIUM BROMIDE.

Citric Acid	250.0 Gm.
Sodium Bicarbonate	300.0 Gm.
Potassium Bromide	166.66 Gm.
Tartaric Acid	203.7 Gm.
Sodium Bicarbonate	229.7 Gm.

To yield about....1000 Gm.

Prepare an Effervescent Salt by the method described in the General Process given above.

ALKALINE GRANULAR EFFERVESCENT LITHIUM, POTASSIUM AND CAFFEINE.

Citric Acid	250.0 Gm.
Sodium Bicarbonate	300.0 Gm.
Caffeine	8.33 Gm.
Sodium Bicarbonate	83.33 Gm.
Potassium Bicarbonate	83.33 Gm.
Lithium Carbonate	41.66 Gm.
Tartaric Acid	180.17 Gm.
Sodium Bicarbonate	203.18 Gm.

To yield about....1000 Gm.

Prepare an Effervescent Salt by the method described in the General Process given above.



REPORT OF COMMITTEE ON DRUG MARKET, AUGUST, 1911.*

There continues to be marked improvement in the character of drugs and chemicals. Some reports would not indicate this, because the authorities naturally endeavor to secure samples that they believe to differ from the standard and in many cases publish as adulterations deficiencies in strength and differences in the products purchased from the artificial standard they may create.

To illustrate: Out of 931 samples purchased by one Board, about 24 per cent were pronounced as adulterated or varying from legal standards. This number included Linctament of Camphor seven samples, containing from 20 per cent to 66 per cent of the pharmacopœial amount of camphor. Seven samples of Spirit of Peppermint containing from 15 per cent to 80 per cent required amount of oil. Two of Tinct. of Iodine containing 50 per cent and 71 per cent of standard quantity of iodine. Five of Spirit of Lemon, two of which did not contain oil of lemon, and three much below standard. Nine of Spirit of Anise containing from a trace to 75 per cent of oil.

*Presented at the Fifty-ninth Annual Convention.

Of these, five samples examined by an outside chemist failed to give concordant results.

The comparison is as follows:

	Board of Health	Outside chemist
Spirit of Anise 1	56%	59.5%
2	63%	89.6%
3	58%	63.5%
4	48%	71.4%
5	42%	63.5%

It has been suggested by one member of the Committee that the chemists doing this work were prejudiced, one in favor of low results, the other in favor of high results. The high results were reported by a chemist connected with one of our leading schools, with no interest in the case whatsoever. The results were by refractometer readings. The No. 4 lot reading 71.4 per cent was made 73.8 by the separation method. If any explanation is to be sought it might be found in the unintentional mixing of samples.

Several cases were based on variation of Tinct. of Arnica in extractive, although there is no official standard for extractive in Arnica flowers. Such a course seems to be questionable, for it is well known that drugs bearing the same name have a wide divergence in amount of extractive, yielded by different samples, obtained from different sources, grown under different conditions. While we do not believe the range is a wide one in the case of arnica flowers, it is sometimes 100 per cent in other drugs. Then undoubtedly there is as great a variation in the character of the extractive obtained from different lots of the same drug. Observers of experience are aware of the great variation in the alkaloidal drugs grown in different seasons under varying climatic conditions and have noted that the alkaloidal contents bear no relation to percentage of extractive in the alkaloidal drug.

In the case of Tinct. of Arnica, the standard was an artificial one. It was obtained, we understand, by the Board Chemist percolating a sample of flowers purchased in the open market and using the extractive per cent of this product as a standard. He should have obtained many lots of flowers from different sources and made many lots of tincture under different temperature conditions and then adapted the range of results for a standard of comparison, instead of using a single percolate or the average of any number of percolates.

The range in extractive in tinctures prepared from drugs bearing the same name is very wide and might hint at improper percolation, but we would have to examine the drug used to assure ourselves of this. J. W. Pollard of the Mass. College of Pharmacy, found the range in extractive in ten samples of Tinct. of Belladonna, obtained from ten retail drug stores, to be from 1.05 per cent to 3.76 per cent, and the alcohol contents to range from 37.5 per cent to 47.5 per cent. Ten samples of Tinct. Hyoscyamus gave extractive 1.04 per cent to 4.27 per cent, and alcohol 23.9 per cent to 40.3 per cent.

Ten samples of Tinct. Digitalis gave extractive 1.08 per cent to 3.45 per cent, alcohol 21.6 per cent to 40 per cent. Ten samples of Tinct. Gentian Compound gave extractive 1.08 per cent to 5.01 per cent, alcohol 42.6 per cent to 56.4 per cent. Of the forty druggists, measured by the highest standards, thirty-six would be condemned as selling an adulterated product. In the case of Tinct. Belladonna and Tinct. Hyoscyamus we have an official alkaloidal standard, and the extractive standard would not stand in law. Assuming that these tinctures were standard in alkaloid, the extractive variation is remarkably extreme.

Too much care cannot be exercised in arriving at conclusions. A sample of Elixir Glycerophosphates was found to contain phosphate. The product was cloudy. It cleared with a small amount of hydrochloric acid and again clouded on adding ammonia. Another package from the same lot was bright and clear and gave no indication of phosphate. A portion in a test tube exposed a brief time to the vapor of a water bath became opaque. A few drops of acid cleared it and ammonia reprecipitated it. Investigation showed that the original package complained of had been exposed to a high temperature. If a publication is to be used as a standard by which men are to be condemned as delinquents, that standard should be as nearly above reproach as possible and not glaringly faulty. The N. F. offers a formula for Sol. Albuminate of Iron and a propaganda has urged physicians to prescribe it in preference to proprietary products. One pharmacist finds his N. F. formula calling for 40 G. of fresh Egg Albumen and 200 Cc. of solution of oxychloride of iron for 1000 Cc. and claiming that the product contains 0.026 of iron in 4 Cc.

Another having a revised edition with a formula calling for 40 G. of dry Egg Albumen, about twelve times as much as called for by the first formula, and 130 Cc. sol. oxychloride of iron, only 13-20 of the amount in the first formula, is told that it, too, contains in 4 Cc. 0.026 of iron. The Health Board Chemist who accepts this statement without verification, condemns every lot made by the formula.

Assuming the calculated standard for N. F. sol. of oxychloride of iron, the first formula would give 0.029 iron in 4 Cc., and the last 0.0188 iron to 4 Cc. Incidentally, the criticisms of different physicians, who prescribed this preparation, are interesting, and examination of products complained of is instructive. Many samples gelatinized on standing a short time. The alcohol contents varied 100 per cent, ranging from 5 per cent to 10 per cent. Iron varied from 0.015 to 0.040. One used caustic potassa instead of caustic soda. The variation in alkalinity is very marked. Correspondence with some leading pharmacists brings the acknowledgment that they do not make the product by the N. F. strictly, but use modifications of their own which they find necessary, yet they do not

hesitate to put the product out on propaganda prescriptions.

It is gratifying to note that in cases brought to court under the various Food and Drug Laws, the courts are taking the view that in cases involving matters of opinion competent testimony must prove beyond doubt the accuracy of the prosecution's opinion. Many of our officials entrusted with large powers under the laws are apt to consider that their individual opinion is the law, instead of the mere dictum of an individual. These laws are criminal statutes, and great care is necessary so as to prevent injustice being done. The defendant is just as much entitled to an opinion as the prosecution, and executive officers must understand that their opinion is not necessarily final.

Dr. Rusby's suggestion that facilities be furnished at importing points for the sorting or garbling of crude drugs, etc., is an excellent one, and the Association should urge the treasury department to furnish such facilities at an early date, so as to avoid loss to importers by rejection of drugs on technical grounds.

We have reached a time when we can establish with fair accuracy the fact that numerous drugs are therapeutically inert. While this is not properly within the sphere of pharmacists, the neglect of the subject of *materia medica* in our medical schools has forced the study upon the pharmacist. Would it not be well for the Association to prepare a list of drugs which are still used by physicians, but which we know to be of no value? The subject is almost of importance enough to warrant the appointment of a Committee on Inert Drugs.

One member of the Committee objects to the suggestion on the plea that the pharmacist's opinion is of little value. The A. M. A. says that *Echinacea* is inert, but many physicians find it of value. How can the pharmacist decide except upon the testimony of physicians of his acquaintance, while their opinion may be offset by that of other men quite as able.

We again urge chemical and wholesale drug houses to drop, as far as possible, the use of the misleading term "C. P. chemicals," adopting in lieu thereof the terms "U. S. P.," or "Medicinally Pure."

Co-operative work on the assay of crude drugs and galenical preparations shows that considerable variation is to be expected in the results of different analysts. In view of the fact that U. S. P. is a legal standard, we would impress upon the Committee of Revision the importance of not adopting assay processes in the new pharmacopœia, unless they have been thoroughly tried out and proved to give uniform results in the hands of different workers. It is well to pay attention to the physical characters of crude drugs and place intelligent limits on the quality and variety to be used, rather than to depend alone upon a certain standard based on a more or less inaccurate assay process.

Attention is called to the practice of certain manufacturers of offering chemicals, the per-

centage purity of which is given "by difference." The chief impurities are determined quantitatively and the chemical itself "by difference." The results are often highly misleading.

Undoubtedly we shall see great improvement in the next pharmacopœia. The valuable Digest of Comments issued by the Hygienic Laboratory under the editorship of Dr. Motter and Mr. Wilbert, and the wide range of inexperience in the Drug Laboratory with present processes, should place in the hands of the Committee of Revision more practical data than has hitherto been available.

The suggestion that has been made to issue yearly bulletins of corrections and improvements would seem to be a good one.

ACACIA. The powdered gum will almost always reduce an alkaline copper tartrate solution. It should not be rejected on this ground alone. E. H. GANE.

ACETIC ACID. Product labeled pure, contained trace of copper and had bad pyro-ligneous odor. E. L. PATCH.

ACID BENZOIC. The test for chlorine compounds is not reliable for distinguishing between the natural and artificial. Some samples of artificial acid show up better by this test than the natural. This means that artificial acid is often offered as natural from benzoin. W. L. SCOVILLE.

ACID BORIC. Two bbls. contained excess of sulphate and calcium. E. L. PATCH.

ACID LACTIC. The acid offered for technical purposes, which is often very impure, sometimes gets into the drug market. The strength is right, but the acid is dark colored and contains much foreign matter. W. L. SCOVILLE.

ACID OLEIC PURIFIED. One shipment contained iron and was very dark colored. E. L. PATCH.

ACID PHOSPHORIC. Fifteen samples tested 84.4 to 85 per cent. W. L. SCOVILLE.

ACID SALICYLIC. The use of natural acid from oil of birch is increasing. Its color is the distinguishing feature and is intentionally left dark. W. L. SCOVILLE.

ACID TANNIC. Crude acid containing traces of gums and resins is frequently offered. It is compact, heavy and usually dark in color. W. L. SCOVILLE.

ACID TARTARIC. Several lots testing well chemically were too dirty to use. Their color was bad and they made a very dirty solution. E. L. PATCH.

ACONITE ROOT. One lot of spongy root rejected. Assayed only 0.25 aconitine. E. H. GANE.

ALCOHOL—ETHYL, IN BBLs. New process alcohol made from sawdust by fermentation has appeared in the market. One sample tested 96.1 by specific gravity and had a good odor, but contained 6 per cent of methyl alcohol. The latter is formed in the process. W. L. SCOVILLE. "Commercial" alcohol is being generally supplied and used by the trade for medicinal preparations. Some of it is of

very bad odor and poor quality and trouble may result from use of this article unless the trade is more careful. E. H. GANE. Sample of sugar alcohol stood all U. S. P. tests, was practically odorless and was 94.41 per cent weight strength. E. L. PATCH.

ALOES MOKA. It is an amazing fact that American dealers and manufacturers have for years past permitted themselves to be supplied with this substance under the name of Socotrine Aloes. So general has the custom been that it has caused the greatest indignation for the Federal authorities to now reject the article when so called on the ground that it is misbranded. It is quite true that this article has been geographically classed with Socotrine Aloes, although this classification is not strictly correct. From every other point of view, it is entirely distinct and it is as inferior and objectionable as it is distinct. The substance is black and soft like thin tar, and is exceedingly disgusting in odor and taste. It contains a much larger amount of albuminous matter than official aloes. In fact, I should say that whereas Socotrine

APOMORPHINE HYDROCHLORIDE. The U. S. P. calls for the pure, crystalline salt. It is the custom of some manufacturers to always send the amorphous variety unless the crystalline is specified. Many druggists do not consult their pharmacopœia and dispense the amorphous, as it only costs one-fifth the price of the crystalline. Physicians have made many complaints as to difference in cost of prescriptions and radical difference in therapeutical action. Guinard states that the pure crystalline has a predominating stimulant action, while the amorphous is narcotic. A letter from Merck & Co. states that difference in action is not due to impurities in either preparation, but they are not advised as to the exact methods used by their laboratories in preparing the amorphous and crystalline salts. Dorvaults L'Officine cautions the pharmacist against using any but the pure crystalline salt; others may contain a notable quantity of morphine. Messrs. P. W. R. state that the amorphous contains impurities which prevent crystallization. The yield of crystals is small.

The two salts test as follows:

	CRYSTALLINE.	AMORPHOUS.
To the eye.....	White crystalline powder.	Buff colored powder.
To the microscope.....	Colorless crystals.	Yellowish particles, vitreous in appearance, with smaller adhering whitish particles.
Ignited	Smoky flame, no ash.	Smoky flame, no ash.
Color of Aqueous Sol.....	Colorless.	Pale greenish.
Reaction	Neutral.	Very faint acid reaction.
0.100 in 15 Cc. water plus 0.5 Sod. Bicarb. washed out with chloroform, dried at 100° C. (theoretical yield 0.06799)..	Gave 0.090 Gm.	Gave 0.059 Gm.
Titrated with N-10 Sulphuric Acid with cochineal indicator	Gave 0.07955 Gm.	Gave 0.0514 Gm.
Determination of HCl. (theory 0.012006)	0.0121203 Gm.	0.0115776 Gm.
Used the aqueous liquid from which alkaloid had been washed. E. L. PATCH.		

aloes is considered the best variety, Moka aloes is about the poorest. The rejection by our authorities of this spurious article has met with vehement protests from the European shippers, but it is undoubtedly to be continued, and it would be well for all concerned to become advised of the facts without delay, so as to accommodate themselves to the new conditions. H. H. RUSBY.

AMMONIUM CARBONATE. Usually runs low. Several lots were below 90 per cent pure—84.8 per cent to 88.24 per cent. W. L. SCOVILLE.

Tested 92 per cent, 94.5 per cent, 92 per cent, 94 per cent, 96 per cent. E. L. PATCH.

APIOL. Adulterated with castor oil, glycerol, gurjun balsam, and a residue from the solvent used in extracting the apiol. Apiols may be green, yellow or white. Are completely soluble in 90 per cent alcohol, ether, chloroform, acetone, benzene and glacial acetic acid. Should preserve their fluidity when cooled to 5°. PHARM. ERA.

ASAFOETIDA. Thirty-eight lots varied from 21.6 per cent to 61.2 per cent soluble in alcohol. One lot gave over 50 per cent of ash and several lots above 40 per cent. W. L. SCOVILLE. The high percentage of impurity in the commercial article renders necessary a process of purification. One lot of poor grade testing only 40 per cent soluble in alcohol with over 30 per cent of ash, was purified and the finished product showed, ash 3.17 per cent, alcohol soluble matter 73.71 per cent. E. H. GANE. The difficulties of the year in relation to Asafœtida have been much greater than those connected with any other article. The difficulty originates in the fact that is not known what properties should constitute a standard for Asafœtida. With no standard in existence, how can one be enforced? We know that two or more plants, but no one knows how many, yield gum resins for which the name Asafœtida has always been accepted, no matter whether these substances were supplied separately or in a mixture. We also know that gum resins

to which the name does not belong are often mixed with *Asafœtida* and that they take the odor and taste of the latter. When we are able to pick out these pieces and determine them as ammoniac, olibanum and galbanum, as we have been doing, we are able to declare such an *asafœtida* as adulterated. When, on the other hand, some of the substances so picked out are unknown and have the *asafœtida* odor and taste, it is a matter of opinion as to whether they form a legitimate part of the *asafœtida* or not. With this situation we are frequently confronted and the very best of judges are sharply at variance in their opinions. The situation, moreover, is much worse than appears in this statement, as the dealers are not usually good judges nor careful examiners and they firmly and with sincerity claim the right to the goods, even when it is easy to demonstrate the presence of adulterants. Add to such cases the many in which the dealers know the article is adulterated, yet endeavor to get it through surreptitiously and it will be realized that there is trouble enough with *Asafœtida*. It is probable that most of the trouble comes from differences of opinion and it may be said that among foreign shippers the opinion is general, and even exists among high scientific authorities that the U. S. government is wrong and acts arbitrarily in its rejection of this article. It is not improbable that the U. S. authorities have erred in some cases. This series of difficulties must continue until some properly qualified person shall visit the *Asafœtida* region and make a thorough study of all questions pertaining to it, obtaining typical material for which a standard description can be drawn up. The pharmacopœia claims the authority to fix our standards, therefore upon it rests a responsibility for being correct in regard to them. One who assumes authority, but repudiates responsibility for it, must be condemned. H. H. RUSBY.

1 Powd. 41 % soluble in alcohol 36.5% ash
 2 Powd. 53 % soluble in alcohol 26.5% ash
 3 Powd. 66 % soluble in alcohol 22.5% ash
 4 Powd. 66.5% soluble in alcohol 23.5% ash
 5 Powd. 37 % soluble in alcohol 40 % ash

1 Gum 55 per cent soluble in alcohol, 26 per cent insoluble, Ash 5 per cent, 19 per cent moisture and volatile matter.

2 Gum 32.5 per cent soluble in alcohol, 53 per cent insoluble, Ash 5 per cent, 14.5 per cent moisture and volatile matter.

3 Gum 19 per cent soluble in alcohol, 71 per cent insoluble, Ash 20.8 per cent, 9.5 per cent moisture and volatile matter. E. L. PATCH. *Asafœtida* yields 14.56 to 15.90 per cent volatile oil, generally some less in the tears than in the mass, but that from the tears is more pungent, containing more sulphur, often over 10 per cent, while the oil from the mass has about 2 per cent. DRUG TOPICS.

ASPIRIN. Ten samples melted at 130° to 136° C. W. L. SCOVILLE.

BALSAM PERU. In regard to Balsam Peru, an entirely different situation exists. Notwithstanding that original research is needed to perfect our knowledge, yet everyone knows what the article is, and there is no very great difficulty in fixing a fairly satisfactory standard for it. The impropriety here is in the marketing of a purely fictitious manufactured product, an imitation of the natural one. Not only is the article technically spurious and readily distinguished by physical and chemical tests, but its source is such as to render its use as a substitute for Balsam Peru distinctly injurious or even dangerous. It may be asked how such an article can be admitted under the law. This is secured by the use of the word "synthetic" prefixed to the title. Of course, this does not justify its admission, for such use of the word is not permissible. An article like quinine or vanillin, of definite chemical composition, may be made synthetically, if exactly the same in chemical composition as the genuine, but an article that admits of no chemical definition, but only of one that states its source (as a balsam obtained from *Toiufera Pereiræ*) is not that substance, either synthetic or otherwise, unless derived from said source. Another condition out of which grows great difficulty, is the improper use of the phrase "for technical use." Articles which do not conform to the standard may be imported "for technical use only," but this term is greatly abused in practice, medicinal and pharmaceutical uses being often included under the term. There is the greatest need of some carefully studied provision of the pharmacopœia for specifying just when and how articles differing from the standard may be admitted for technical use. H. H. RUSBY.

BENZOIN. Benzoïn runs fairly even 70.8 per cent to 87.5 per cent soluble in alcohol. E. H. GANE. One sample contained 11.1 per cent ash and only 72 per cent alcohol soluble. The impurities were sand and twigs from the tree. W. L. SCOVILLE. One of the greatest difficulties with which the government has to contend in its treatment of importations of this article is the failure of the pharmacopœia to specify the allowable amounts of the different kinds of impurity. It is a peculiar and strange fact that as a general rule those lots containing the larger amounts of bark, wood and other impurities of that class, have the strongest and finest odor, while those from which there has apparently been an attempt to exclude them, are apparently less active. This may be due to the mechanical state of the mass, which leads to a greater freeing of the odorous constituents in the former case, or there may be an actual as well as an apparent superiority. This whole matter requires investigation. In any case, it is up to the pharmacopœia to more perfectly fix the restrictions for this drug. H. H. RUSBY.

BELLADONNA LEAF. One bale rejected owing to age and mildew, assayed 0.23 per

cent alkaloids. E. H. GANE. There seem to be a strong general trend in favor of authorizing the substitution of the herb for the leaves. Should this proposition carry with the Pharmacopœia Committee, without any restrictions as to size of stems, considerable trouble will be prepared for analysts. In spite of all statements to the contrary, large stems are very deficient in alkaloidal percentage. In assaying a drug containing such stems it will be almost impossible to get a representative mixture of stems and leaves as to proportion, unless a very large sample is taken and specially powdered so as to be sure that the entire tissue is represented in such powder. H. H. RUSBY. 0.35 per cent, 0.37 per cent, 0.26 per cent, 0.37, 0.4. These two bales had about 75 pounds of stems in their interiors. Removed both bales, mixed and ground, assayed 0.27 per cent. E. L. PATCH. Thirteen bales contained an excess of stems. Leaf portion assayed 0.298 per cent, and the stem portion 0.175. C. E. VANDERKLEED.

BISMUTH SALICYLATE. Nearly always contains some Subnitrate. REP. DE PHARM.

BUCHU. The demand for Buchu U. S. P. has exceeded the supply and the price has been excessively high. This has stimulated the offering of Long Buchu, which is not recognized by the pharmacopœia, to such an extent that during the second half of the year, supplies of this substitute have probably exceeded the genuine. Such substitution is not necessarily fraudulent, as there is a large demand for long buchu by those who prefer it to the official variety. It may well be that the reason that it is not generally preferred is that the great majority of prescribers are either ignorant or utterly unconcerned as to the distinctions and differences between the two. In any case, the therapeutic differences are insignificant and the deletion of Long Buchu was undoubtedly an error. Its restoration to official recognition would greatly relieve the commercial situation without detriment, even if not with positive advantage to therapeutics. While it is true that some Long Buchu is used by preference, almost all of it goes into consumption as Buchu, its supply being thus fraudulent. In all cases the Federal authorities deny it admission as "Buchu," but by changing the mark to "Long Buchu," the inspector may allow it to enter. In practically all cases the name "Buchu" is restored before the article enters consumption. State and city administrations, so far as I know, have in no instance sought to check this illegal procedure. It is the custom to mix a larger quantity of stems with Long Buchu than with Short Buchu; 8 or 10 per cent is scarcely objectionable, but 10 to 15 per cent is common, and 15 to 25 per cent not infrequent. In the case of Long Buchu, the introduction of as large an amount of stem as could possibly be palmed off has been the rule. This is instructive, as indicating the greater readiness to adulterate an article which is deprived of the protection of the

pharmacopœia. In many cases the stems have been chopped up to resemble coarse sand in appearance, before being added, and in some cases, coarse sand has also been added with the stems. Here again the drug is excluded from importation under the mere name, but the strict wording of the law compels its admission if the words "With Stems" are added, although these qualifying words are uniformly eliminated before the drug goes to the consumer, and the states are culpably indifferent to the fraud. Fifty per cent of stems (more has frequently been found) means a reduction of nearly one-half in the medicinal value of a preparation made from the drug. In one instance the foreign shipper powdered the Buchu before shipping it, with the evident intention of making it impossible to determine the presence of the stems in it. I reported 23 per cent. The importer was granted permission to sift out the stems and obtained about 27 per cent. The admission of Long Buchu to the pharmacopœia, and its strict regulation, are loudly called for by the conditions described. H. H. RUSBY.

CALCIUM CARBONATE. Most lots showed traces of iron and aluminum. One lot was off color, very dirty, showed presence of iron, aluminum, phosphates and dirt. E. L. PATCH. from 4 per cent to 15 per cent camphor. M. S. B.

SPIRIT CAMPHOR. From 7 per cent to 8.2 per cent camphor. M. S. B.

CANNABIS INDICA. This drug continues of great interest. Supplies have continued scarce, and prices high, during the entire year. This has stimulated the importation of large amounts of the drug which cannot be regarded as the U. S. P. article. Many of them contain far too large a percentage of seeds. Others are not produced in India at all, but in Africa mostly, and are not cured in the same manner and form as the Indian drug. Owing to the claim, put forward by high authority, that substances are therapeutically equal to the official article, it has been very difficult indeed for the authorities to succeed in maintaining the standard. Large quantities of this drug which have been received have been damaged in curing, having heated in the process of drying so as to turn brown or even black, and in some instances to be absolutely rotten. H. H. RUSBY. Ether soluble resin, 12.1 per cent, 11.1 per cent. E. L. PATCH.

CANNABINE TANNATE MERCK. Brownish powder, odor of cannabis indica. Taste slightly astringent. Not entirely soluble in alcohol. Not soluble in water. Soluble in weak KOH. Solution giving a brownish color. Adding HCl in excess gives a yellowish liquid, adding test solution of Fe_2Cl_6 turns the liquid quite dark. With an excess of ammonia gives a blue black ppt. E. L. PATCH.

CANTHARIDES RUSSIAN. 0.4 per cent, 0.4 per cent, 0.4 per cent, 0.48 per cent, 0.44 per cent, 0.5 per cent. E. L. PATCH.

CARBON PAPERS. Nine blue papers showed arsenic varying from 1-250 grain to 2.15 grains per square yard. Two samples were arsenic free. One purple paper had 14 grains to the square yard, one had 1 grain and six were arsenic free. Five black papers showed 1-200 grain to the square yard and two none. One red paper gave 1-175 grain to square yard, one none. ERNEST O. COOK.

CARAMEL. Adulterated with Ammon. Carbonate and Sodium Carbonate. Sometimes contains 50 per cent sodium carbonate crystal. P. CARLES.

CARBONIS DETERGENS LIQUOR. Great variation is found in this preparation and physicians are frequently disturbed by it. Different formulas give the following:
Coal Tar Soap Bark Alcohol

40	20	70%	to make 100
20	10	90%	to make 100
16	20	33%	to make 100
50	20	68%	to make 100
20	20	45%	to make 100
20	20	80%	to make 100
20	10	95%	to make 100

Two lots examined gave Alcohol 48.52 per cent and 48.88 per cent, Residue 2.9 per cent and 2.9 per cent. E. L. PATCH.

CHARCOAL. Imperfectly carbonized samples are of frequent occurrence. E. H. GANE.

CHERRY LAUREL WATER. Assays from 0.03 per cent to 0.1 per cent of Hydrocyanic acid. E. L. PATCH.

COCHINEAL. The "silver" variety is gradually disappearing and better grades are more easily obtainable. The "silver" variety had a high ash, the characteristic appearance being due to loading. Two samples of powdered purchased in the open market only yielded 3.24 per cent and 4.90 per cent of ash, where formerly 20 per cent to 30 per cent was common. E. H. GANE.

COLCHICUM SEED. One sample contained but 0.36 per cent Colchicine. E. H. GANE. One lot assayed 0.52 per cent. E. L. PATCH.

COLLODION. Two lots contained only 75 per cent of the official amount of soluble gun cotton. E. L. PATCH.

COLOCYNTH. Three lots contained ground seeds. H. H. RUSBY. Most of the product sold contains seed as well as pulp and prosecutions have been brought on this account. E. H. GANE.

(To be continued)

THE NUB OF THE QUESTION.

So long as a druggist wants to squeeze every last cent from his business he will keep his store open all night long and all day on the Sabbath. He will hide behind the stock excuse that drugs are needed by the sick at any and all hours, When he knows perfectly well that the legitimate sales of this charac-

ter after seven or eight o'clock in the evening won't pay the gas bill, and when he realizes thoroughly that the emergency wants of the sick are supplied by the physician from his case. If he is too honest to advance this argument, he will plead the sacred nature of Custom, and say that the public expects drug stores to be open when other shops are closed, shutting his eye to the fact that the public formerly expected the same thing of grocery stores, but quickly adapted itself to a changed situation when the grocers developed self-respect and refused any longer to make slaves of themselves.

Sometimes the druggist will frankly confess the truth and admit that he is after the soda, the candy, and the cigar business which comes to him in the evening and on Sunday. This is the nub of the question—the very heart of the whole matter. The druggist frankly wants to extract every last cent from the business—and, by the Eternal, he is going to do it! The indignant editorials on the subject, the association papers, the committee reports, the eloquent debates at meetings—these all slide off his back more easily than a duck sheds water. He listens calmly—and then does as he pleases.—*Bulletin of Pharmacy.*

THE CHARITY OF JUDGMENT.

"We do not need to judge nearly so much as we think we do. This is the age of snap judgments. The habit is greatly intensified by the sensational press. Twenty-four hours after a great murder there is a difficulty in getting enough men who have not already formulated a judgment, to try the case. These men, in most instances, have read and accepted the garbled, highly-colored newspaper account; they have to their own satisfaction discovered the murderer, practically tried him and—sentenced him. We hear readers state their decisions with all the force and absoluteness of one who has had the whole Book of Life made luminant and spread out before him. If there be one place in life where the attitude of the agnostic is beautiful, it is this matter of judging others. It is the courage to say: "I don't know. I am waiting further evidence. I must hear both sides of the question. Till then I suspend all judgment." It is this suspended judgment that is the supreme form of charity."—*William George Jordan.*