

A TEXT-BOOK
OF
MATERIA MEDICA AND
PHARMACY

FOR MEDICAL STUDENTS

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PREFACE.

As the authors have not found a book on Pharmacy and Materia Medica, such as seemed to meet the needs of the students attending the course of instruction given in these subjects in the University of Toronto, they have felt it necessary to undertake the preparation of a short text-book. Their reluctance to undertake the preparation of another medical text-book has led them to carefully examine the books upon these subjects now upon the market; yet none seem to fulfil the requirements that they considered essential. Many of the books dealing with this work contain as well Pharmacology and Therapeutics, which are often not up-to-date nor accurate, or if they be accurate the Pharmacy and Materia Medica have been neglected. As there are good text-books of Pharmacology, the authors have considered it inadvisable to include any pharmacology whatever. The other texts upon the market, which deal with the pharmacy in an adequate manner are too often written by American authors and deal largely with the American Pharmacopoeia. The arrangement of the sections in many books dealing with the materia medica is also often the authors consider unfortunate. The classification of the drugs according to their botanical, mineral, or animal origin is no longer of importance. Nor does a pharmacological classification, where so much overlapping occurs, furnish a basis for an arrangement useful for reference purposes. These considerations have forced the authors to compile this little book and they hope that it will prove an aid to many medical students in gaining the necessary knowledge of a now too much neglected subject.

The following works have been much made use of, The British Pharmacopoeia; The British Pharmaceutical Codex; Squire's Companion to the British Pharmacopoeia; Ruddiman, Incompatibilities in Prescriptions; Elborne, the Elements of Practical Pharmacy and Dispensing; The Art of Dispensing; Fantus, Prescription Writing and Pharmacy; Bruce, Materia Medica and Therapeutics; The American Pharmacopoeia.

University of Toronto.

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CHAPTER I.

DEFINITIONS, WEIGHTS, AND MEASURES.

For the purpose of curing disease the medical practitioner makes use of many substances of animal, vegetable and mineral origin, as well as an increasing number of substances prepared by the chemist synthetically. The substances that are so used are known inclusively and collectively as the "MATERIA MEDICA." Any substance administered to a patient for the purpose of curing or alleviating disease may be termed a "DRUG." But not all substances that have been used by man as medicines are still in common use in civilized lands to-day, and many of the newer remedies, though highly lauded by their discoverers have not, and in many cases will not prove to be of sufficient merit to come into common favour. In consequence of this and as a guide to the physician and especially as an aid to his allies the pharmacists, most modern governments have caused to be prepared and published books known as "PHARMACOPOEIAS." Such a pharmacopoeia contains the correct legal or "*official*" names both in Latin and in the vulgar tongue of such substances of the materia medica as are judged by those who compile the pharmacopoeia to be in common use in the country and to be of value to the physician. Further for the guidance of those who purchase crude drugs and prepare them for the patient's use the pharmacopoeia contains accurate descriptions of the physical and chemical characteristics of the drugs and of the methods by which they are prepared for administration. The term "*official*" may be applied only to those drugs, preparations, methods and doses as are included in the pharmacopoeia. This term must be carefully distinguished from the more inclusive term "*officinal*" which may be applied to any drug, etc., whether included in the pharmacopoeia or not, so long as it is in common use.

The science of "PHARMACOGNOSY" is the science of the source and characteristics of the substances of the materia medica. This includes a knowledge of the natural history of all the plant, animal, and mineral products in the materia medica, as well as a knowledge of the methods of chemical preparation of those drugs that are produced synthetically, and a knowledge of the chemical and physical characteristics of all drugs. Some of the more important facts of the pharmacognosy of the drugs reviewed in this book will be referred to when considering the materia medica.

"PHARMACY" is the art of the proper preparation of the substance of the materia medica for use (exhibition) and administration as medicines. This science may be divided into three branches. Firstly,

Chemical Pharmacy, or the preparation of substances of definite chemical composition, such as salts, acids, alkaloids, etc. This branch has now passed entirely out of the hands of the practising physician and almost entirely out of those of the practising pharmacist. Secondly, *Galenical Pharmacy*, or the preparation of drugs of indefinite chemical composition, products of plant or animal life as a rule, and usually intimate mixtures of many chemical substances for administration as medicine. Galenical pharmacy has now been almost entirely abandoned by the physician and only some of the simplest procedures are now carried out by him. The practising pharmacist as a rule no longer carries out the more complex galenical procedures but purchases many of his stock of galenicals from the larger pharmaceutical houses. Thirdly, *Dispensing, Magistral Pharmacy*, or the preparing and putting up in suitable form for the patient of the drugs or their galenical preparations ordered by the physician.

"**POSOLGY**" is the branch of medical science that deals with the doses of drugs and their preparations. The knowledge of this subject is a most important one for the physician.

"**PHARMACOLOGY**" is the science that deals with the action of drugs upon the animal body. This science is often termed "**PHARMACO-DYNAMICS**"; the term "**Pharmacology**" being then used in a broader sense to include pharmacy, pharmacology, pharmacognosy, and posology. "**THERAPEUTICS**" is the art of applying the knowledge of these four sciences to the treatment of disease.

The Pharmacopœia also prescribes the systems of weights and measures, which are to be used in the operations of pharmacy. The older system which is still almost alone in use in dispensing, and in which alone the Pharmacopœia Britannica gives the official doses of the materia medica, is the **IMPERIAL SYSTEM**.

MEASURES OF MASS OF THE IMPERIAL SYSTEM.

	Metric-Equivalent.
1 grain abbreviated gr.	64.7987 mgms.
437.5 grs.—1 ounce, abbreviated Oz. or \mathfrak{z}	28.349 gms.
7,000 grs. 16 oz. 1 pound, abbreviated lb.	453.59 gms.

Very commonly a weight known as a drachm (dr. or \mathfrak{d}) equivalent to 60 grains (3.8879 gms.) is employed in prescribing and dispensing and more rarely the scruple (\mathfrak{s}) equivalent to 20 grains. Both these weights are survivals of the Troy system of weights and it is the common practice of pharmacists in spite of the usage of the Pharmacopœia to use in dispensing the Troy ounce of 480 grains, unless there is some indication that the Imperial ounce is intended. (If the sign \mathfrak{z} be used it is customary to dispense 480 grains, while if the word ounce be written the Imperial ounce would be dispensed.)

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MEASURES OF CAPACITY.

1 millilitre usually spoken of as a cubic centimetre and consequently abbreviated c.c. 0.001 litre	16.89 min.
1 centilitre abbreviated Cl. 0.01 litre	0.352 fl. oz.
1 decilitre abbreviated Dl. 0.1 litre	0.1759 pint.
1 litre (the volume at 4° C. of 1,000 grammes of distilled water), abbreviated L.	35.196 fl. oz. or 1.7598 pints.

The cubic centimetre that is a cube each of whose sides is a square centimetre is the unit of cubic capacity; it is usually considered to be of such a volume as to contain exactly one millilitre of distilled water at 4°C. It is according to the Pharmacopœia equivalent to 0.99984 millilitre. The term cubic centimetre is, however, used in place of millilitre throughout the pharmacopœia and this book. The British Pharmaceutical Codex has introduced a new term intended to supersede this use of cubic centimetre. The term introduced is "mil" an obvious abbreviation of millilitre. It has the added advantage that using the plan of the metric system, diminutives may readily be constructed to express quantities smaller than one cubic centimetre; thus using this term 0.12 c.c. may be read twelve centimils, or 0.7 c.c. seven decimils.

DOMESTIC MEASURES. A teaspoonful is a convenient but inaccurate measure and is considered as roughly equivalent to 1 fluid drachm (or 3.5 c.c.) a dessertspoonful is similarly considered to be equal to 2 fluid drachms (7 c.c.) and a tablespoonful equivalent to a half fluid ounce (or 14 c.c.). A wine-glassful though too inaccurate for use in medicine is usually stated to be equal to 1½-2 fluid ounces, similarly a teacupful is estimated as 5 fluid ounces and a tumblerful as one half pint or 10 fluid ounces. A minim is considered to be equal to one drop but as the size of a drop varies with the viscosity of the fluid and the point from which it is dropped it is not to be considered an at all accurate measure. Graduated measures may now be obtained so cheaply that every physician can well insist upon their use.

CHAPTER II.

CLASSIFICATION OF DRUGS—GALENICAL PHARMACY.

Drugs may be classified broadly under two general divisions:—

(1) Drugs of Inorganic origin.

(2) Drugs of Organic origin.

Inorganic Drugs include—

(a) The Non-Metals, such as Chlorine, Sulphur, etc., with their salts and preparations.

(b) The Heavy Metals, such as Mercury, Iron, etc., with their salts and preparations.

(c) The Alkalies and Alkaline Earths; such as Potassium, Ammonium; Calcium, Magnesium, with their salts and preparations.

Organic Drugs from vegetable sources, include:—

(a) Those portions of plants which contain active principles, as Digitalis Leaf, Calumba Root, Quassia Wood.

(b) Fixed Oils.—Compounds of the fatty acids with Glycerin, obtained by expression from fruits, seeds, etc., as Castor Oil, Olive Oil.

(c) Volatile or Essential Oils.—The fragrant principles of plants obtained by distillation, as Oils of Peppermint, Eucalyptus and Turpentine.

(d) Resins.—Solid preparations obtained from volatile oils by oxidation, these are insoluble in Water, but soluble in Alcohol and Ether, as Podophyllin and Scammony Resins.

(e) Oleo-Resins.—Compounds of Volatile Oils and Resins, semi-liquid in consistency, as Oleo-Resin of Male Fern and Copaiba.

(f) Balsams.—Which are Resins or Oleo-Resins either liquid or solid, containing either Benzoic or Cinnamic Acids or both, as Benzoin, Balsams of Tolu and Peru.

(g) Gums.—Solid or semi-solid exudations of plants either dissolving in water to form a mucilage or forming with it an adhesive jelly, as Acacia and Tragacanth.

(h) Gum Resins.—Compounds of gums and resins having the properties of both, as Asafetida and Myrrh.

(i) Vegetable Acids.—Which may occur free in fruits, etc., or be obtained by the decomposition of their salts, or by distillation, as Citric, Tartaric and Acetic Acids.

(j) Glucosides.—A small but important class deriving their name from the fact that they may be broken up into Glucose plus some other substance which differs in character from the original glucoside. They

are readily decomposed by acids and alkalies in the presence of water. Their English names terminate in "in" and their Latin in "inum."

Examples.—Digitalin, Salicin and Santonin.

(k) Alkaloids.—These are nitrogenized organic bases formed in plant and animal life, generally crystalline, a few being liquid. They resemble alkalies in that they turn red litmus paper blue and form salts with acids. As a rule they are sparingly soluble in water, readily so in alcohol, chloroform, benzine and ether, while their salts are the reverse. Their English terminations are in "ine" and their Latin in "ina."

Examples.—Morphine, Strychnine.

Organic Drugs from animal sources include substances obtained from parts of animals as the dried Thyroid Glands of the sheep, Cod Liver Oil, the ferments such as Pancreatic Solution and Pepsin; the Fats as Lard; whole insects, as *Cantharidis*, or the products of insects as White and Yellow Wax; and of later date the group of substances known as the Sera, which are the prepared blood serum from animals immunized by the repeated injections of bacteria or their toxins.

GALENICAL PHARMACY.

This includes those preparations made from crude drugs of any source by some physical process as distinguished from chemical processes. Of the processes more commonly used in the preparation of pharmacopœial products we have the following:—

SOLUTION.—By this is meant the process of making a solid or liquid to disappear in a liquid vehicle or menstruum. This may be a physico-chemical or a chemical procedure. Physico-chemical or simple solutions are those in which the substance dissolved suffers no change except of its physical form and from which it may be recovered, as would be the case in making a solution of Bromide of Potassium.

Chemical Solutions on the other hand are those in which the substance dissolved undergoes chemical change becoming another substance, as in dissolving Iron Wire to make the Solution of the Perchloride of Iron.

EXTRACTION.—Under this heading we may consider four processes.

(a) **INFUSION.**—The process of treating a suitably powdered or bruised drug of vegetable source, with either hot or cold water until its active principle has been extracted. The fluid portion is strained off and preserved, the solid rejected.

(b) **DECOCTION.**—The extraction of the active principles of vegetable drugs by boiling in water.

(c) **MACERATION.**—The exhaustion of vegetable drugs by exposing them in a suitably powdered state to the continuous action of a solvent, as in preparing some of the Tinctures. The powdered drug is placed

in a vessel and the solvent poured upon it. With occasional agitation it is left standing for a definite length of time, the fluid portion being removed by filtration and preserved. The undissolved portion called the *Mare*, after having the little fluid remaining in it pressed out and added to that filtered off, is rejected.

(d) PERCOLATION.—The process of exhausting vegetable drugs of their principles by exposing them to the action of a solvent which is added in successive portions so that the drug is repeatedly exposed to fresh solvent. The drug having been suitably powdered and moistened with a portion of the menstruum, to prevent its swelling after being placed in position, is packed with requisite pressure in a percolator (a cylindrical or conical vessel with greater vertical than transverse diameter, and funnel shaped below), this having been prepared by having a non-absorbable material such as excelsior or tow placed in its lower end. A further portion of the menstruum is now poured upon the drug until it begins to drop from the lower outlet when this is stoppered and the whole is left standing for a time. Then the stop is removed and the process continued very slowly until the requisite quantity is obtained. The *mare* is treated as in Maceration.

EXPRESSION.—The process by which a drug is subjected to pressure until its juices are obtained.

FILTRATION.—The process of separating solids from fluids by passing the fluids through a porous diaphragm.

DISTILLATION.—The process whereby volatile substances are separated from non-volatile or those less volatile, by the aid of heat.

DESSICATION.—The separation of the watery constituents of plants or other drugs by the aid of currents of air, heated or at the ordinary temperature of the air, as in the drying of herbs or in the making of lozenges.

PULVERIZATION.—The reduction of any substance to the condition of a powder. Powders may be of varied degrees of fineness. This is determined by the number of meshes to the linear inch of the finest sieve through which any powder may pass. Sieves are made of 20, 40, 60, 80, or 100 meshes to the inch.

TRITURATION.—May mean the pulverization of a drug but more commonly it is used in reference to the intimate admixture of two or more powders by the aid of a spatula or a mortar and pestle.

GROUPS OF OFFICIAL PREPARATIONS.

ACETA—(VINEGARS).—Solutions of the active principles of drugs made by solution or maceration, with acetic acid as the menstruum.

AQUAE—(WATERS).—Solutions of volatile substances in water.

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of time, and removing the undressed solid portion by straining.
 Table drugs made by exposing the coarsely powdered or bruised drug to the action of hot or cold water, without boiling, for a specified length

INFUSA, (INFUSIONS).—Solutions of the active principles of vege-

because of the special solvent or preservative action of Glycerin, made

GLYCERINA, (GLYCERINS).—Solutions of drugs in Glycerin, made

grains.

dose is expressed in the same number of minims as the crude drug in

ome of the product represents an ounce by weight of the drug. The

ing with alcohol, water or ether, and of such strength that each fluid

liquid preparations of vegetable drugs made by macerating or percolat-

EXTRACTA LIQUA—(LIQUID EXTRACTS).—Concentrated

small bulk and dose.

and are largely administered in pill or capsule form, because of their

six times the strength of the crude drugs from which they are derived.

by exhausting the crude drug with water they are called aqueous

extracts, if with alcohol, alcoholic extracts. They are from two to

ained by exhausting vegetable drugs by maceration or percolation and

EXTRACTA—(EXTRACTS).—A very concentrated dry preparations ob-

the skin.

tion, mastic or butter, and will remain adherent when applied to

resin, or soap, and of such consistence that they can be spread upon

drug incorporated with an adhesive and permanent base as lead, soap,

EMPLASTRA—(PLASTERS).—Preparations composed of some active

of vegetable drugs prepared by boiling with water.

DECOCTA—(DECOCTIONS).—Aqueous solutions of the active principles

with some active drug.

COFFECTIONS—(COFFECTIONS).—Soft admixtures of Sugar or Syrup

and ether, forms a thin permanent film upon the surface.

tion, which when applied to the skin, after evaporation of the alcohol

Either and Alcohol, or of some active substance dissolved in that solu-

COLIDA—(COLIDONS).—Solutions of Gum Cotton in a mixture of

active drug for application to the surface of the body.

CHARTE—(PAPERS).—Strips of cartridge paper spread with an

sometimes for their specific effect.

used as aromatic or flavoring vehicles for less pleasant medicines,

sub-divided and capable of remaining suspended in water. They are

est estimated with Calcium Phosphate, it thus being very minutely

colons by a method of suspension which is secured by the oil being

distribution but the authorities permit their being prepared in the

waters of the volatile oils) are, if prepared in Great Britain, made by

Some are simple solutions as Aqua Chloroformi, while others (the

INJECTIONES HYPODERMICÆ, (HYPODERMIC INJECTIONS).—Solutions of potent drugs in water, sterilized by boiling or by the addition of some antiseptic, for administration by the Hypodermic Syringe through the skin. They afford the physician a means of rapidly and powerfully affecting the system. When injected into the subcutaneous fat, this is called the subcutaneous method, if injected into the muscular tissue, the interstitial method. The use of the hypodermic needle should be preceded by the careful asepsis of the patient's skin.

LAMELLE, (DISCS).—Thin, transparent plates made of Gelatine and Glycerin, containing a minute quantity of one of the salts of the alkaloids, administered by being placed in the conjunctival sac.

LIMBINTA, (LIXIMENTS).—Liquid preparations made for application to the skin by rubbing, containing some active substance dissolved in a menstruum composed of water, alcohol, or oil, with soap, camphor or glycerin.

LIQVRES, (LIQVORS OR SOLUTIONS).—Solutions of non-volatile substances in water. This group must not be confounded with alcoholic liquors nor with other groups in which water is used as the main solvent (see *Aqueæ*).

LIQVRES CONCENTRATÆ, (CONCENTRATED LIQVORS).—Weak Liquid extracts made of such strength that two parts represent one of the crude drug. They are intended to facilitate the rapid making of Infusions, for which purpose they are simply dissolved in water.

LOTIONES, (LOTIONS).—Mixtures in which some active medicine is suspended in water for application by washing, or for continuous action by means of application in lint.

MELLITA, (HONEYs).—Honey, or Medicines dissolved in Honey and Glycerin.

MISTVRE, (MIXTURES).—Preparations in which the active substances are suspended in water by the aid of sugar, acacia, or tragacanth.

MUCILAGINES, (MUCILAGES).—Viscid preparations made by treating acacia or tragacanth with water.

ONYMELLITA, (ACIDULATED HONEYs).—Preparations containing honey and acetic acid.

PILLE, (PILLS).—As ordinarily understood the term refers to the spherical or spheroidal masses made from concentrated or potent drugs for administration by the mouth. The Pills of the Pharmacopœia are however solid or almost solid masses of active substances, usually of complex nature, which are capable of being rolled and divided into pills. Cohesiveness is conferred by the addition of glucose or some mucilage or similar excipient. The advantage of using pills is due to the fact that nauseous or unpalatable drugs, if of small dose, may be administered in this manner. The taste may be quite covered by coating them with gelatine or sugar.

PULVERES COMPOSITEE, (COMPOUND POWDERS).—Mixtures of two or more insoluble powdered drugs intended for administration by the mouth.

SPRITES, (SPIRITS).—Solutions of volatile substances prepared by either simple solution in Rectified Spirit or by distillation.

SUCCI, (JUICES).—The juices of fresh plants obtained by expression and preserved by the addition of Alcohol.

SUPPOSITORIA, (SUPPOSITORIES).—Conical masses made by incorporating some active drug with Oil of Theobroma. One is made by the aid of Gelatine. They are made to weigh about fifteen grains each and are used by inserting them into the rectum. Suppositories made for use in the vagina are made to weigh about a drachm and are called pessaries, while those used for the urethra are elongated rods, made with Cocoa Butter or gelatine, and are called Bougies.

SYRUP, (SYRUPS).—Viscid liquids prepared by dissolving active medicines in a syrup made from cane-sugar and water.

TABELLE, (TABLETS).—The only official tablet is that of Nitroglycerin which is composed of nitroglycerin incorporated with Chocolate and moulded to a flat, circular shape. (See non-official Tablets.)

TINCTURE, (TINCTURES).—Preparations containing the active principles of one or more drugs, usually non-volatile, dissolved in varying strengths of alcohol, one only being made with ether. They are prepared by simple solution, maceration or by percolation. Those containing more than one active drug are called Compound Tinctures. In relation to the Liquid Extracts they are much weaker in the proportion of active constituents, but because of their permanency are very largely used.

Some Tinctures are said to be "Standardized." These are those which owe their value to the presence of an active alkaloid in the crude drug. The amount of alkaloid present in the Tincture is determined by actual assay and must conform to the pharmacopœial requirements. The term is also used in reference to certain Dry and Liquid Extracts.

TROCHISCI, (LOZENGES).—These are large and tablet shaped, and are made by mixing an active drug or drugs with Refined Sugar and Powdered Acacia forming a mass by the aid of one of four bases, Fruit Basis (Black Current Paste), Rose Basis (Rose Water), Tolu Basis (Tincture of Tolu) or Simple Basis (Water) and then dividing the resulting mass with a suitable mould into shapes of definite weight, which are dried in a current of air.

UNGUENTA, (OINTMENTS).—Preparations made by incorporating solutions or finely powdered drugs with a fatty base. This is commonly Lard, Wool Fat, or a mixture of Hard and Soft Paraffin. They are used by being simply smeared upon the skin or by inunction, that is, being rubbed into the skin, in the first instance for a local effect, in the

second to secure its absorption and thus a systemic action. Lard and Wool Fat are used when it is intended to secure the absorption of the drug while the Paraffins are used when the local action is wanted.

VINA, (WINES).—Solutions of active drugs in either Sherry or Orange Wine. Each of these is included in the official list.

NON-OFFICIAL PREPARATIONS.

CACHETS, (CACHETS OR KONSEALS).—A cachet is made of two plate shaped forms of rice paper within which the medicament has been enclosed and which are sealed by moistening their contiguous borders with water. They offer an elegant method for completely covering nauseous and insoluble powders which are too bulky to be made into pills.

CAPSULE, (GELATINE CAPSULES).—These are made in hard and soft varieties. The first are hollow receptacles, covered by a lid made of the same shape and accurately closing it, and composed of gelatine, acacia and sugar. The soft variety is made by substituting Glycerin for the sugar, are ovoid in shape and are closed, after being filled, simply by placing a drop of the gelatine solution over the open end. The substances introduced may be bulky powders, semi-solid pill masses, and such fluids as will not dissolve the gelatine, as the Oils, Balsams, Watery solutions may be administered by this means if given immediately but this method is not recommended.

CATAPLASMATA, (POULTICES).—A poultice is a means of applying moist heat to the surface of the body. It may be made of Linseed Meal, Bran, or any other bland substance capable of retaining heat and moisture. Sometimes they contain also more active substances such as Mustard, small quantities of Laudanum, or some of the antiseptics as Boric Acid and the Volatile Oils. In the latter case a base of Kaolin is used as in the Cataplasma Kaolini of the United States Pharmacopœia.

CERATA, (CERATES).—These are fatty mixtures made as ointments but containing wax which gives them a firmer consistence. They are therefore valuable as local applications.

COLYRIA, (EYE WASHES).—Lotions made of active substances dissolved in Water for application to the conjunctiva.

ELIXIRIA, (ELIXIRS).—Solutions of active remedies in a mixture of Syrup and Alcohol which has been made aromatic by the addition of some of the Essential Oils. As a class they are related to both the Tinctures and the Spirits but are usually of feeble strength. Some are used simply as flavourings or as vehicles for less pleasant drugs.

EMULSIONES, (EMULSIONS).—Mixtures of Oil and Water in which the oil is suspended by the use of a Mucilage or in which it has been partially saponified by the action of an alkali, as Lime Water.

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ENEMATA, (ENEMAS OR CLYSTERS).—Liquid preparations for injection into the rectum. These may be medicated or nutrient in character. In the first any drug capable of acting upon the mucous membrane of the rectum or which can be absorbed, and thus permitted to exercise its general effect, may be used. For the latter milk, usually predigested, or mixtures of milk and eggs, intended to take the place of ordinary feeding by the mouth.

FUMIGATIONES, (FUMIGATIONS).—Fumigation is the act of subjecting the body or any object to the action of fumes or vapors, as in the burning of Sulphur for its disinfecting properties, as in the fumigation of calomel in the treatment of Syphilis, or as in the use in apartments of Formaldehyde gas following the infectious fevers.

INJECTIONES, (INJECTIONS).—Injection is the act of throwing a substance into any of cavities of the body. These may be Rectal, which have already been described as Enemata; Vaginal, solutions or suspensions of active substances for injection into the vagina, and Intravenous Injections where the injection is made into a vein. A frequent form of the latter is the intravenous administration of Normal Saline Solution for the resuscitation of persons threatened with collapse as a result of severe haemorrhage. The use of the latter has to be preceded by the most careful preparation of the patient and the sterilization of the Solution.

Hypodermic Injections have already been discussed with the official preparations.

SERA, (SERUMS).—The purified serum of animals which have been inoculated with living bacteria or their products, obtained under the most rigid aseptic precautions. The Antidiphtheritic Serum is the best known and understood.

TABULAE, (TABLETS).—Tablets are of three kinds (1) those made by compression called Compressed tablets and for the making of which the drug used must be in the form of a granular powder, and which may be coated with sugar or gelatine, if desired; (2) those made by moulding without compression, for which drugs of small bulk are essential, incorporated with milk-sugar as a base, and which are not coated, called Tablet Triturates; and Hypodermic Tablet Triturates which are prepared from potent drugs under aseptic precautions with a base of Milk-sugar or better of Granulated Sodium Sulphate.

The official Chocolate tablets will be found grouped with the official preparations.

TAMPONS. —These are plugs of medicated absorbent Cotton or Lamb's Wool used in the natural or in artificial cavities of the body for the purpose of arresting Haemorrhage or for correcting the secretions.

CHAPTER III.

POSOLOGY.

The British Pharmacopœia makes the following statement in regard to the doses as given in it. "The doses mentioned in the pharmacopœia are intended to represent the average range in ordinary cases, for adults. They are meant for general guidance, but are not authoritatively enjoined by the council. The medical practitioner must act upon his own responsibility as to the doses of any therapeutic agents he may administer." This statement is a very important one and one that should be thoroughly understood by every medical practitioner. Firstly, The official doses represent the average range in ordinary cases. The deviations from the ordinary that are most likely to be met with must be considered. *Weight.* Roughly the larger and more robust the individual the larger the dose of most drugs that may be given to him. Small and weakly individuals should always at first receive small doses of any remedy. *Sex.* Women are often said to be less resistant to the action of drugs than men are but as a rule little distinction is made between the sexes. It must however be born in mind that at the time of pregnancy or menstruation any drugs that bring about changes in the blood-supply to the uterus or that would set up movements in its musculature should be either entirely avoided or given in very small doses and with caution. Also it must be remembered that many drugs are excreted in the milk and may readily make the milk unpalatable or even dangerous to a suckling child. Amongst the drugs excreted by the mammary glands are the oils of anise and dill, turpentine, copaiba, the purgative principles of rhubarb, senna, and castor oil, opium, iodine, also some of the metals antimony, arsenic, iron, lead, mercury, and zinc. *Idiosyncrasy.* Every person differs from all others more or less. Each person is not only physically but also chemically a distinct individual. These personal differences are usually quantitatively so small as to occasion little or no difficulty but occasional individuals are met with who deviate very widely from the normal in respect to some one or more drugs. Such individuals as are abnormally affected by any drug are said to have an idiosyncrasy for the drug. Drugs in regard to which idiosyncrasy is likely to be encountered are morphine, and its allies, mercury, bromides, copaiba, arsenic, iodides, quinine, etc. Idiosyncrasy is often an inherited characteristic. *Tolerance.* The continued use of a drug is very apt to make any individual less susceptible to its pharmacological action and to necessitate the administration of larger doses, this is known as tolerance. Tolerance often occurs with alcohol, morphine, arsenic, vegetable purgatives.

cocaine. *Increased susceptibility* to the action of the drug due to its continued administration also occurs. It rarely gives trouble except with those drugs such as Digitalis which can be more readily absorbed by the normal body than they can be excreted by it. *Disease* may readily influence the absorption of a drug on the one hand or interfere with its excretion on the other. For example a large skin-wound may readily absorb a poisonous dose of carbolic acid or iodoform. Or increased acidity in the stomach may lead to a larger absorption of bismuth salts than is normally the case. Diminished excretion by the kidney will lead to a more prolonged action of strychnine.

Secondly, the doses of the pharmacopœia are doses for adults. For children much smaller doses must be given. The rule suggested by Young is perhaps the best for calculating the dose for a child. Multiply the adult dose by the age of the child and divide by the age of the child plus 12. Thus for a child of three, the dose would be $\frac{3}{3+12}$ or 1/5th; for an adult dose of 15 min. it would be $\frac{15 \times 3}{3+12}$ or 3 min. Another rule suggested by Brunton is to multiply the age at the next birthday by the dose and divide by 25 (the assumed adult age), or perhaps better multiply the dose by four times the age at the next birthday and divide by 100; for the example stated above that would be $\frac{4 \times 4 \times 15}{100}$ or 2.4 min. roughly 2½ min. Young children are particularly prone to be affected by morphine and its allied drugs, but are proportionately little influenced by atropine, strychnine, and alcohol.

Persons above the age of sixty are proportionately more affected by drugs than are younger persons, so that by adults must be understood persons between 20-60 years of age. Persons over 60 should receive roughly $\frac{3}{4}$ and persons over 85 roughly $\frac{1}{2}$ of the adult dose, save in the case of purgatives to which the aged are often very refractory.

Thirdly, the frequency of repetition makes a great difference in the size of dose to be administered. The more frequently the drug is to be administered the smaller the dose should be.

Fourthly, the time of day makes as a rule but little difference, except with the case of drugs meant to bring on or increase a normal daily condition. For example a larger dose of a hypnotic such as chloral would be necessary to produce sleep during the day than at night. Also purgatives can best be given at such an hour that they will take effect at the hour of the patient's daily defecation. For this purpose calomel and aloes must be given some eight hours in advance, while purgative salts act within an hour or so.

The presence or absence of food in the stomach makes a great difference in the rapidity with which drugs are absorbed and in the quantity coming in contact with the wall of the stomach and so irritating it, and as a consequence of this larger quantities of any drug irritant to the stomach may be given immediately after than before meals.

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CHAPTER IV, INCOMPATIBILITY.

Many of the drugs and preparations of the materia medica may be and are given alone, but many others only in combination with others. There are a few which are never or almost never given in combination with other drugs, but the majority of drugs and their preparations are at times given in combinations, which are often very complex. The selection of drugs and preparations to be used in combination with each other requires a great deal of care to avoid unwished for changes being brought about by their admixture. Two drugs are said to be "INCOMPATIBLE," when on being brought into intimate contact with each other unwished for changes either physical or chemical are brought about or when their pharmacological actions would so interfere with each other as to be detrimental. It is by no means an infrequent occurrence for a physician to prescribe together two medicines which have almost opposite pharmacological actions but he does so in such proportions that the action of the one serves but to correct some undesired action of the other.

Incompatibility dependent upon the differing pharmacological actions of the drugs administered together is known as THERAPEUTICAL or better PHARMACOLOGICAL INCOMPATIBILITY. An extreme example would be the administration of atropine and pilocarpine together.

Incompatibility dependent upon chemical and physical changes can only occur when the drugs are brought into intimate physical contact either by trituration in a mortar (the cases in which incompatibility is apt to make be made manifest in this way will be found mentioned in paragraphs IVd, and V,) or by solution. The incompatibility due to chemical changes occurring between the preparations dispensed together is known as CHEMICAL INCOMPATIBILITY. The changes may be of several types and may be classified as follows:—

1. A resulting in chemical change without any visible change.
 - (a) The neutralization of acids by bases.
 - (b) The breaking up of glucosides by acids (sugar is set free and the glucoside loses in activity).
 - (c) The action of acids on the activity of pancreatic ferments and of alkali on gastric ferments.
2. Resulting in precipitation of newly formed chemical substances due to the interaction of two other chemical substances in solution.

(a) Salts of the alkaline earths are precipitated by alkali hydroxides and carbonates, phosphates, borates, oxalates (the corresponding insoluble salts of the alkaline earths being formed). The free acids which would form corresponding salts are also incompatible.

(b) Salts of the metals in solution are incompatible with hydrates, carbonates, phosphates, oxalates and the corresponding acids; in many cases with proteins, tannins, acacia and often alkaloids and phenozone. Silver, mercurous, lead, and bismuth salts also with bromides and iodides; the same metals and calcium, barium and strontium, with sulphates and sulphuric acid.

(c) Hydrates of the alkalis, sodium, potassium, and ammonia with salts of metals and alkaline earths; and with alkaloids and some glucosides.

(d) Alkaloids form insoluble salts with other organic acids than acetic and citric; the free alkaloid being very much less soluble than the salts is precipitated by alkali hydrates and carbonates and by borax. Ammonium carbonate and the bicarbonates do not so readily cause precipitation. Iodides, bromides, salicylates, benzoates, usually cause a precipitate, tannic acid, and iodine in a solution of mercuric iodide; precipitation may be prevented in many of these cases by from 15-50% of alcohol. About 15% suffices to prevent that by bicarbonates and carbonates. With many metallic salts especially those of mercury.

(e) Proteins are precipitated by alkaloids, many metal salts, tannin and alcohol.

3. Resulting in a change of colour owing to the formation of some soluble but undesired body owing to the interaction of two other substances in solution.

(a) Giving an objectionable appearance tannic and gallic acids and iron preparations, ammonia and carbonic acid; gallic acid and thymol. Ferric chloride with salicylates, carbonic acid, creasote, guaiacol, salol, acetanilid, phenozone, phenacetin, oils of wintergreen, cloves, pimenta, and thyme, podophyllin, aloin, gamboge, asafetida, storax, myrrh, balsam of Peru, balsam of Tolu, morphine and apomorphine.

(b) The change in colour is the indication of a chemical change objectionable from the pharmacological side also. Salicylates, phenozone, acetanilid, with the free nitrous acid in Spirits of Nitrous Ether (isonitroso-compounds are formed).

4. Resulting in the chemical splitting of one of the bodies and the formation of an undesired body.

(a) Resulting in the freeing of a volatile body, which may in part or entirely, dependent upon the amount formed, remain in solution. Hydrochloric acid with nitric acid (nitrous oxides freed); strong acids with alcohol (ethers); acids and carbonates; acids and sulphides;

X

mineral acids with iodides, bromides, and chlorates; Ammonium salts and hydrates and carbonates of the alkalies.

(b) Resulting in the freeing of a liquid body, chloral and butyl-chloral with alkalis (chloroform freed).

(c) Resulting in the freeing of dextrose or other sugar, glucosides with acids and alkalies.

(d) Resulting in liberation of so much gas suddenly as to cause an explosion. Chromic acid, concentrated nitric acid nitrates, permanganates, chlorates, with such substances as sulphur and sulphides, sulphites, iodides, phosphorus, hypophosphites, reduced iron, and many organic bodies, sugar, tannin, etc. These reactions only occur when the dry substances are triturated together or in some cases when mixed in very concentrated solutions.

5. In some cases when two solids are triturated together a soft sticky or a damp mass, or a liquid is formed: the reaction is probably always to a certain extent chemical. Such substances are camphor, carbonic acid, thymol, phenozone, phenacetin, chloral, sodium phosphate, lead acetate. Details will be found under the various drugs.

PHARMACEUTICAL OR PHYSICAL INCOMPATIBILITY.

1. Resulting in precipitation of one of the ingredients in solution owing to its decreased solubility when its solvent is diluted by another liquid. The dilution of aqueous solutions of acacia, proteins, salts (if strong), and emulsions by alcohol. Some gums as well as starches and dextrans are similarly precipitated by alcohol. In some of the cases that will occur under this rule the precipitate is not an important constituent, for example, the Liquid Extract of *Cascara Sagrada* gives a precipitate with alcohol, the precipitate consists however of unimportant constituents and may be filtered off. The dilution of alcoholic solutions of resins, oleo-resins, oils, etc., by water. In some of these cases also the precipitate is unimportant, for example, Liquid Extract of *Nux Vomica* and water.

It must be distinctly understood that at times it is advisable or even necessary to order incompatibles in a prescription. Attention might be called to the fact that the Pharmacopœia contains such formulae, for example the *Lotio Hydrygyri Nigra*, and the *Mistura Ferri Composita*. Whenever the physician orders such a preparation he should warn the patient that the bottle will contain a deposit. It is only rarely that one should write such a prescription as will involve an uncorrected incompatibility. No prescription should ever be written which if dispensed would lead to the precipitation of any highly active ingredient, as in the cases of such a precipitate the patient might readily be poisoned by getting an over-dose of the potent precipitate in the last dose. The practitioner should make it the rule

CHAPTER V.

THE OFFICIAL MATERIA MEDICA.

In this chapter only the drugs of the British Pharmacopœia are considered. For the convenience of the student and for the purpose of reference, the drugs have been arranged in alphabetical order, save that the preparations of any drug immediately follow it. As preparations of any drug are considered such galenicals as bear the name of the drug as an important part of their title, (under this rule *Pilula Saponis Composita* is classed as a preparation of Sapo.) or such galenicals as contain the drug as their important constituent, (under this rule *Pilula Saponis Composita* is classed also with Opium). That a galenical is considered as a preparation of a drug is indicated by its name being set further from the margin than is the name of the drug under which it is classed as a preparation. This rule is adhered to for galenicals but certain of the active principles, such for example as Atropine, though classed with the preparations of *Belladonna*, are treated in all other respects as separate drugs. There are also several galenicals especially among the Liquors, e.g. *Liquor Trinitrini*, whose active principle is not official, and these will be found classed according to their official name. The titles of preparations are as a rule placed immediately after the preparation from which they are prepared and their title is again set further from the margin of the page. The salts of any base appear under the general heading of the base as though they were preparations of it.

Further for the advantage of the student the drugs have been divided into four classes,* indicating their relative importance. The names of drugs of the first class, those of pre-eminent importance, are printed thus **OPIUM**; these drugs the student must master thoroughly. The drugs of the second class have their names printed thus, **Acetanilidum**; these drugs should also be thoroughly studied. In the third group are included many useful and frequently used drugs, and with them the student should be familiar; their names are printed thus, **ACACIÆ GUMMI**. The drugs of the fourth class are of minor importance in use or in activity; their names are printed thus, *Ammoniacum*. Even important drugs have, however, preparations that vary amongst themselves in importance from the practical standpoint, and an attempt has been made to indicate this by placing before their titles a superior numeral, thus, *Tinctura Opii*. The numeral one will indicate that the preparation is of importance, the numeral three will indicate that

*The authors thoroughly realize that any such classification of drugs and of their preparations as has been adopted is open to criticism both in principle and in the details of the classification itself. Any such classification must be largely a personal one. They have, however, resorted to it with a view of aiding the student.

the preparation is relatively of no importance; the numeral two indicates roughly a preparation of an importance mid-way between the other two. It will be noted that drugs of the fourth class have as a rule preparations without a numeral prefix. In some cases none of the preparations of a drug seemed worthy of the numeral one or even of the numeral two, this indicates that the drug is much more important than any of its preparations.

The official Latin name of the drug is always given; its English equivalent only when difficulty might arise in translating the Latin or where other considerations seemed to render the giving of it an advantage. Important synonyms are in many cases also given; they are always enclosed in brackets. The dose is given in both the Imperial and the Metric systems. The Imperial as being the official dose is given the preference. The doses in the Metric system are as a rule those of the British Pharmaceutical Codex, though the term "mil" and its diminutives in spite of its very obvious advantages has not been adopted. Doses enclosed in brackets are not official.

No attempt is made to give the full Pharmacopoeial definition of any drug or description of its physical or chemical characters, enough only is given to draw the attention of the student to some of its outstanding characters a knowledge of which may be of advantage to him. The formulae for the preparation of galenicals are as a rule taken from the British Pharmaceutical Codex. In this the Pharmacopoeial formulae have been recalculated so that the total of the quantities of the ingredients at the end of the process of preparation will aggregate 100. The advantages of this centesimal system are obvious, the principle one, being the ease with which the percentage strength of any ingredient may be seen. It is an added advantage in a laboratory where the dispensing is carried out in the Metric system. No attempt has been made to give a detailed description of the steps to be pursued in the preparation of any galenical, but only enough is indicated to aid the student to use them intelligently in dispensing and prescribing. For a knowledge of the steps in preparation of galenicals the student is referred to the Pharmacopoeia or the Codex. Where the formula of any preparation is given the first quantity preceded by a dash indicates the quantity of the drug or preparation under which the preparation in question is classed.

The more important solubilities of the drugs are also given and are stated for room-temperature, 15.5 C, unless the word "hot" is used as meaning boiling (by cold is meant 15.5 C as opposed to boiling). Solubilities are always expressed in parts by weight. By water, distilled water is always meant and by alcohol, 90% alcohol (Rectified Spirit).

The important incompatibilities are given, with often an indication of the chemical change occurring, and in some cases methods of overcoming or lessening the incompatibility are also given.

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ACACIÆ GUMMI. GUM ACACIA.—The gum exuded by *Acacia Senegal* and other species. In rounded or ovoid brittle tears, either colourless or of a pale yellowish tinge, often opaque due to numerous small fissures. Small angular fragments may occur with glistening faces. Nearly inodorous, taste bland and mucilaginous. Insoluble in alcohol, soluble 1 in 10 of water forming a viscid, slightly acid solution.

Incompatibles, alcohol and sulphuric acid. Borax, ferric, and lead salts render it gelatinous.

¹Mucilago Acaciae.—40; Water, to 100. 3 *Ly. M. M. M.*

✓ **Acetanilidum. Acetanilide.** (Antifebrin.) Dose, 1-3 grs.; $\frac{1}{2}$ -2 dgms.

Phenylacetamide, $\text{CH}_5 \cdot \text{CO} \cdot \text{NH} \cdot \text{C}_6\text{H}_5$. Colourless, inodorous, glistening, lamellar crystals with a pungent taste. Soluble 1 in 200 of cold, 1 in 18 of hot water; 1 in 4 of alcohol; and in ether and chloroform.

Incompatibles, strong solutions of sodium and potassium hydrate (anilin formed); spirits of nitrous ether, amyl nitrite (diazocompounds formed); a red colour is given with tincture of the chloride of iron; forms liquids if triturated with phenol, resorcin, and thymol, and a damp powder with chloral.

Aceta (see *Cantharis*, *Ipecacuanha*, *Squill*).

✓ **Acidum Aceticum. Acetic Acid.** A colourless, pungent liquid miscible with alcohol and water. Contains 33% by weight of real acid, $\text{CH}_3 \cdot \text{COOH}$. Sp. Gr. 1.044.

¹Acidum Aceticum Dilutum.—Dose, $\frac{1}{2}$ -2 fl. dr.; 2-8 c.c. —12.47; Water, to 100. Contains 4.27% of real acid.

²Oxymel. Dose, 1-2 fl. dr.; 4-8 c.c. —10; Water, 10; clarified Honey, 80.

ACIDUM ACETICUM GLACIALE.—A colourless, pungent liquid or crystalline mass. Contains 99% by weight of real acid. Sp. Gr. 1.058.

Acidum Arseniosum (see *Arsenium*).

Acidum Benzoicum (see *Benzoinum*).

Acidum Boricum (see *Boron*).

✓ **ACIDUM CARBOLICUM. PHENOL.** (Carbolic Acid.) Dose, 1-3 grs.; $\frac{1}{2}$ -2 dgms.

$\text{C}_6\text{H}_5 \cdot \text{OH}$. Small, colourless, deliquescent crystals; odour characteristic; taste sweet and pungent; with a caustic action on the skin and mucous membranes, turning them white. Soluble in alcohol, ether, chloroform, glycerine, fats, oils and solutions of alkalies; liquified by

10% of water, forms a clear liquid with 30-40% of water, and completely dissolves in 12 parts of water.

Incompatibles, ferric and mercuric salts in solution, hydrogen peroxide and potassium permanganate, gelatine and albumin; forms liquids if triturated with chloral, acetanilide, camphor, phenazone, phenacetin, salol, menthol, thymol, resorcin, and naphthol.

¹Acidum Carbolieum Liquifacuum.—Dose, 1-3 min.; 0.06-0.2 c.c.—90; Water, 9.

²Glycerinum Acidi Carboliei.—20; Glycerine, to 100.

³Suppositoria Acidi Carboliei.—Each suppository contains 1 gr.—6.70; White Beeswax, 13.40; Oil of Theobroma, to 100.

⁴Trochiscus Acidi Carboliei.—Each lozenge contains 1 gr. Made with Tolu Basis.

⁵Unguentum Acidi Carboliei.—4; Glycerine, 12; Paraffin Ointment, 84.

ACIDUM CHROMICUM. CHROMIC ANHYDRIDE (CHROMIC ACID).— Cr_2O_3 . Crimson, odourless crystals, deliquescent, caustic to skin and mucous membranes.

¹Liquor Acidi Chromici. Solution of Chromic Acid.—An aqueous solution containing 25% Cr_2O_3 .

✕ Acidum Citricum. Citric Acid. Dose, 5-20 grs.; 3-12 dgms. $\text{C}_6\text{H}_8(\text{OH})_7(\text{COOH})_3$. Large, colourless crystals. Soluble 1 in $\frac{3}{4}$ of cold, 1 in $\frac{1}{2}$ of hot water; 1 in 1 of alcohol. (1 gm. in 12 c.c. of water gives approximately the acidity of lemon juice.)

Citrates are incompatible with lead and silver salts in solution, and with quinine (quinine citrate is soluble 1 in 800 of water).

Acidum Gallicum. Gallic Acid.—Dose, 5-15 grs.; 3-10 dgms. $\text{C}_6\text{H}_2(\text{OH})_3\text{COOH}$, H_2O . Acicular, slightly brownish crystals, odourless, faintly acid taste. Soluble 1 in 100 of water; 1 in 5 of alcohol.

Incompatibles, alkali hydrates, ammonia, lime water, lead and iron salts, oxidizing agents.

ACIDUM HYDROBROMICUM DILUTUM.—Dose, 15-60 min.; 1-4 c.c. A colourless, odourless liquid, containing 10% by weight of hydrogen bromide, roughly 7 c.c. (2 dr.) contain as much bromine as 1 gm. (15 gr.) potassium bromide.

Incompatibles, alkalies and their carbonates, metallic oxides, silver and lead.

* Acidum Hydrochloricum. A watery solution containing 31.79% hydrogen chloride, HCl , by weight. Sp. Gr. 1.16.

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Acidum Hydro-chloricum Dilutum. Dose, 5-20 min.; 0.3-1.2 c.c. —30.18; Water, to 100. Contains 10.58% by weight of hydrogen chloride.

Incompatibles, alkalis and their carbonates, metallic oxides, salts of silver, lead, and antimony.

Acidum Hydrocyanicum Dilutum. Dose, 2-6 min.; 0.1-0.4 c.c. A colourless liquid with a characteristic odour, containing 2% of hydrogen cyanide, HCN, volatile and very poisonous.

Incompatibles, copper, iron and silver salts, mercuric oxide, sulphides, morphine.

Acidum Lacticum, Lactic acid.—A colourless, odourless, slightly hygroscopic liquid, containing 75% of real acid CH₃·CHOH·COOH. Mixes freely with alcohol, water, and ether.

Incompatibles, albumin, most metallic salts in solution, nitric acid and potassium permanganate.

Acidum Nitricum. A clear, colourless liquid emitting corrosive fumes, containing 70% by weight of hydrogen nitrate, HNO₃. Sp. Gr. 1.42.

Acidum Nitricum Dilutum. Dose, 5-20 min.; 0.3-1.2 c.c. —19.32; Water, to 100. Contains 17.44% by weight of real acid.

Incompatibles, readily oxidisable substances, alkalis, carbonates, iodides, bromides, chlorates, sulphides.

Acidum Nitro-hydrochloricum Dilutum (Aqua Regia). Dose, 5-20 min.; 0.3-1.2 c.c.

—9.38; Hydrochloric acid, 12.5; Water, 78.12. A solution containing chlorine, hydrochloric, nitric and nitrous acids.

Incompatibles, alkalis, carbonates, iodides, bromides, chlorates, sulphides, lead and silver salts.

Acidum Oleicum, OLEIC ACID.—A straw-coloured liquid, with a faint smell, and a weak acid reaction. Insoluble in water, soluble in alcohol, ether, chloroform, fats and oils.

Acidum Phosphoricum Concentratum. A colourless, syrupy liquid with an acid taste and reaction. Contains 66.3% of hydrogen orthophosphate, H₃PO₄. Sp. Gr. 1.5.

Acidum Phosphoricum Dilutum.—Dose, 5-20 min.; 0.3-1.2 c.c. —15; Water, to 100. Contains 13.8% of real acid.

Incompatibles, alkalis, carbonates, lead, silver and calcium salts.

Acidum Salicylicum (see Salicin).

✓ **Acidum Sulphuricum.** A colourless, corrosive, intensely acid liquid, containing 98% by weight of hydrogen sulphate H_2SO_4 . Sp. Gr. 1.843.

¹Acidum Sulphuricum Dilutum.—Dose, 5-20 min.; 0.3-1.2 c.c.—8.27; Water, to 100. Contains 13.65% of real acid.

Incompatibles, salts of lead, barium, calcium (sulphates precipitated); bromides, iodides, chlorates.

¹Acidum Sulphuricum Aromaticum.—Dose, 5-20 min.; 0.3-1.2 c.c.

—6.98; Tincture of Ginger, 23.25; Spirit of Cinnamon, 1.18; Alcohol, 68.59. The acid should be added slowly to the alcohol and the other ingredients added subsequently.

Incompatibles as for the dilute acid and also water which in large proportion precipitates the aromatics.

✓ **ACIDUM SULPHUROSUM. SULPHUROUS ACID.**—Dose, 30-60 min.; 2-4 c.c.

A colourless liquid with a pungent sulphurous odour, containing 6.4% of hydrogen sulphite, H_2SO_3 .

Incompatibles, reduces chlorates, permanganates, chromates, and arsenates; silver, mercuric, and mercurous nitrates; iodides, bromides, chlorates.

× **Acidum Tannicum. Tannic Acid.** (Tannin). Dose, 2-5 grs.; 1-3 dgms.

$C_{12}H_{10}O_5$. A light brownish powder consisting of thin, glistening scales, with a characteristic odour, and an astringent taste. Soluble 2 in 1 of water, 10 in 6 of alcohol, and slowly 1 in 3 of glycerine.

Incompatibles, albumin, gelatine, alkaloids, alkalis, chlorates, salts of iron, lead, antimony, silver, mineral acids and lime water.

¹Glycerinum Acidi Tannici.—20; Glycerine, to 100.

¹Suppositoria Acidi Tannici.—Each suppository contains 3 grs. of Tannic Acid.—20; Oil of Theobroma, to 100.

¹Trochiscus Acidi Tannici.—Each lozenge contains $\frac{1}{2}$ gr. Made with the Fruit Basis.

ACIDUM TARTARICUM.—Dose, 5-20 grs.; 3-12 dgms. $(CHOH(COOH))_2$. Colourless crystals with a strongly acid taste. Soluble 1 in 1 of water, 1 in 3 of alcohol.

Incompatibles, alkaline carbonates, salts of mercury, lead, and calcium.

Aconiti Radix. Aconite Root. The root of Aconitum Napellus, usually 2-4 inches long, from $1\frac{1}{2}$ to 3 inches in diameter above, taper-

ing below; dark brown in colour without; white and starchy within; odour, slight; taste, at first slight, but followed by a sensation of numbness and tingling in the mouth. The important active constituent is the alkaloid aconitine.

²Tinctura Aconiti. Dose, if repeated 2-5 min.; 0.1-0.3 c.c. for a single administration, 5-15 min.; 0.3-1 c.c. —5; alcohol 70% 100; by percolation.

³Linimentum Aconiti.—66.6; Camphor, 3.33; Alcohol, to 100.

⁴Aconitina. Aconitine.—(Dose, 1/600-1/300 gr.; 1/10-1/5 mgm).

An alkaloid, rarely pure. Colourless crystals with the taste of the root.

⁵Unguentum Aconitine.—2; Oleic Acid, 16; Lard, 82.

⁶ADEPS. LARD.—The purified fat of the hog. A soft white fatty acid, soluble in ether, with a melting point of about 100° F. (38°-40° C.).

⁷Adeps Benzoatus. Benzoated Lard.—to 100; Benzoin, 3.

⁸ADEPS LANEÆ. WOOL FAT. A purified cholesterine-fat obtained from sheep's wool. A yellow, tenacious, unctuous substance, almost inodorous. Soluble in ether and chloroform, sparingly so in alcohol. Melting point 104°-112° F. (40°-44.4° C.).

⁹Adeps Lane Hydrosus. Hydrous Wool Fat (Lanolin).—70; Water, 30.

¹⁰**ÆTHER. ETHER.** (Sulphuric Ether). Dose, if repeated, 10-30 min.; 0.6-2 c.c. for a single administration, 40-60 min.; 2.5-4 c.c.

A colourless, very volatile, inflammable liquid, with a heavy, highly inflammable vapour, which forms an explosive mixture with air. Boiling-point lower than 105° F. (40.5° C.). Entirely miscible with alcohol, chloroform and oils. Should contain 92% of ethyl oxide (C₂H₅)₂O, the remainder being water and ethyl alcohol.

¹¹Ether Purificatus. Purified Ether. Ether from which the water and alcohol have been removed. Used for producing anaesthesia.

¹²Spiritus Ætheris.—Dose, if repeated, 20-40 min.; 1½-2½ c.c. for a single administration, 60-90 min.; 4-6 c.c. —35; Alcohol, 70.

¹³Spiritus Ætheris Compositus (Hoffmann's Anodyne). Dose, if repeated, 20-40 min.; 1½ to 2½ c.c. for a single administration, 60-90 min.; 4-6 c.c.

—13.75; Alcohol, 195; Sulphuric Acid, 90; Distilled Water, 3.75; Sodium Bicarbonate, sufficient to almost neutralize the acid.

Anaesthesia Cardiacæ & Cerebralis
Antihelminticæ
Anodyne Antispasmodicæ
Drugs used in Anaesthesia

16 16
16 C. C. - 004
16 C. C. - 004

Aether Aceticus. Acetic Ether. Dose, if repeated, 20-40 min.; 1½ to 2½ cc.: for a single administration, 60-90 min.; 4-6 c.c. An ethereal liquid consisting of ethyl acetate $C_2H_5COO.CH_3$, together with small amounts of ethyl alcohol. A colourless liquid with a fragrant odour. Soluble, 1 in 10 of cold water, and in alcohol.

Alcohol Absolutum. Alcohol Absolute. (Ethyl Alcohol.)
 C_2H_5OH . A very volatile and hygroscopic liquid, containing not more than 1% of water.

Spiritus Rectificatus. Alcohol (90%). (Rectified Spirit.) A colourless, volatile liquid with an agreeable odour and a burning taste. Contains 90% by volume, 85.65% by weight, of ethyl alcohol, C_2H_5OH , the remainder being water.

The official dilutions are,—70% Alcohol.—77.77; Water, 24.16.
—60% Alcohol.—66.66; Water, 35.78.
—45% Alcohol.—50; Water, 52.66.
—20% Alcohol.—22.22; Water, 79.10.

(In all cases 100 volumes will be produced.)

Spiritus Vini Gallici. Brandy. A spirituous liquid distilled from wine and matured by age, containing not less than 36.5% by weight of ethyl alcohol.

³Mistura Spiritus Vini Gallici. Dose, 1-2 fl. oz.; 30-50 c.c.—40; Cinnamon Water, 40; Sugar, 5; Yolks of Eggs, 10, by volume.

Vinum Xericum. Sherry. A Spanish wine containing not less than 13.5% of ethyl alcohol.

Aloe Barbadenis. Barbadoes Aloe. Dose, 2-5 grs.; 1-3 dgms. The juice that flows from the transversely cut leaves of Aloe vera, Aloe Chinensis and probably other species, dried into hard masses, which are yellowish, reddish-brown, chocolate-brown or black; odour disagreeable, taste nauseous and bitter. Almost entirely soluble in a mixture of water and alcohol in equal parts, about 30% insoluble in cold water.

Incompatibles, see Aloin.

¹Extractum Aloes Barbadenis Dose, 1-4 grs.; ½-2½ dgms. A dried aqueous extract; 3 of the extract is equivalent to about 4 of the drug.

²Decoctum Aloes Compositum. Dose, ½-2 fl. oz.; 15-60 c.c.—1; Myrrh, Saffron, Potassium Carbonate, of each 0.5; Extract of Liquorice, 4; Compound Tincture of Cardamons, 30; Water, to 100.

Tinctura Aloes. Dose, if repeated, 30-60 min.; 2-4 c.c.:
for a single administration, 1½-2 fl. dr.; 6-8 c.c.

—25; Liquid Extract of Liquorice, 15; Alcohol 45%, to 100.

Pilula Aloes Barbadosensis. Dose, 4-8 grs.; 2½-5 dgms. (in 1
or 2 pills).

—48; Hard Soap, 24; Oil of Caraway, 3; Confection of Roses, q.s. to
100 (about 24).

In each pill 2 gr. of the Extract.

Pilula Aloes et Ferri.—Dose, 4-8 grs.; 2½-5 dgms. (in 1
or 2 pills).

—22; Exsiccated Ferrous Sulphate, 11; Compound Powder of Cinnamon,
33; Syrup of Glucose, q.s. to 100 (about 33). Each pill contains ½
gr. of iron salt, 1 gr. of aloes.

Aloe Socotrina. Socotrine Aloes. Dose, 2-5 grs.; 1-3 dgms.

The juice from the transversely cut leaves of *Aloe Perryi* and probably
other species; dried to form either viscid or hard, dark-brown masses;
odour strong, not disagreeable; taste nauseous and bitter. Almost
entirely soluble in 69% alcohol; about one half is soluble in water.

Incompatibles, see Aloin.

Pilula Aloes Socotrina. Dose, 4-8 grs.; 2½-5 dgms. (in 1
or 2 pills).

—48; Hard Soap, 24; Oil of Nutmeg, 3; Confection of Roses, q.s. to
100 (about 24).

Each pill contains 2 grs. of aloes.

Pilula Aloes et Asafetida. Dose, 4-8 grs.; 2½-5 dgms. (in
1 or 2 pills).

Aloes, Asafetida, Hard Soap, Confection of Roses, of each 25.

Each pill contains 1 gr. of both the aloes and the asafetida.

Pilula Aloes et Myrrha. Dose, 4-8 grs.; 2½-5 dgms. (in 1
or 2 pills).

—44; Myrrh, 22; Syrup of Glucose, to 100 (about 34).

Each pill contains about 2 grs. of aloes.

Aloin. Aloin. Dose, ½-2 grs.; 3-12 egms.

A crystalline active principle contained in Aloes, yellow, odourless;
taste, nauseous and bitter. Slightly soluble in water, more so in
alcohol, soluble in glycerine.

Incompatibles, alkaline hydrates (which decompose it); nitric acid,
ferric chloride, spirits of nitrous ether (colour change occurs).

Alumen. Alum. Dose, 5-10 grs.; 3-6 dgms.

Aluminium and potassium sulphate, $(Al_2(SO_4)_3, K_2SO_4, 24H_2O)$, or
aluminium and ammonium sulphate, $Al_2(SO_4)_3, (NH_4)_2SO_4, 24H_2O$.
Colourless, transparent crystals having a sweetish, astringent taste.

Soluble 1 in 10 of cold, 1 in $\frac{1}{3}$ of hot water; soluble in glycerine; insoluble in alcohol.

Incompatibles, alkali hydrates, or carbonates, borax and lime water (citrates, tartrates, glycerine, sugar, acacia, in part prevent precipitation); phosphates, tannic acid, tartaric acid; lead, barium, mercury and iron salts.

²Alumen Exsiccatum.—Potassium alum from which the water of crystallization has been driven off by heat.

³Glycerinum Aluminis.—16.66; Water, 6.25; Glycerine, to 100.

⁴Kaolinum (q.v.).

Ammoniacum. Ammoniacum.—Dose, 5-15 grs.; 3-10 dgms.

A gum-resin exuded from the flowering and fruiting stem of *Dorema Ammoniacum*. It forms small pale yellowish or brownish tears or masses, hard and brittle when cold, softening when warmed. Odour, faint; taste acrid and bitter. Triturated with water forms a white emulsion; about 60% is soluble in alcohol.

Emplastrum Ammoniaci cum Hydrargyro.—164; Mercury, 41; Olive Oil, 1.75; Sublimed Sulphur, 0.25.

Mistura Ammoniaci.—Dose, $\frac{1}{2}$ -1 fl. oz.; 15-30 c.c.
—3; Syrup of Balsam of Tolu, 6; Water, to 100.

AMMONIUM. AMMONIUM. NH₃.

✓ Liquor Ammoniae Fortis. Strong Solution of Ammonia.—An aqueous solution containing 33% of ammonium, NH₃. A colourless liquid with a pungent, suffocating odour.

¹Liquor Ammoniae.—Contains 10% of Ammonium.—33.33; Water, 66.66.

²Linimentum Ammoniae.—25; Almond Oil, 25; Olive Oil, 50.

✓ ³Spiritus Ammoniae Aromaticus. Dose, 20-40 min.; $1\frac{1}{2}$ -2 $\frac{1}{2}$ c.c. repeated; for a single administration, 60-90 min., 4-6 c.c.
—4; Ammonium Carbonate, 2; Oil of Nutmeg, 0.28; Oil of Lemon, 0.40; Alcohol, 60; Water, 30. A transparent nearly colourless liquid with a pungent taste and odour. Contains the equivalent of about 2.4% of ammonium (partly as carbonate).

Incompatibles, solutions of salts of lead, silver, mercury, bismuth, antimony, copper, iron, aluminium, and zinc (precipitation prevented or hindered by the presence of sugar, acacia, glycerine, citrates and tartrates); alkaloids; chloral, and thymol.

✓ ⁴Spiritus Ammoniae Fetidus. Fetid Spirit of Ammonia. Dose, if repeated, 20-40 min.; $1\frac{1}{2}$ -2 $\frac{1}{2}$ c.c.; for a single administration, 60-90 min.; 4-6 c.c.

—10; Asafetida, 7.5; Alcohol, to 100.

† ³Ammonii Benzoas.—Dose, 5-15 grs.; 3-10 dgms.
Colourless crystals. Soluble, 1 in 6 of water; 1 in 30 of alcohol; 1 in 8 of glycerine. *Disphorina 2-10*

✓ ³Ammonii Bromidum.—Dose, 5-30 grs.; 3-20 dgms.
Small colourless crystals, with a somewhat pungent taste. Soluble 2 in 3 of water; 1 in 15 of alcohol.

✓ ³Ammonii Carbonas.—Dose, 3-10 grs.; 2-6 dgms. *2-10-15*
A mixture of ammonium hydrogen carbonate NH_4HCO_3 , and ammonium carbonate, $\text{NH}_4\text{NH}_2\text{CO}_3$. Hard translucent crystalline masses, with an ammoniaical odour and an alkaline reaction. Soluble, 1 in 4 of water.

Incompatibles, alkali hydrates and carbonates, salts of all metals in solution, many alkaloids, and resorcin. *2-10*

✗ ³Ammonii Chloridum.—Dose, 5-20 grs.; 3-12 dgms.
Colourless, inodorous crystals, with a pungent saline taste. Soluble 1-3 of water 1 in 60 of alcohol.

Incompatibles, lead, silver, mercurous salts; alkaline hydrates.

³Ammonii Phosphas.—Dose, 5-20 grs.; 3-12 dgms.
Di-ammonium hydrogen phosphate, $(\text{NH}_4)_2\text{HPO}_4$. Transparent crystals. Soluble 1 in 4 of water, insoluble in alcohol.

Incompatibles, salts of metals; alkali hydrates.

✗ ³Liquor Ammoniae Acetatis. (Mindererus' Spirit).—Dose, 2-6 fl. dr.; 8-23 c.c. *2-10-15*

Ammonium Carbonate, 5; Acetic Acid sufficient to neutralise the carbonate; Water to 100. A clear colourless liquid with an acetous odour and a sharp, saline taste.

³Liquor Ammoniae Citratis.—Dose, 2-6 fl. dr.; 8-23 c.c.
Citric Acid, 12.5; Ammonium Carbonate, sufficient to neutralise the acid in solution, about 8.75; Water, to 100. A colourless, odourless liquid with a saline taste.

old ³Amygdala Amara. *Bitter Almond.* The ripe seed of *Prunus Amygdalus* var. *Amara*. Resembles the sweet almond but is shorter and bitter. *Almond kernel*

³Amygdala Dulcis. *Sweet Almond.* The ripe seed of *Prunus Amygdalus* var. *dulcis*.

Pulvis Amygdalae Compositus.—62; Sugar, 31; Gum Acacia, 7.75.

Mistura Amygdalae. Dose, $\frac{1}{2}$ -2 fl. dr.; 2-8 c.c.
—12.5; Water, to 100.

Oleum Amygdalae. A bland, almost odourless oil prepared from either the sweet or the bitter almond. Makes a whiter ointment than olive oil.

Alum Antroplasmodes
isoglycine

Amyl Nitris. Amyl Nitrite. Dose, by inhalation, 2.5 min.; 0.1-0.3 c.c.; ($\frac{1}{2}$ -1 min.; 0.03-0.06 c.c.).

Yellow, fragrant liquid, slightly acid, consisting chiefly of iso-amyl nitrite. Insoluble in water; soluble in alcohol, but in time forms amyl alcohol (poisonous) and ethyl nitrite.

Amylum. *Starch.* Starch of wheat, maize, or rice. Soluble in hot water; insoluble in alcohol.

Incompatibles, strong alcohol, tannic acid, lead subacetate.

Glycerinum Amyli.—11; Water, 16.5; Glycerine, 71.5.

Anethi Fructus. *Dill Fruit.* The dried ripe fruit of *Pucedanum Graveolens*.

Aqua Anethi.—10; Water, 200; distill over 100.

Oleum Anethi. Dose, $\frac{1}{2}$ -3 min.; 0.03-0.2 c.c.

A pale yellow oil, taste sweet and aromatic, odour characteristic.

Anisi Fructus. *Anise Fruit.* The dried ripe fruit of *Pimpinella Anisum*.

Aqua Anisi.—10; Water 200; distill over 100.

Oleum Anisi. Dose, $\frac{1}{2}$ -3 min.; 0.03-0.2 c.c.

A pale yellow oil, with an aromatic taste and a characteristic odour.

Spiritus Anisi. Dose, 5-20 min.; 0.3-1.2 c.c.

—10; Alcohol, 90.

Anthemidis Flores. *Chamomile Flowers.* The dried flower-heads of *Anthemis nobilis*; odour strong and aromatic, taste bitter.

Extractum Anthemidis. Dose, 2.8 grs.; 1.5 dgms. —10; Oil of Chamomile, 0.02; Water, 100; evaporated to a soft extract.

Oleum Anthemidis. Dose $\frac{1}{2}$ -3 min.; 0.03-0.2 c.c.

A pale bluish oil (becoming yellow on keeping), with an aromatic odour.

Antimonium. Antimony.

¹Antimonium Nigrum Purificatum. Antimonious Sulphide. A purified native sulphide, $Sb_2 S_3$; a greyish black powder. From it are made the other preparations.

²Antimonii Oxidum. Antimonious Oxide. Dose, 1-2 grs.; 6-12 cgms. $Sb_2 O_3$, a greyish white powder; insoluble in water.

³Pulvis Antimonialis (James' Powder.). Dose, 3-6 grs.; 2-4 dgms.

—33.3; Calcium Phosphate, 66.6.

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²Antimonium Sulphuratum. Sulphurated Antimony. Dose, 1-2 grs.; 6-12 egms.

A mixture of sulphides and oxides, forming a dull red powder. Insoluble in water.

³Antimonium Tartratum. Tartarated Antimony (Tartar Emetic). Dose, as a diaphoretic, $1/24-1/8$ gr.; 3-8 mgms.; as an emetic, 1-2 grs.; 6-12 egms.

A double salt of Antimony and Potassium Tartrate, $[K(SbO) C_4H_4O_6]_2 \cdot H_2O$. Colourless, transparent crystals, with a sweet metallic taste. Soluble 1 in 17 of cold, 1 in 3 of hot water; insoluble in alcohol but moderately so in weak alcohol. Soluble in a solution of the alkaline chlorides.

Incompatibles, hydrochloric, nitric, and sulphuric acids; alkali hydrates and carbonates (prevented by citrates, tartrates, glycerin, sugar and acacia); lime water; salts of most metals; tannic acid, albumin, soap.

⁴Vinum Antimoniale. Antimonial Wine. Dose, as a diaphoretic, 10-30 min.; $1/2-2$ c.c.; as an emetic, 2-4 fl. dr.; 8-15 c.c. —0.457; boiling Water, 5.028; Sherry, to 100. $1/2$ gr. in 1 fl. oz.

Apomorphinae Hydrochloridum. Dose, $1/10-1/4$ gr.; 6-16 mgms.; hypodermically $1/20-1/10$ gr.; 3-6 mgms.

An alkaloid derived synthetically from morphine. Small whitish crystals, turning green on exposure to light and air. Soluble, 1 in 60 of water, 1 in 50 of alcohol. The solutions are decomposed on boiling.

¹Injectio Apomorphinae Hypodermica. Dose, 5-10 min.; 0.3-0.6 c.c.

—1; Diluted Hydrochloric Acid, 1; Water, recently boiled 100. 1 gr. in 110 min.

AQUA DESTILLATA. DISTILLED WATER. (Referred to through this book simply as Water).

Aquae. (See Anethum, Anisum, Aurantium, Camphora, Caruum, Chloroformum, Cinnamomum, Foeniculum, Laurocerasus, Mentha Piperita, Mentha Viridis, Pimenta, Rosa, Sambucus.)

ARABOA. ARABOA. (Goa Powder.) A brownish powder found in the trunks of *Andira Araroba*.

¹Chrysarobinum. Chrysarobin. A crystalline, inodorous, tasteless, yellow powder, containing varying proportions of chrysophanic acid. Soluble slightly in water, almost entirely so in hot alcohol, completely so in hot chloroform.

²Unguentum Chrysarobini.—4; Benzoated Lard, 96.

Argentum. Silver.

¹Argenti Nitras. Dose, 1/4-1/2 gr.; 15-30 mgms.

Colourless crystals. Soluble 1 in less than 1 of water; slightly soluble in alcohol; soluble in ether and glycerin.

Incompatibles, most inorganic salts and many organic preparations.

¹Argenti Nitras Induratus. Toughened Caustic. Opaque white cylindrical bars.—95; Potassium Nitrate, 5. Fused and poured into moulds.

¹Argenti Nitras Mitigatus. Mitigated Caustic. Resembles the above.—33; Potassium Nitrate, 66. Fused and poured into moulds.

¹Argenti Oxidum. Dose, 1/2-2 grs.; 3-12 egms.

A brown powder insoluble in water and alcohol.

Incompatibles, forms explosive mixtures with sulphur, sulphides, phosphorus, tannic acid, creosote, and many other organic substances.

Armoracia Radix. *Horse-radish Root.* The root of Cochlearia Armoracia; nearly cylindrical, 24 inches or more in length, 1/2-1 inches in diameter, externally pale yellow, internally white, odour pungent when bruised or scraped, taste pungent.

Spiritus Armoraciae Compositus. Dose, 1-2 fl. drs.; 4-8 c.c. The root macerated with water, to which Bitter Orange Peel, Nutmeg, and Alcohol are added; and distilled.

Arnica Rhizoma. *Arnica Rhizome.* The dried rhizome and roots of Arnica montana. The horizontal, cylindrical, dark-brown rhizome (rootstock) is 1-2 inches long, 1/6-1/4 inches in diameter, curved and rough, with leaf scars above and roots or their scars below; odour faintly aromatic, taste bitter and acrid.

Tinctura Arnicae.—20; Alcohol 70%, 100; by percolation. Used externally.

ARSENICUM. ARSENIC.

¹Acidum Arseniosum. Arsenious Anhydride. (Arsenic. White Arsenic. Arsenious Acid.) Dose, 1/60-1/15 gr.; 1-4 mgms.

Arsenious anhydride, As₂O₃, occurs as a heavy white powder, or as stratified partially crystalline masses; tasteless, odourless, in aqueous solution slightly acid in reaction. Soluble 1 in 20 of hot water, 1 in 100 of cold; 1 in 5 of glycerine; moderately soluble in solutions of the hydrates and carbonates of the alkalies and in solutions of hydrochloric acid.

Incompatibles of arsenious anhydride and of arsenites, most metallic salts in solution, potassium iodide (1 dr. of potassium iodide in 1 dr.

Arsenicum Trioxidum
Powder

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of Arsenical Solution gives but a slight precipitate), mercuric chloride, tannic acid, hypophosphites in acid mixture.

¹Arsenii Iodidum. Arsenious Iodide. Dose, 1/20-1/5 gr.; 3-12 mgms.

Small orange crystals or crystalline masses. Soluble in water and in alcohol.

Incompatibles, see above and as for any soluble iodide.

¹Liquor Arsenicalis. Arsenical Solution (Fowler's Solution). Dose, 2-8 min.; 0.1-0.5 c.c.

A reddish liquid alkaline to litmus.—1; Potassium Carbonate, 1; Compound Tincture of Lavender, 3.125; Water, to 100. 1 gr. in 110 min.

Incompatibles, as an alkaline solution with acid solutions (Liquor Strychnina, Liquor Ferri Perchloridi, etc.) alkaloids and most metals; see also above under Acidum Arseniosum.

¹Liquor Arsenici Hydrochloricus. Hydrochloric Solution of Arsenic. Dose, 2-8 min.; 0.1-0.5 c.c.

A colourless liquid with an acid reaction.—1; Hydrochloric Acid, 1.25; Water to 100.

Incompatibles, as for arsenious and hydrochloric acids.

¹Liquor Arsenii et Hydrargyri Iodidi. Solution of Arsenious and Mercuric Iodides. (Donovan's Solution.) Dose, 5-20 min.; 0.3-1.2 c.c.

—8; Mercuric Iodide, 1; Water to 100. A clear, pale yellow liquid with a metallic taste. 1 gr. of each in 110 min.

Arsenates, see Ferrum and Sodium.

X ASAETIDA. ASAETIDA. Dose, 5-15 grs.; 3-10 dgms.

A gum resin obtained from the root of Ferula fetida. Flattened tears or masses of tears, dull yellow in colour, darkening on keeping, but yellowish or milky white within; odour strong alliaceous and persistent; taste bitter, acid and alliaceous. Forms a white emulsion when triturated with water; in part soluble in alcohol.

¹Tinctura Asaetida. Dose, 30-60 min.; 2-4 c.c.
—20; Alcohol 70% to 100; by maceration.

Pilula Aloes et Asaetida, see Aloe.

Atropina, see Belladonna.

AURANTII CORTEX REGENS. Fresh Bitter Orange Peel. The fresh outer part of Citrus Aurantium var. Bigaradia.

¹Tinctura Aurantii. Dose, 30-60 min.; 2-4 c.c.
—25; Alcohol, to 100.

¹Syrupus Aurantii. Dose, 30-60 min.; 2-4 c.c.
—12.5; Syrup, 87.5.

²Syrupus Aromaticus. Dose, 30-60 min.; 2-4 c.c.
—25; Cinnamon Water, 25; Syrup, 50.

³Vinum Aurantii. Made by fermenting a saccharine solution to which Bitter Orange Peel has been added. Contains 10% of ethyl alcohol.

AURANTII CORTEX SICCATUS. DRIED BITTER ORANGE PEEL. The above dried.

¹Infusum Aurantii. Dose, 1-1 fl. oz.; 15-30 c.c.
—5; boiling Water, to 100.

²Infusum Aurantii Compositum. Dose, 1/2-1 fl. oz.; 15-30 c.c.
—2.5; Fresh Peel, 1.25; Cloves, 0.63; boiling Water, to 100.

Aqua Aurantii Flores. Orange-flower Water. Obtained by distilling the flowers of Citrus aurantium var. Bigaradia with water.

¹Syrupus Aurantii Floris. Dose, 30-60 min.; 2-4 c.c.
—11.12; Sugar, 66.67; Water, to 100.

BALSAMUM PERUVIANUM. BALSAM OF PERU. Dose, 5-15 min.; 0.3-1 c.c.

A balsam exuded from the trunk of Myroxylon Pereira, after the bark has been beaten and scorched. A viscid liquid, in bulk black, but in thin layers deep orange-brown or reddish-brown, and transparent; odour agreeable and balsamic; taste, acrid and leaving a burning in the throat if swallowed.

Insoluble in water; soluble 1 in 1 of alcohol but made turbid by two volumes.

Important active constituents, benzyl benzoate and cinnamate.

Balsamum Tolutanum. Balsam of Tolu. Dose 5-15 grs.; 3-10 dgms. A balsam exuded from the trunk of Myroxylon toluifera, when incised. At first a soft and tenaceous solid, it becomes hard and brittle when dried; in thin films it is transparent and yellowish-brown in colour; odour fragrant; taste aromatic and slightly acid. Important active constituents, free cinnamic acid, benzyl cinnamate and benzoate. Insoluble in water and in alcohol.

¹Syrupus Tolutanus. Dose, 30-60 min.; 2-4 c.c.
Contains 2.62% of balsam and 66.5% of sugar by weight.

²Tinctura Tolutana. Dose, 30-60 min.; 2-4 c.c.
—10; Alcohol 100; by maceration.

BELLADONNAE FOLIA. The fresh leaves and branches of Atropa Belladonna. The leaves are 3-8 inches long; broadly ovate,

Magister mydratics antispasmodic
antispasmodic *Contra Respiration*
Spasmodic

acute, entire, nearly glabrous. Important constituent, the alkaloid atropine.

¹Extractum Belladonnae Virgide. Green Extract of Belladonna. Dose, 1/4-1 gr.; 15-60 mgms.

The juice expressed from the fresh leaves, filtered and concentrated at a low heat. (A frequent ingredient of pills.)

⁸Succus Belladonnae. Juice of Belladonna. Dose, 5-15 min.; 0.3-1 c.c.

To three parts of the fresh juice one part of alcohol is added.

BELLADONNAE RADIX. The root of *Atropa belladonna*. Cylindrical pieces, entire or longitudinally split, 1/2-1 foot in length, 3/8-3/4 inch in diameter, externally longitudinally wrinkled, and greyish-brown in colour, internally whitish and starchy. Important active constituent, the alkaloid, atropine.

¹Extractum Belladonnae Liquidum. An alcoholic extract standardized to contain 0.75% of alkaloids. 3/4 gr. in 110 min.

¹Extractum Belladonnae Alcoholicum.—Dose, 1/4-1 gr.; 15-60 mgms.

The above evaporated and milk sugar added to form a slightly coherent powder. Standardized to contain 1% of alkaloids.

¹Suppositoria Belladonnae. 1/60 gr. of alkaloids in each.

—10; Oil of Theobroma to 100.

¹Emplastrum Belladonnae. Base, Resin Plaster. Contains 0.5% of alkaloids.

¹Linimentum Belladonnae.—50; Camphor, 5; Water, 10; Alcohol, to 100.

¹Tinctura Belladonnae. Dose, 5-15 min.; 0.5-1 c.c. —6.25; Alcohol, to 100. Standardized to contain about 0.05% of alkaloids.

ATROPINA. ATROPINE. Dose, 1/200-1/100 gr.; 0.3-0.6 mgms. Colourless crystals, in solution with a bitter taste. Soluble 1 in 300 of water; readily in alcohol, chloroform, and ether.

Incompatibles of atropine and its salts, as for alkaloids; sodium and potassium hydrates and carbonates (not bicarbonates); decomposed by heating in acid, alkaline or neutral aqueous solution.

¹Unguentum Atropinae.—2; Oleic Acid, 8; Lard, 90.

¹Atropine Sulphas. Dose, 1/200-1/100 gr.; 1/3-2/3 mgms. Nearly colourless crystals. Soluble, 1 in 1 of water; 1 in 10 of alcohol; insoluble in ether and chloroform.

Liquor Atropinae Sulphatis. Dose, $\frac{1}{2}$ -1 min.; 0.03-0.06 c.c.
—1; Salicylic Acid, 0.12; Water, ~~to 100~~ 7 gr. in 110 min.

Lamellae Atropinae. Gelatine disks each containing
1/5000 gr.

Benzoinum, Benzoïn. A balsamic resin obtained from *Styrax Benzoin*, and probably other species. Flat or curved tears varying in size but seldom exceeding two inches in length and half an inch in thickness, yellowish or reddish-brown in colour externally, milky white internally, brittle when cold, softens when warmed and when heated emits fumes of benzoic acid: the tears may occur in agglutinated masses. Insoluble in water; soluble in alcohol.

Important active constituent, benzoic acid.

Adeps Benzoatus. Benzoated Lard.—3; Lard, 100.

Tinctura Benzoini Composita. (Friar's Balsam.) Dose,
30-60 min.; 2-4 c.c.
—10; Storax, 7.5; Balsam of Tolu, 2.5; Socotrine Aloes, 1.83; Alcohol,
to 100.

Acidum Benzoicum. Dose, 5-15 grs.; 3-10 dgms.

Light colourless, crystalline scales or needles; odourless, or with a slight balsamic odour. Soluble, 1 in 100 of cold, 1 in 17 of boiling water; 1 in 3 of alcohol; and in ether, chloroform, fixed and volatile oils.

Incompatibles of benzoic acid and benzoates, silver, mercury, lead, and ferric salts in solution, quinine bisulphate; strong acids (free benzoic acid from benzoates leading to a precipitate if in strong solution); benzoic acid frees carbonic acid from carbonates.

Trochiscus Acidi Benzoici. $\frac{1}{2}$ gr. in lozenge made with the Fruit Basis.

Ammonii Benzoas see Ammonium.

Sodii Benzoas see Sodium.

Benzol. A mixture of hydrocarbons containing about 70% of benzene, and 20-30% of toluene. A colourless, volatile, inflammable liquid, with a characteristic odour.

Bismuthum, Bismuth.

Bismuthi Carbonas. Bismuth Oxycarbonate. Dose, 5-20 grs.; 3-12 dgms.

BIONO, H_2O . A heavy white crystalline powder, faintly acid. Insoluble in water.

Trochiscus Bismuthi Compositus.—2 gr.; Precipitated Calcium Carbonate, 4 gr.; Heavy Magnesium Carbonate, 2 gr.; with the Rose Basis.

¹Bismuthi Subnitratis. Bismuth Oxynitrate. Dose, 5-20 grs.; 3-12 dgms.

BiONO₂, H₂O. A heavy white crystalline powder, faintly acid. Insoluble in water, somewhat soluble in glycerine.

Incompatibles, carbonates and bicarbonates, iodides, hypophosphites, tannic acid.

²Bismuthi Oxidum. Bismuth Oxide. Dose, 5-20 grs.; 3-12 dgms.

Bi₂O₃. A heavy brownish-yellow powder. Insoluble in water.

³Bismuthi Salicylas. Bismuth Oxy-salicylate. Dose, 5-20 grs.; 3-12 dgms.

A nearly white powder. Insoluble in water.

Like all salicylates gives a violet colour with ferric salts.

⁴Liquor Bismuthi et Ammonii Citratis. (Liquor Bismuthi.) Dose, 30-60 min.; 2-4 c.c.

A colourless, slightly alkaline solution, containing 3 grs. of Bismuth Oxide in 60 min.

Incompatibles, most mineral acids and the stronger organic acids precipitate bismuth citrate.

Boron. Boron.

¹Acidum Boricum. Boric Acid. (Boracic Acid.) Dose, 5-15 grs.; 3-10 dgms.

H₂BO₃. Colourless, pearly lamellar crystals, odourless, unctuous to the touch, slightly bitter and acid in taste. Soluble 1 in 30 of cold, 1 in 3 of boiling water; 1 in 4 of glycerine; 1 in 30 of alcohol.

Incompatibles, carbonates, mercuric chloride (a basic chloride is formed); silver nitrate, lead acetate, barium chloride, calcium chloride, (borates formed) alum, zinc sulphate, and ferric chloride.

²Glycerium Acidi Borici.—6; Glycerin by weight to 100, heated to 392° F.

³Unguentum Acidi Borici.—10; White Paraffin Ointment, 90.

Borax. Borax. (Sodium Baborate or Pyroborate.) Dose, 5-20 grs.; 3-12 dgms.

Na₂B₄O₇, 10H₂O. Colourless, transparent crystals, sometimes slightly effloresced, with a weakly alkaline reaction in solution. Soluble 1 in 25 of cold, 2 in 1 of boiling water; 1 in 1 of glycerin; insoluble in alcohol.

Incompatibles, as an alkali, alkaloids and chloral; acacia and the metals mentioned above under boric acid.

¹Glycerium Boracis.—14.25; Glycerin, 85.5. (Contains some free acid.)

²Mel Boracis.—10.5; Glycerin, 5.25; Clarified Honey, 84.

BUCHU FOLIA. BUCHU LEAVES. The dried leaves of *Barosma betulina*. Rhomboidate, yellowish-green leaves, with a denticulate margin, almost glabrous surface, with many oil glands upon it; odour and taste strong and characteristic, especially when crushed.

¹Infusum Buchu. 1-2 fl. oz.; 30-60 c.c.
—5; boiling Water, 100.

²Tinctura Buchu. Dose, 30-60 min.; 2-4 c.c. (Contains alcohol 60%.)

Butyl-chloral Hydras. Butyl-chloral. Dose, 5-20 grs.; 3-12 dgms. Trichlorbutylidene-glycol, $\text{CH}_3\text{CHCl}_2\text{CCl}_2\text{CH}(\text{OH})_2$. Pearly white lamellar crystals, with a pungent odour and an acrid nauseous taste. Soluble 1 in 50 of water; 1 in 1 of glycerine; 1 in 1 of alcohol.

Incompatibles, water (decomposes if kept in aqueous solution for a long time), alkalis (freeing chloroform); if triturated with acetamide, carbolic acid, menthol and urethane it liquifies.

CAFFEINA. CAFFEINE. (Theine). Dose, 1-5 grs.; ½-3 dgms.

† An alkaloid obtained from the leaves of *Camellia Thea* (the tea plant) and from beans of *Coffea Arabica* (coffee). Colourless inodorous acicular silky crystals. Soluble, 1 in 80 of cold, readily in boiling water; 1 in 40 of alcohol.

Incompatibles, tannic acid, mercuric salts. (Compatible with other alkaloidal precipitants.)

¹Caffeina Citras. Dose, 2-10 grs.; 1-6 dgms.

A white odourless powder, with an acid faintly bitter taste, and an acid reaction when in solution. Solubility, 1 in 32 of water, with 3 parts of water gives a syrupy solution, 1 in 22 of alcohol.

²Caffeina Citras Effervescens. Dose, 60-120 grs.; 4-8 gms.
—4; Sodium Bicarbonate, 51; Citric acid, 18; Tartaric Acid, 27; Sugar, 14.

Calcium. Calcium.

† Incompatibles, the hydrate, carbonate, sulphate, phosphate, oxalate, and tartrate are insoluble and in consequence soluble calcium salts are incompatible with the acids of these salts or with soluble salts of the same.

¹Calcii Carbonas Praecipitatus. Precipitated Calcium Carbonate. (Precipitated Chalk.) Dose, 10-60 grs.; ½-4 gms.

A white microcrystalline powder. Insoluble in water.

† ²Calcii Chloridum. Dose, 5-15 grs.; 3-10 dgms.
 $\text{CaCl}_2 \cdot 2\text{H}_2\text{O}$. White very deliquescent masses, with a bitter acrid taste. Soluble 1 in 1 of water; 1 in 3 of alcohol.

*Starch
Purified
Starch
Purified*

*Uranium
na Purina + Calcium*

*CaO
Molasses*

Calcii Hydras. Calcium Hydrate. (Slaked Lime.)
 $\text{Ca}(\text{OH})_2$. Must be freshly prepared by the action of calcium oxide and water. Soluble 1 in 900 of water.

Liquor Calcis (Lime Water). Dose, 1-4 fl. oz.; 30-120 c.c.
Made by shaking calcium hydroxide with water and decanting. $\frac{1}{2}$ gr. of lime in 1 fl. oz.

Linimentum Calcis. (Caron Oil.) Equal parts of
Lime Water and Olive Oil shaken together.

Liquor Calcis Saccharatus. Saccharated Solution of Lime.
Dose, 20-60 min.; 1-4 c.c.
—5; Sugar, 10; Water to 100. Shake and decant the clear fluid. 8
grs. in 1 fl. oz.

Calcii Hypophosphis. Dose, 3-10 grs.; 2-6 dgms.
 $\text{Ca}(\text{PHO}_2)_2$. A white powder or lustrous crystals, odourless and hav-
ing a nauseous taste. Soluble 1 in 8 of water; insoluble in alcohol.

Incompatibles, as for calcium, and also chlorates, mercuric salts,
bismuth subnitrate, ferric salts, quinine, strong acids, (the acid solu-
tion of arsenic); explodes if triturated with oxidizing agents.

Calcii Phosphas. Dose, 5-15 grs.; 3-10 dgms.
A light white amorphous powder. Insoluble in water; soluble in acetic,
hydrochloric, or nitric acids.

Calx Lime. (Burnt Lime. Calcium Oxide.) CaO . Com-
pact whitish masses.

Calx Chlorinata. Chlorinated Lime. A mixture containing
the hydrate, chloride, and hypochlorite of calcium. A dull whitish
powder with a characteristic smell. Decomposes on exposure to the
air. Partially soluble in water.

Liquor Calcis Chlorinata. (Bleaching Liquid.)—10;
Water to 100.

Calx Sulphurata. Sulphurated Lime. Dose, 1/4-1 gr.; 15-60
mgms.
A mixture containing about 50% of calcium sulphide with calcium sul-
phate and carbon. A greyish white powder with a smell of hydrogen
sulphide.

Creta Preparata. Dose, 10-60 grs.; $\frac{1}{2}$ -4 gms.
Native calcium carbonate, freed from most of its impurities by elutri-
ation.
White friable masses or white powder.

Mistura Creta. Chalk Mixture. Dose, $\frac{1}{2}$ -1 fl. oz.; 15-30 c.c.
—3.125; Tragacanth, 0.44; Sugar, 6.25; Cinnamon Water to 100. In
1 fl. oz. 14 grs. of chalk.

Pulvis Creta Aromaticus. Dose, 10-60 grs.; $\frac{1}{2}$ -4 gms.
—24.2; Cinnamon Bark, 8.8; Nutmeg, 6.6; Cloves, 3.3; Cardamons,
2.2; Sugar, 55.

of arrow root

¹Pulvis Cratae Aromaticus cum Opio. Dose, 10-40 grs.;

6-25 dgms.

—97.5; Opium, 2.5. 1 gr. of Opium in 40 grs.

²Syrupus Calcii Lactophosphatis. Dose, 30-60 min.; 2-4 c.c.
Precipitated Calcium Carbonate, 2.5; Lactic Acid, 6.0; Phosphoric Acid
Concentrated, 4.6; Sugar, 70.0; Orange-Flower Water, 2.5; Water to
100.

✕ **Calumbae Radix. Calumba Root.** The dried transversely cut
slices of the root of Jateoriza Calumba. In irregular flattish, roughly
circular, yellowish slices, about 1-2 or more inches in diameter, and
1/8-1/2 or more of an inch thick, odour feeble, taste bitter.

¹Infusum Calumbae. Dose, 1/2-1 fl. oz.; 15-30 c.c.
—5; Water, 20.

²Liquor Calumbae Concentratus. Dose, 30-60 min.; 2-4 c.c.
—50; Alcohol, 22.5; Water to 100; by maceration.

³Tinctura Calumbae. Dose, 30-60 min.; 2-4 c.c.
—10; Alcohol 60% to 100; by maceration.

✕ **Cambogia. Gamboge.** Dose, 1/2-3 grs.; 3-12 cgms.
A gum-resin obtained from *Garcinia Hamburii*. Cylindrical, longitudinally
striated rolls, often agglutinated into masses; colour reddish-yellow;
odourless; taste acrid. Insoluble in water but forms with it an
emulsion; soluble in weak alcohol.

Pilula Cambogiae Composita. Dose, 4-8 grs.; 2 1/2-5 gms. (in 1 or
2 pills).
—16.5; Barbadoes Aloes, 16.5; Compound Cinnamon Powder, 16.5; Hard
Soap, 33.0; Syrup of Glucose, q.s. (about 16). Each pill contains about
2/3 gr. of aloes and of gamboge.

✕ **Camphora. Camphor.** Dose, 2-5 grs.; 1-3 dgms.
A white crystalline substance obtained from *Cinnamomum Camphora*,
purified by sublimation. Solid, colourless, transparent, crystalline,
pieces of tough consistence; with a powerful penetrating odour, and a
bitter pungent taste, followed by a sensation of coldness, inflammable,
burning with a smoky flame, and volatile. Soluble 1 in 700 of water,
1 in 1 of alcohol, 1 in 4 of olive oil.

Incompatibles, forms a liquid, if triturated, with phenol, chloral,
menthol, thymol, salol.

¹Aqua Camphoræ. (Dose, 30-60 c.c.)—0.1 dissolved in a little
alcohol and slowly added to 100 of water.

²Linimentum Camphoræ. (Camphorated Oil).—20; Olive
Oil, 80.

antiseptic
¹Linimentum Camphoræ Ammoniatum.—12.5; Oil of Lavender, 0.625; Strong Solution of Ammonia, 25; Alcohol to 100.

²Spiritus Camphoræ. Dose, 5-20 min.; 0.3-1.2 c.c.—10; Alcohol to 100.

³Tinctura Camphoræ Composita. (Paregoric Elixir, Paregoric.) Dose, 30-60 min.; 2-4 c.c.

—0.34; Tincture of Opium, 6.09; Benzoic Acid, 0.46; Oil of Anise, 0.31; Alcohol to 100. 1 fl. dr. contains 1/4 gr. of Opium or 1/30 gr. of morphine.

antiseptic
CANNABIS INDICA, INDIAN HEMP. The dried flowering or fruiting tops of the female plant of Cannabis sativa. Usually compressed masses of leaves, stems, and flowers. The leaves bear numerous oil glands and curved hairs. The active constituent seems to be cannabinnol contained in the resin.

¹Extractum Cannabis Indica. Dose, 1/4-1 gr.; 15-60 mgms. An alcoholic extract of a soft consistence.

mercuric
²Tinctura Cannabis Indica. Dose, 5-15 min.; 0.3-1 c.c.—5; Alcohol to 100.

Cantharis, Cantharides. The dried beetle Cantharis vesicatoria. About 3/4 to 1 inch long and a 1/4 inch broad, with two long wing-sheaths of a coppery-green colour; odour strong and disagreeable. The active principle is cantharidin, an acid anhydride, which is volatile; soluble slightly in water, less so in alcohol (1 in 1150) and in ether (1 in 700), more so in chloroform (1 in 65) and in acetone (1 in 40) and in glacial acetic acid; incompatible, with alkalies (forming salts which are active) and lead, silver, copper and mercuric salts in solution.

¹Acetum Cantharidis. Vinegar of Cantharides.—10; a mixture of Glacial Acetic Acid and Water in equal parts to 100.

²Emplastrum Cantharidis.—35; Yellow Beeswax, 20; Lard, 20; Resin, 20; Soap Plaster, 5.

³Emplastrum Calefaciens. Warming Plaster.—4; Yellow Beeswax, 4; Resin, 4; Resin Plaster, 52; Soap Plaster, 32; Water, boiling, 20.

⁴Liquor Epispastici. Blistering Liquid.—50; Acetic Ether, 100; by percolation.

⁵Collodium Vesicans. Blistering Collodium.—to 100; Pyroxylin, 2.5.

⁶Tinctura Cantharidis. Dose, if repeated, 2-5 min.; 0.1-0.3 c.c.; for a single administration, 5-15 min.; 0.3-1 c.c.—1.25, Alcohol, 100; by maceration.

⁷Unguentum Cantharidis.—10; Benzoated Lard 90.

Caoutchouc. India-Rubber. (Para Rubber.) The prepared milk-juice of *Hevea brasiliensis* and probably other species. Brownish-black, elastic masses. Insoluble in water and alcohol; soluble in chloroform, carbon bisulphide, turpentine, benzol, and petroleum.

Liquor Caoutchouc.—5; Benzol, 50; Carbon Bisulphide, 50.

CAPSICI FRUCTUS. CAPSICUM. The dried ripe fruit of *Capsicum minimum*. Dull orange-red, oblong fruits, about $\frac{1}{2}$ - $\frac{3}{4}$ of an inch in length, and $\frac{1}{4}$ inch in diameter; odour characteristic, taste intensely pungent.

¹*Tinctura Capsici.* Dose, 5-15 min.; 0.3-1 c.c.
—5; Alcohol 70% to 100; by maceration.

²*Unguentum Capsici.*—24; Spermaceti, 12; Olive Oil by weight, 88.

Carbo Ligni Wood Charcoal. Dose, 60-120 grs.; 4-8 gms.

The carbonaceous residue of wood charred by exposure to red heat without access of air.

Carbonis Bisulphidum. Carbon Bisulphide. CS₂. A clear colourless liquid with a characteristic but not fetid odour. Very slightly soluble in water, soluble in alcohol, ether, and chloroform, and in fixed and volatile oils.

CARDAMOMI SEMINA. CARDAMOM SEEDS. The dried ripe seeds of *Elettaria Cardamomum*. Usually kept in their pericarps until wanted; these are ovoid or oblong, bluntly triangular in section, longitudinally striated, pale buff in colour. The seeds are brown, about 1/8 inch in length, breadth and thickness, irregularly angular, and wrinkled. Odour and taste warm and aromatic.

¹*Tinctura Cardamomi Composita.* Dose, 30-60 min.; 2-4 c.c.
—1.25; Caraway Fruit, 1.25; Raisins, 10; Cinnamon Bark, 2.5; Cinnamon Bark, 0.63; Alcohol 60% 100; by maceration.

Carvi Fructus. Caraway Fruit. The dried fruit of *Carum Carvi*. The active constituent is the oil.

Aqua Carvi. (Dose, 30-60 c.c.)
—10; Water, 200; distil over 100.

¹*Oleum Carvi.* Dose ~~$\frac{1}{2}$ -3 min.~~ 0.03-0.2 c.c.
A colourless or pale yellow oil with a characteristic odour and spicy, pungent taste.

X *Caryophyllum. Cloves.* The dried flower buds of *Eugenia caryophyllata*. The principle active constituent is the oil.

X *Infusum Caryophylli.* Dose, $\frac{1}{2}$ -1 fl. oz.; 15-30 c.c.
—2.5 in 100 of water. Contains some tannin.

Oleum Caryophylli. Dose, $\frac{1}{2}$ -3 min.; 0.03-0.2 c.c.
A colourless or pale yellow oil becoming reddish on standing; odour and taste of cloves. Incompatibles, ferric chloride, lime water, strong alkaline or mineral acid solutions.

X *Cascara Sagrada. Cascara Sagrada.* (Rhamni Purshiani Cortex. Sacred Bark.) The dried bark of *Rhamnus Purshianus*. Quilled, channelled or curved pieces, frequently 4 inches long, $\frac{3}{4}$ of an inch wide, and about 1/16 inch thick, the outer surface is smooth, dark purplish-brown in colour but often covered with a whitish coat of lichens: odour characteristic; taste nauseous and persistently bitter.

Extractum Cascarae Sagradae. Dose, 2-8 grs.; 1-5 dgms.
A dried aqueous extract.

Extractum Cascarae Sagradae Liquidum. Dose, 30-60 min.; 2-4 c.c.

An alcoholic extract. Incompatibles, gives a precipitate with water (of unimportant constituents): acids and strong solutions of mineral salts.

Syrupus Cascarae Aromaticus. Dose, $\frac{1}{2}$ -2 fl. dr.; 2-8 c.c.
—40; Tincture of Orange, 10; Alcohol, 5; Cinnamon Water, 15; Syrup, 30.

Cascarilla. Cascarilla. The dried bark of *Croton Eluteria*. In quills from 1-3 inches long, 1/6- $\frac{1}{2}$ inch in diameter, or curved pieces. The outer layer is wrinkled longitudinally with transverse cracks; dull brown or dark gray in colour but frequently covered with silver gray patches containing black spots: odour, aromatic and agreeable, especially when burned; taste, aromatic and bitter.

Infusum Cascarilla. Dose, $\frac{1}{2}$ -1 fl. oz.; 15-30 c.c.
—5 in 100 of boiling water.

Tinctura Cascarilla. Dose, 30-60 min.; 2-4 c.c.
—20; Alcohol 70% to 100; by percolation.

Cassia Pulpa. Cassia Pulp. The pulp obtained from the pods of *Cassia Fistula*. The pods are blackish brown in colour, very hard, and from 1 $\frac{1}{2}$ -2 feet long. The pulp is viscid and nearly black, with a faint odour and a sweet taste. It is a constituent of Confection of Senna.

CATECHU. CATECHU. Dose, 5-15 grs.; 3-10 dgms.

An extract obtained from the leaves and young shoots of *Uncaria Gambier*. In cubes, about an inch on the side, often agglutinated, deep reddish-brown externally, porous and friable, consisting largely of minute crystals; taste, at first bitter and astringent, subsequently sweetish; odourless. Active principles catechin and catechu-tannic acid.

Incompatibles, gelatine, albumin, sulphuric acid and ferric salts.

¹Pulvis Catechu Compositus. Dose, 10-40 grs.; $\frac{1}{2}$ -2 $\frac{1}{2}$ gms.

—40; Kino, 20; *Krameria* Root, 20; Cinnamon Bark, 10; Nutmeg, 10.

²Tinctura Catechu. Dose, 30-60 min.; 2-4 c.c.

—20; Cinnamon Bark, 5; Alcohol 60%, 100; by maceration.

³Trochiscus Catechu. 1 gr. in a lozenge made with the Simple Basis. *Atter Antiseptical*

CERA ALBA. WHITE BEESWAX. Yellow Beeswax bleached. Hard, nearly white, translucent masses.

CERA FLAVA. YELLOW BEESWAX. Prepared from the comb of the bee, *Apis mellifica*. Insoluble in water, 3% soluble in alcohol, 50% soluble in ether, completely soluble in oil of turpentine.

CERIUM. CERIUM.

¹Cerii Oxalas. Cerium oxalate. Dose, 2-10 grs.; 1-6 dgms.

$Ce_2(CO_3)_3 \cdot 9H_2O$. A nearly white, granular powder, odourless, tasteless. Insoluble in water and other ordinary solvents, soluble in dilute sulphuric and hydrochloric acids. Incompatibles, alkali hydrates.

Cetaceum. *Spermaceti*. A concrete fatty substance obtained from the head of the Sperm Whale, *Physeter macrocephalus*, and subsequently purified. Crystalline, pearly white, glistening, translucent masses, unctuous to the touch, odourless, and flavourless. Insoluble in water, almost so in alcohol, soluble in ether, chloroform, and boiling alcohol.

Unguentum Cetacei.—20; White Beeswax, 8 Almond Oil by weight, 72; Benzoin, 2.

Charta (see *Sinapis*).

Chirata. *Chiretta*. The dried plant *Swertia Chirata*, collected when in flower. Stem 3 feet or more in length, purplish externally, with a pith within; branches, slender; leaves glabrous and entire; flowers small, numerous and in panicles; odourless; taste extremely bitter. Contains a bitter but no tannic acid.

- Infusum Chiratae. Dose, $\frac{1}{2}$ fl. oz.; 15-30 c.c.
—5; boiling Water, 100.
Liquor Chiratae Concentratus. Dose, 30-60 min.; 2-4 c.c.
Alcoholic; by percolation.
Tinctura Chiratae. 30-60 min.; 2-4 c.c.
—10; Alcohol 60% to 100; by percolation.

CHLORAL HYDRAS.—CHLORAL HYDRATE. (Chloral.) Dose, 5-20 grs. 3-12 dgms.

$\text{CCl}_3\text{CH}(\text{OH})_2$. Colourless, nondeliquescent plates; pungent odour; pungent, bitter taste. Soluble 1 in less than 1 of alcohol, water, or ether, soluble 1 in 4 of chloroform.

Incompatibles, alkaline hydrates, carbonates, borates, ammonia, mercuric oxide, potassium permanganate and iodide; gives a stiff mass or a liquid when triturated with phenol, lead acetate, phenacetin, salol, sodium phosphate, thymol, trional, urethane, or quinine sulphate; gives a damp powder with acetanilid or phenazone.

- ¹Syrupus Chloral. Dose, $\frac{1}{2}$ -2 fl. dr.; 2-8 c.c.
—18.29; Water, 18.75; Syrup to 100. 10 grs. of chloral in 1 fl. dr.

CHLOROFORM. CHLOROFORM. Dose, 1-5 min.; 0.05-0.3 c.c.
Chloroform is trichloromethane, CHCl_3 , to which about 1% of absolute alcohol has been added. A heavy, colourless liquid, with a characteristic odour and a sweetish burning taste. Soluble 1 in 200 of water, miscible in all proportions with alcohol, ether, and oils.

- ¹Aqua Chloroformi.—1; Water, to 100.
¹Linimentum Chloroformi.—50; Camphor Liniment, 50.
¹Spiritus Chloroformi. Dose, if repeated, 5-20 min.; 0.3-1.2 c.c.; for a single administration, 30-40 min.; 2-3 c.c.
—5; Alcohol, 95.

¹Tinctura Chloroformi et Morphinae Composita. Dose, 5-15 min.; 0.3-1 c.c.
—7.5; Morphine Hydrochloride, 1.0; Diluted Hydrocyanic Acid, 5.0; Tincture of Capsicum, 2.5; Tincture of Indian Hemp, 10.0; Oil of Peppermint, 0.15; Glycerine, 25.0; Alcohol to 100. In 10 min. there are $\frac{3}{4}$ min. of Chloroform, $\frac{1}{11}$ gr. of Morphine, $\frac{1}{2}$ min. of Diluted Hydrocyanic Acid.

Chrysarobinum. (See Araroba).

Cimicifuga Rhizoma. Cimicifuga. The dried rhizome and roots of *Cimicifuga racemosa*. A hard roughly cylindrical rhizome bearing numerous remains of branches encircled by leaf-scars, and the remains of brittle roots; odour faint, taste bitter and acrid. It contains tannic acid.

Handwritten: Cinchona, Cinchonine, Quinine

Extractum Cinchifuge Liquidum. Dose, 5-30 min.; 0.3-2 c.c.
—Alcoholic

Tinctura Cinchifuge. Dose, 30-60 min.; 2-4 c.c.
—10; Alcohol 60%, 100; by percolation.

CINCHONAE RUBRAE CORTEX. RED CINCHONA BARK. The dried bark of the stem and branches of *Cinchona succirubra*. Quilled more or less incurved pieces, from 2-12 inches in length and 1/10 to 1/4 inch thick; the outer surface brownish, roughened by numerous ridges, warts and cracks; the inner surface striated, brick-red or reddish-brown; taste bitter and somewhat astringent, no marked odour. The most important ingredient is the alkaloid quinine, other alkaloids are cinchonidine, cinchonine, and quinidine. It also contains a tannic acid.

Handwritten: Antipyretic, Antiseptic, Bitter

Incompatibles, ammonia, lime water, gelatine, many metallic salts (especially ferric salts).

Extractum Cinchone Liquidum. Dose, 5-15 min.; 0.3-1 c.c.
An acid alcoholic extract standardized to contain 5% of alkaloids.

Infusum Cinchone Acidum. Dose, 1/2-1 fl. oz.; 15-30 c.c.
—5; boiling Water, 100; Aromatic Sulphuric Acid, 1.25.

Tinctura Cinchone. Dose, 30-60 min.; 2-4 c.c.
—20; Alcohol, 70%, 100; by percolation. Standardised to contain 1% of alkaloids.

Tinctura Cinchone Composita. Dose, 30-60 min.; 2-4 c.c.
—50; Bitter Orange Peel, 5; Serpentry Rhizome, 2.5; Saffron, 0.63; Cochineal, 0.32; Alcohol 70% to 100; by maceration. Standardised to contain 1/2% of alkaloids.

QUININAE SULPHAS. QUININE SULPHATE. Dose, 1-10 grs.; 1/2-6 dgms.

Filiform, silky crystals, with an intensely bitter taste. Soluble 1 in 800 of water, 1 in 65 of alcohol. The addition of roughly 1 min. per gr. of a diluted mineral acid will convert it into the acid sulphate (or bisulphate), which is soluble 1 in 10 of water.

Incompatibles, acetates, citrates, benzoates, salicylates, tartrates, alkali hydrates or carbonates, borax, tannic acid, mercuric chloride, potassium and mercuric iodides: gives a soft mass with thymol, and a stiff mass or damp powder with chloral.

Pilula Quinina Sulphatis. Dose, 2-8 grs.; 2 1/2-5 dgms. (in 1 or 2 pills).
—82.5; Tartaric Acid, 2.75; Glycerine, 11; Tragacanth, 2.75.

Tinctura Quinine Ammoniata. Dose, 30-60 min.; 2-4 c.c.
—2; Solution of Ammonia, 10; Alcohol 60%, 90.

QUININAE HYDROCHLORIDUM. Dose, 1-10 grs.; $\frac{1}{2}$ -6 dgms.

Silky filiform crystals, larger than those of the sulphate. Soluble, 1 in 35 of water, 1 in 3 of alcohol. Incompatibles, as for the sulphate.

¹Tinctura Quininae. Dose, 30-60 min.; 2-4 c.c.

-2; Tincture of Orange, 100; by solution.

²Vinum Quininae. Dose, $\frac{1}{2}$ -1 fl. oz.; 15-30 c.c.

-0.228; Orange Wine, 100.

QUININAE HYDROCHLORIDUM ACIDUM. Dose, 1-10 grs.;

$\frac{1}{2}$ -6 dgms.

A white crystalline powder. Soluble, 1 in less than 1 of water giving a slightly acid liquid. Incompatibles, as for the sulphate.

CINNAMOMI CORTEX. CINNAMON BARK. The dried inner bark of

shoots from the truncated stocks of Cinnamomum zeylanicum. Closely rolled quills about $\frac{3}{8}$ of an inch in diameter; thin splintery, light yellow-brown externally, darker brown internally; odour fragrant and characteristic, taste warm, sweet and aromatic. Contains a volatile oil and tannic acid.

¹Aqua Cinnamomi. 10 in 100 of water by distillation.

²Olum Cinnamomi. Dose, $\frac{1}{2}$ -3 min.; 0.06-0.2 c.c.

A pale yellow oil becoming reddish on standing, odour and taste of cinnamon.

³Spiritus Cinnamomi. Dose, 5-20 min.; 0.3-1.2 c.c.

-10; Alcohol, 90.

⁴Pulvis Cinnamomi Compositus. (Pulvis Aromaticus.) Dose, 10-40 grs.; $\frac{1}{2}$ -2 $\frac{1}{2}$ gms.

-33.3; Cardamom Seeds, 33.3; Ginger, 33.3.

⁵Tinctura Cinnamomi. Dose, 30-60 min.; 2-4 c.c.

-20; Alcohol 70% 100; by percolation.

COCAE FOLIA. COCA LEAVES. The dried leaves of Erythroxylum Coca. Brownish-green leaves, $1\frac{1}{2}$ -3 inches long, entire, oval and glabrous; the mid-rib projects as a rib from the dorsal surface, and ends in a spine; on the under surface a curved line may usually be seen on either side of the mid-rib. The leaves have a faint odour and a bitter taste succeeded by a sensation of numbness. The important active principle is the alkaloid cocaine.

¹Extractum Cocae Liquidum. Dose, 30-60 min.; 2-4 c.c.

An alcoholic extract.

COCAINA. COCAINE. (Dose, $1/20$ - $1/2$ gr.; 3-30 mgms.)

Colourless prismatic crystals, with a bitter taste followed by a sensa-

tion of numbness. Almost insoluble in water, soluble 1 in 10 of alcohol, 1 in 12 of olive oil, insoluble in glycerine.

²Unguentum Cocaina.—4; Oleic Acid (by weight) 16; Lard, 80.

COCAINAE HYDROCHLORIDUM. Dose, $\frac{1}{5}$ - $\frac{1}{2}$ gr.; 12-30 mgms. Colourless crystals, taste bitter, followed by a sensation of numbness. Soluble, 2 in 1 of water, 1 in 4 of alcohol, 1 in 4 of glycerine, insoluble in olive oil or ether. Incompatibles, as for alkaloids; and strong solutions of acids, or alkalies; calomel.

¹Injectio Cocaina Hypodermica. Dose, 2-5 min.; 0.12-0.3 c.c.
—10; Salicylic Acid, 1.5; Water, recently boiled, 100. 1 gr. in 11 min.

¹Lamella Cocaina. Gelatine disks each containing $\frac{1}{50}$ gr. of cocaine.

Trochiscus Krameria et Cocaina.— $\frac{1}{20}$; Krameria, 1 gr.; with the Fruit Basis.

Coccus Cochineal. The dried fecundated female insect, Coccus Cacti. About $\frac{1}{5}$ of an inch long; roughly oval in outline, transversely wrinkled, concave beneath, convex above, purplish-gray in colour; when powdered, dark red. Contains a colouring principle, carmine.

Tinctura Cocci. Dose, 5-15 min.; 0.3-1 c.c.
—10; Alcohol 45%, 100; by maceration.

Cocaina (see Opium).

COLCHICI CORMUS. COLCHICUM CORM. Dose, 2-5 grs.; 1-3 dgms. The fresh corm is stripped of its coats, sliced transversely and dried. The dried slices are about $\frac{1}{10}$ of an inch thick and about 1 broad, somewhat reniform in shape, whitish in colour; taste bitter; without odour.

²Extractum Colchici. Dose, $\frac{1}{4}$ - $\frac{1}{2}$ gr.; 15-60 mgms. The juice of the fresh corms, expressed and dried to a soft consistence.

¹Vinum Colchici. Dose, 10-30 min.; $\frac{1}{2}$ -2 c.c.
Dried Corm, 20; Sherry, 100; by maceration.

COLCHICI SEMINA. COLCHICUM SEEDS. The dried ripe seeds of Colchicum autumnale. About $\frac{1}{10}$ inch in diameter, reddish-brown, rough, minutely pitted; very hard and tough; odourless, taste acrid and bitter. Contains the alkaloid, colchicine. Incompatibles, as for alkaloids.

²Tinctura Colchici Seminum. Dose, 5-15 min.; 0.3-1 c.c.
—20; Alcohol 45%, 100; by percolation.

Colloidium (see Pyroxylin).

X

Colocynthis Pulpa. Colocynth Pulp. The dried pulp of the fruit of *Citrullus Colocynthis*, freed from its seeds. The pulp is light, spongy, whitish, odourless, intensely bitter.

Extractum Colocynthis Compositum. Dose, $\frac{1-8}{2-8}$ grs.; 1-5 dgms.

A tincture of colocynth is made; the alcohol is evaporated off, the Extract of Barbadoes Aloes, Scammony Resin, Curd Soap and Cardamom Seeds are added and the whole evaporated to a firm extract.

Pilula Colocynthis Composita. Dose, 4-8 grs.; $2\frac{1}{2}$ dgms. (in 1 or 2 pills) —18; Barbadoes Aloes, 36; Scammony Resin, 36; Potassium Sulphate, 4.5; Oil of Cloves, 4.5; Water, q.s. Each pill contains $\frac{3}{4}$ gr. of Colocynth, and $1\frac{1}{2}$ grs. of both Scammony and Aloes.

Pilula Colocynthis et Hyoseyami. Dose, 4-8 grs.; $2\frac{1}{2}$ -5 dgms (in 1 or 2 pills).

—66; Green Extract of Hyoseyamus, 33.

Confectiones. (See Piper, Rosa, Senna, Sulphur). Dose, 60-120 grs.; 4-8 gms.

Conii Folia. Conium Leaves. The fresh leaves and young branches of *Conium maculatum*, collected when the fruit begins to form. Stem smooth marked with dark purple spots, leaves large, pinnately divided, the lower decomposed and at times 2 feet long; odour strong and mouse-like, especially if rubbed with potassium hydrate. The chief active principle is the alkaloid, coniine.

Succus Conii. Dose, 1-2 fl. dr.; 4-8 c.c.
—66 of Juice expressed from the fresh leaves and branches with 33 of alcohol.

Unguentum Conii.—200 evaporated to 25; Hydrous Wool Fat, 75.

Conii Fructus. Conium Fruit. (Hemlock Fruit.) The dried full-grown unripe fruit of *Conium maculatum*. Broadly ovoid, greenish-gray, about $\frac{1}{8}$ inch long and broad; odour not marked unless rubbed with potassium hydrate, when strong and mouse-like. Active principle the alkaloid coniine.

Tinctura Conii. Dose, 30-60 min.; 2-4 c.c.
—20; Alcohol 70%, 100; by percolation.

Copaiba. Copaiba. Dose, 30-60 min.; 2-4 c.c.
The oleo-resin obtained from the trunk of *Copaifera Lansdorffii* and probably other species. A more or less viscid liquid, generally transparent, light yellow to pale yellow-brown in colour; odour aromatic

and peculiar; taste persistent, acid and somewhat bitter. Soluble in absolute alcohol.

Incompatibles, hydrates of the alkalis and alkaline earths.

¹Oleum Copaibæ. Dose, 5-20 min.; 0.3-1.2 c.c.

A colourless or pale yellow oil, with the odour and taste of copaiba. Soluble 1 in 1 of absolute alcohol.

Coriandri Fructus. Coriander Fruit. The dried ripe fruit of *Coriandrum sativum*. Nearly globular, about 1/5 inch in diameter, brownish-yellow in colour and glabrous; odour aromatic; taste agreeable.

Oleum Coriandri. Dose 1/2-3 min.; 0.03-0.2 c.c.

A pale yellow or colourless oil, with the taste and odour of the fruit.

Creosotum. Creosote. Dose, 1-5 min.; 0.05-0.3 c.c.

A mixture of guaiacol, cresol, and other phenols. A colourless or yellowish liquid, with an empyreumatic odour and acid taste. Soluble 1 in 150 of cold water, more soluble in hot, readily soluble in alcohol, ether, chloroform and glycerin.

Incompatibles, many metal salts, such as those of silver and copper, albumin, ferric salts, nitric acid; explodes if triturated with oxidising agents.

¹Mistura Creosoti. Dose, 1/2-1 fl. oz.; 15-30 c.c.

—0.2; Spirit of Juniper, 0.2; Syrup, 6; Water to 100.

²Unguentum Creosoti.—10; Hard Paraffin, 40; Soft White Paraffin, 50.

Crocus. Saffron. The dried stigmas and tops of the styles of *Crocus sativus*. The flower parts have an aromatic odour and a bitter taste; they leave, if moistened and rubbed on the finger, an intense yellow stain.

Tinctura Croci. Dose, 5-15 min.; 0.3-1 c.c.

—5; Alcohol 60%, 100 by maceration.

CUBELE FRUCTUS. CUBEBS. Dose, 30-60 grs.; 2-4 gms.

The dried full-grown unripe fruits of *Piper Cubeba*. Nearly globular, about 1/6 inch in diameter, greyish-brown or nearly black in colour; odour strong, aromatic and characteristic; taste warm, somewhat bitter and aromatic.

¹Oleum Cubebæ. Dose, 5-20 min.; 0.3-1.2 c.c.

A colourless or pale greenish oil, with the odour and taste of cubebs.

²Tinctura Cubebæ. Dose, 30-60 min.; 2-4 c.c.

—20; Alcohol 100; by percolation.

Cuprum. Copper.

¹Cupri Sulphas. Copper Sulphate. Dose, as an astringent, 1/4-2 grs.; 15-120 mgms.; as an emetic, 5-10 grs.; 3-6 dgms. CuSO4.5H2O. Blue crystals. Soluble 1 in 3.5 of water (giving an acid solution), very soluble in glycerin, insoluble in alcohol.

Incompatibles, alkaline hydrates and carbonates, ammonia, phosphates, arsenites, iodides, tannic acid, albumins; in the presence of alkalis arsenious acid, glucose and acacia.

Cusparia Cortex. Cusparia Bark. The dried bark of *Cusparia febrifuga*. Flattened or curved pieces or quills, 4 or 5 inches long, an inch wide and a twelfth thick; the outer layer grey or yellowish, easily removed exposing the inner layer which is hard and dark brown; odour musty; taste bitter.

Infusum Cuspariae. Dose, 1-2 fl. oz.; 30-60 c.c.
-5; boiling Water, 100.

Liquor Cuspariae Concentratus. Dose, 30-60 min.; 2-4 c.c.
-50; Alcohol 20% to 100; by percolation.

CUSO. Koussou. Dose, 1/4-1/2 oz.; 7-14 gms.

The dried panicles of pistolate flowers of *Brayera anthelmintica*. Usually in more or less cylindrical rolls, 1-2 feet long, composed of reddish panicles of numerous small flowers; odour not marked; taste bitter and acid.

DECOCTA (see Aloe, Grenatum, Haematoxylyum). Dose, 1/2-2 fl. oz.; 15-30 c.c.

Cardiac Tonic
Aescula Folium
Mohr's Yellow
Amphocladia
Elaterium
Emetic

DIGITALIS FOLIA. DIGITALIS LEAVES. Dose, 1/2-2 grs.; 3-12 cgms.

The dried leaves of *Digitalis purpurea*. From 4-12 inches or more in length, and at times 5-6 inches broad; upper surface, rugose, dull green and slightly hairy, under surface paler and densely pubescent; no marked odour; taste very bitter. The chief active principles are the glucosides, digitalin, digitoxin, and digitalein.

Incompatibles, strong alkalies, acids, lead acetate, ammonia.

Infusum Digitalis. Dose, 2-4 fl. dr.; 8-16 c.c.
-0.68; boiling Water, 100.

Tinctura Digitalis. Dose, 5-15 min.; 0.3-1 c.c.
-12.5; Alcohol 60%, 100; by percolation.

Elaterium. Elaterium. Dose, 1/10-1/2 gr.; 6-30 mgms.

A sediment from the juice of the fruit of *Ecballium Elaterium*. Light, friable, greenish cakes, about 1/10 inch thick; odour faint, tea-like; taste bitter and acid.

⁴Elaterinum. Elaterin. Dose, 1/40-1-10 gr.; 2-6 mgms.
The active principle of elaterium. Small scales, with a bitter taste. Insoluble in water, or glycerin, soluble 1 in 160 of cold alcohol, readily in hot; or in chloroform or solutions of the alkalies.

²Pulvis Elaterini Compositus. Dose, 1-4 grs.; ½-2½ dgms.
-2.5; Milk Sugar, 97.5.

Emplastra (see Ammoniacum, Belladonna, Cantharis, Hydrargyrum, Menthol, Opium, Pix, Plumbum, Resina, Sapo).

4 Ergota. Ergot. Dose, 20-60 grs.; 12-40 dgms.

The dried sclerotium of the fungus, *Claviceps purpurea*, originating in the ovary of *Secale cereale*, the rye. Roughly cylindrical, dark, violet-black grains, with tapering ends, from 1/3-1½ inch in length; pinky white within; odour peculiar; taste disagreeable. Deteriorates rapidly on keeping, especially if not kept absolutely dry. The active principle is the alkaloid ergotoxine.

²Extractum Ergotæ. (Ergotin.) Dose, 2-8 grs.; 1-5 dgms.
A soft alcoholic extract.

¹Injectio Ergotæ Hypodermica. Dose, 3-10 min.; 0.2-0.6 c.c.
-30; Phenol, 0.9; Water to 100. 3 grs. in 10 min.

¹Extractum Ergotæ Liquidum. Dose, 10-30 min.; 0.6-2 c.c.
An aqueous extract with alcohol added.

²Infusum Ergotæ. Dose, 1-2 fl. oz.; 30-60 c.c.
-5; boiling Water 100.

²Tinctura Ergotæ Ammoniata. Dose, 30-60 min.; 2-4 c.c.
-25; Solution of Ammonia, 10; Alcohol 60% to 100; by percolation.

EUCALYPTI GUMMI. Dose, 2-5 grs.; 1-3 dgms.
A ruby-coloured exudation from the bark of *Eucalyptus rostrata*, and probably other species. In grains or small masses; thin fragments are transparent and of a ruby or garnet-red colour; taste astringent, and tinges the saliva red. About 80-90% soluble in water, almost entirely soluble in alcohol.

²Trochiscus Eucalypti Gummi. 1 gr. with the Fruit Basis.

OLEUM EUCALYPTI. Dose, ½-3 min.; 0.03-0.2 c.c.
The oil distilled from the fresh leaves of *Eucalyptus Globulus*, and other species. Colourless or pale yellow, with an aromatic camphoraceous odour, and a pungent taste, leaving a sensation of coldness in the mouth.

²Unguentum Eucalypti.—10 by weight; Hard Paraffin, 40; Soft Paraffin, 50.

Handwritten notes:
Ammoniated 0.25 grs
Dose 1-5 dgms
6 ch. on 100 grs
Must be kept
Very sensitive
to light
Sclerotium
of ergot
C. G. S. 100

EUONYMI CORTEX. EUONYMUS BARK. The dried root bark of *Euonymus atropurpureus*. In quilled or curved pieces, 1/12-1/6 inch thick; the outer layer, light ash-grey in colour, soft and friable; the inner surface tawny white and smooth; odour faint but characteristic, taste mucilaginous, slightly acid and bitter.

Extractum Euonymi Siccum. Dose, 1-2 grs.; 6-12 cgms.
An alcoholic extract dried and mixed with calcium phosphate.

Extracta (the following: with a dose of 1/4-1 gr. *Belladonna Viride*, *Belladonna Ale.*, *Cannabis Indica*, *Colchici*, *Nucis Vomica*, *Opii*, *Physostigmatis*, *Stramonii*, *Strophanthi*; with a dose of 2-8 grs. *Anthemidis*, *Cascarae Sagradae*, *Colocyntidis Comp.*, *Ergotae*, *Gentianae*, *Hyoscyami Viride*, *Jalapae*, *Rhei*; with a dose of 1-2 grs. *Euonymi Siccum*; with a dose of 1-4 grs. *Aloes Barbadosis*; with a dose of 5-15 grs. *Krameriae*, *Taraxaci*; in any quantity *Glycyrrhizae*).

Extracta Liquida (the following: with a dose of 1/2-2-20 min. *Ipecacuanhae*; with dose 1-3 min. *Nucis Vomicae*; with dose 5-15 min. *Cinchona*, *Hamamelidis*, *Hydrastis*, *Jaborandi*; with dose, 5-30 min. *Cimicifuge*, *Opii*; with dose, 10-30 min. *Ergotae*; with dose, 45-90 min. *Filicis*; with dose, 30-60 min. *Cascarae Sagradae*, *Cocae*, *Glycyrrhizae*; with dose, 1/2-2 fl. dr. *Pareira*, *Taraxaci*; with dose, 2-4 fl. dr. *Sarsae*; without dose, *Belladonnae*).

FEL BOVINUM PURIFICATUM. PURIFIED OX BILE. Dose, 5-15 grs.; 3-10 dgms.

Evaporated ox bile purified by precipitation with alcohol. A yellowish-green, hygroscopic substance, with a bitter-sweet taste. Soluble in water and in alcohol.

FERRUM. IRON. Annealed iron wire or wrought iron nails.

Incompatibles of ferrie salts, in general, alkali hydrates and carbonates, (precipitate ferrie hydrate, in part prevented by sugar, glycerine, citrates, and tartrates); carbonates of the alkaline earths, borax, alkali phosphates and sulphides; alkali hypophosphites in a neutral solution; iodides in an acid solution; arsenites, tannic acid, benzoates; a change in colour is given with tannic and gallic acids, acetates, salicylates, phenol, acetanilid, antipyrine, phenacetin, many oils, oleoresins, and balsams, morphine. (These colour reactions in some cases occur with the chloride only, and are in all cases more marked with it.) Acacia is gelatinised and albumin precipitated.

Incompatibles of ferrous salts, readily oxidised by air, alkali hydrates and carbonates, phosphates, borax, tannic and gallic acids, oxidising reagents.

²Ferri Arsenas. Dose, 1/16-1/4 grs.; 4-16 mgms.

Ferrous Arsenate, $\text{Fe}_2(\text{AsO}_4)_2 \cdot 6\text{H}_2\text{O}$, mixed with some ferric arsenate and oxide. An amorphous, tasteless, greenish powder. Insoluble in water, readily in hydrochloric acid.

²Ferri Carbonas Saccharatus. Dose, 10-30 grs.; 1/2-2 gms.

Ferrous Oxycarbonate, $x\text{FeCO}_3, y\text{Fe}(\text{OH})_2$, more or less oxidised and mixed with sugar. Brownish-grey lumps or powder, with a sweetish chalybeate taste. Only partly soluble in water, soluble in hydrochloric acid.

²Ferri Phosphas. Dose, 5-10 grs. 3-6 dgms.

Ferrous phosphate $\text{Fe}_2(\text{PO}_4)_2 \cdot 8\text{H}_2\text{O}$, (47%) mixed with ferric phosphate and oxide. A slate-blue amorphous powder. Insoluble in water, soluble in hydrochloric acid.

²Ferri Sulphas. Dose, 1-5 grs.; 1/2-3 dgms.

Ferrous sulphate, $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$. Pale blue-green crystals with an astringent taste. Soluble 1 in 11 1/2 of water, insoluble in alcohol.

²Mistura Ferri Composita. (Griffith's Mixture.) Dose, 1/2-1 fl. oz. 15-30 c.c.
-0.57; Potassium Carbonate, 0.686; Myrrh, 1.37; Sugar, 1.37; Spirit of Nutmeg, 1.04; Rose Water, to 100. A dark-green mixture containing a precipitate of ferrous carbonate.

²Ferri Sulphas Exsiccatus. Dose, 1/2-3 grs.; 1/4-2 dgms.

Ferrous sulphate from which six molecules of water have been removed by heat. A white powder slowly soluble in a little more than 2 parts of water.

²Pilula Ferri. (Bland's Pill.) Dose, 5-15 grs.; 3-10 dgms. (In 1-3 pills).

-30; Exsiccated Sodium Carbonate, 19; Gum Acacia, 10; Tragacanth, 3; Syrup, 30; Glycerine, 2; Water q.s. Each pill contains about 1 gr. of Ferrous Carbonate.

²Ferrum Redactum. Reduced Iron. Dose, 1-5 grs.; 1/2-3 dgms.

A fine greyish-black powder, strongly attracted by the magnet, producing black streaks if rubbed in the mortar. Contains at least 75% of iron, the rest being oxide. Incompatibles, salts of lead, silver, copper, bismuth, mercury and antimony; may explode if rubbed with potassium permanganate and chlorate.

²Trochiscus Ferri Redacti. 1 gr. with the Simple Basis.

²Ferrum Tartaratum. Dose, 5-10 grs.; 3-6 dgms.

Garnet scales sweetish and astringent. Slowly soluble 1 in 4 of water, sparingly in alcohol.

²Ferri et Ammonii Citras. Dose, 5-10 grs.; 3-6 dgms.

A mixture of ferric citrate and ammonium citrate. Deep red, trans-

Trans to blood astringent diuretic
antiseptic
Trans Ferric Chloride 5-20 mgms

parent scales, slightly sweetish and astringent in taste. Soluble 2 in 1 of water, giving a slightly acid solution; almost insoluble in alcohol.

²Vinum Ferri Citratis. Dose, 1-4 fl. dr.; 4-16 c.c.
—1.83; Orange Wine, 100, 8 grs. in 1 fl. oz.

³Ferri et Quinine Citras. Dose, 5-10 grs.; 3-6 dgrs.
Contains ferric and quinine citrate. Greenish-golden scales, somewhat deliquescent, bitter and chalybeate in taste. Soluble, 2 in 1 of water, the solution being very slightly acid. Contains 1 of quinine in 6.66.

⁴Liquor Ferri Acetatis. Dose, 5-15 min.; 0.3-1 c.c.
A solution containing ferric acetate. Deep red, with a sour, astringent taste, and an acetous odour. Miscible with water and alcohol in all proportions.

⁵Liquor Ferri Perchloridi Fortis. Made by dissolving Iron Wire in acids. An orange-brown liquid with a strong astringent taste, acid in reaction.
Miscible with water and alcohol in all proportions. 22.5 grs. of Iron in 110 min.

⁶Liquor Ferri Perchloridi. Dose, 5-15 min.; 0.3-1 c.c.
—25; Water, 75, 5.5 grs. Iron in 110 min.

⁷Tinctura Ferri Perchloridi. Dose, 5-15 min.; 0.3-1 c.c.
—25; Alcohol, 25; Water, 50.

⁸Liquor Ferri Pernitratis. Dose, 5-15 min.; 0.3-1 c.c.
An acid solution containing ferric nitrate. Reddish-brown, acid and astringent in taste. Contains 3.3 grs. Iron in 110 min.

⁹Liquor Ferri Persulphatis. A solution of ferric sulphate. Dark red in colour.

¹⁰Syrupus Ferri Phosphatis. Dose, 30-60 min.; 2-4 c.c.
Contains 1 gr. of anhydrous ferrous phosphate in 1 fl. dr. Acid in reaction.

¹¹Syrupus Ferri Phosphatis cum Quinina et Strychnina. Dose, 30-60 min.; 2-4 c.c.
Acid in reaction. 1 fl. dr. contains 1 gr. of anhydrous ferrous phosphate, 4/5 gr. of quinine sulphate, and 1/32 gr. of strychnine.

¹²Syrupus Ferri Iodidi. Dose, 30-60 min.; 2-4 c.c.
Contains 1 gr. of ferrous iodide in 11 min.

¹³Vinum Ferri. Dose, 1-4 fl. dr.; 4-16 c.c.
Iron Wire digested in Sherry for 30 days.

Vinum Ferri Citratis (see Ferri et Ammonii Citratis.).

Ficus. Figs. The dried fleshy receptacles of *Ficus Carica*.

Filix Mas. Male Fern. The dried rhizome of *Aspidium Filix-mas*. 3-6 inches long, 3/4-1 inch in diameter, entirely covered with the hard,

persistent, curved, angular, dark-brown bases of the petioles; brown externally, green internally; odour feeble but disagreeable; taste at first sweetish and astringent, but later bitter and nauseous.

Extractum Filicis Liquidum. Dose, 45-90 min.; 3-6 c.c.

An ethereal extract containing much oil from which the ether has been evaporated.

Foeniculi Fructus. Fennel Fruit. The dried, ripe fruit of *Foeniculum capillaceum*. Oblong, more or less curved, 1/5-2/5 inch long and 1/10 inch in diameter; odour aromatic; taste aromatic, agreeable, and sweet. Contains an oil.

Agua Foeniculi.—10; Water 100; by distillation.

Galbanum. Galbanum. Dose, 5-15 gr.; 3-10 dgms.

A gum resin obtained from *Ferula galbaniflua*. In tears or masses of tears, which are rounded or irregular in form, larger or smaller in size than a pea, yellowish-brown in colour and often dirty, internally opaque and yellowish-white; hard and brittle if cold, becoming sticky and ductile if held in the hand; taste bitter and unpleasant, odour characteristic.

Pilula Galbani Composita. Dose, 4-8 grs.; 2 1/2-5 dgms. (In 1 or 2 pills).

Asafetida, Galbanum and Myrrh, of each 28.5; Syrup of Glucose, q.s.

GALLA. GALLS. Excrescences on *Quercus infectoria* resulting from the puncture and deposit of eggs by *Cynips Galle tinctoria*.

Unguentum Galle.—20; Benzoated Lard, 80.

Unguentum Galle cum Opio.—92.5; Opium, 7.5.

Gelatinum. Gelatine. The air-dried product of the action of boiling water on such animal products as skin, tendons, ligaments, and bones. Insoluble in alcohol and ether, soluble in acetic acid. A 2% solution in water should gelatinise on cooling.

GELSEMI RADIX. GELSEMIUM ROOT. The dried rhizome and roots of *Gelsemium nitidum*. Nearly cylindrical pieces 6 inches or more in length, 1/4-3/4 inches in diameter, brown or dark violet-brown externally; taste bitter, odour slightly aromatic. Active principle gelseminine, an alkaloid.

Tinctura Gelsemii. Dose, 5-15 min.; 0.3-1 c.c.

—10; Alcohol 100; by percolation.

Gentianae Radix. Gentian Root. The dried rhizome and roots of *Gentiana lutea*. Cylindrical pieces, often longitudinally split, varying in length, but seldom more than an inch in thickness, yellowish-brown

externally, reddish-yellow internally; rough from longitudinal wrinkles, and closely approximated, encircling leaf-scars; odour characteristic, taste at first slightly sweet, but afterwards bitter.

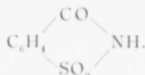
¹Extractum Gentiane. Dose, 2.8 grs.; 1.5 dgms.

An extract made with hot water and evaporated to the consistence of a soft extract.

²Infusum, Gentiane Compositum. Dose, $\frac{1}{2}$ -1 fl. oz.; 15-30 c.c. —1.25; Dried Bitter Orange Peel, 1.25; Fresh Lemon Peel, 2.5; boiling Water, 100.

³Tinctura Gentiane Composita. 30-60 min.; 2-4 c.c. —10; Dried Bitter Orange Peel, 3.75; Cardamom Seeds, 1.25; Alcohol 45%, 100; by maceration.

Glusidum, Gluside. (Saccharin.) Benzoyl sulphonimide,



a light, white, crystalline powder, with an intensely sweet taste in dilute solutions.

GLYCERINUM, GLYCERIN. Dose, 1-2 fl. dr.; 4-8 c.c.

$\text{C}_3\text{H}_5(\text{OH})_3$. Glycerol with a small percentage of water. A clear, colourless syrupy liquid, with a sweet taste; inodorous. Miscible with water and alcohol in all proportions, insoluble in ether, chloroform, and fixed oils.

¹Suppositoria Glycerini. —70; Gelatine, 14; Water, q.s.

Glycerina. (see Boron, Phenol, Tannic Acid, Alumen, Amylum, Pepsin, Plumbum, Tragacantha.)

GLYCYRRHIZÆ RADIX, LIQORICE ROOT. The peeled root and subterranean stem of *Glycyrrhiza glabra*. In long cylindrical pieces, when peeled, yellow, with a nearly smooth, fibrous surface; odour faint; taste sweet and characteristic. It contains a glucoside, glycyrrhizin, which is its chief sweet principle and is present as a calcium salt. The acid glucoside is insoluble in water and hence is precipitated by acids.

¹Extractum Glycyrrhizæ. A soft aqueous extract.

²Extractum Glycyrrhizæ Liquidum. Dose, 30-60 min.; 2-4 c.c. An aqueous extract to which alcohol is added.

³Pulvis Glycyrrhizæ Compositus. Dose, 60-120 grs.; 4-8 gms. —16; Senna, 16; Fennel, 8; Sublimed Sulphur, 8; Sugar, 48. 10 grs. Senna and 5 grs. Sulphur in 60 grs. powder.

Gossypium. *Cotton*. The hairs of the seeds of *Gossypium* Barbadianse.

GRANATI CORTEX. POMEGRANATE BARK. The dried bark of the stem and root of *Punica Granatum*. Usually in curved irregular or channeled pieces, 2-4 inches long, $\frac{1}{2}$ -1 inch wide; the outer surface of the root bark rough yellowish-grey, the stem bark smoother, the inner surface is yellow tinged with brown; odourless; taste astringent and bitter. The important active principle is the alkaloid, *pelletierine*.

Decoctum Granati Corticis. Dose, $\frac{1}{2}$ -2 fl. oz.; 15-30 c.c.
—20; boiled in 100 of Water.

GUAIACI LIGNUM. GUAIAECUM WOOD. The heart wood of *Guaiaecum officinale* or *sanctum*. Dark greenish-brown, dense, heavier than water; odour when heated aromatic; taste acid.

Guaiaci Resina. Guaiacum Resin. Dose, 5-15 grs.; 3-10 dgms. The resin obtained from the bark of *Guaiaecum officinale*. Usually in large masses but sometimes in tears; brittle, in thin splinters transparent, varying in colour from yellowish-green to reddish-brown; odour more apparent when warmed, balsamic; taste slightly acid.

Incompatibles, a change in colour to blue is induced in alcoholic solutions by nitric acid, potassium permanganate, ferric chloride, spirit of nitrous ether, and other oxidizing agents; sulphuric acid turns it reddish, and mucilage of acacia blue.

Mistura Guaiaci. Dose, $\frac{1}{2}$ -1 fl. oz.; 15-30 c.c.
—2.5; Sugar, 2.5; Tragacanth, 0.4; Cinnamon Water, 100.

Tinctura Guaiaci Ammoniata. Dose, 30-60 min.; 2-4 c.c.
—20; Oil of Nutmeg, 0.31; Oil of Lemon, 0.21; Strong Solution of Ammonia, 7.5; Alcohol to 100.

Trochiscus Guaiaci Resinae. 3 grs. with the Fruit Basis.

Haematoxyli Lignum. Logwood. The heart wood of *Haematoxylon campechianum*. Hard, heavy, dull orange to purplish-red externally, internally reddish-brown; odour slight and agreeable; taste sweetish and astringent. Contains tannic acid and a colouring matter, haematoxylin. Incompatibles, mineral acids, metallic salts, especially ferric, lead and antimony, lime-water.

Decoctum Haematoxyli. Dose, $\frac{1}{2}$ -1 fl. oz.; 15-30 c.c.
—5; Cinnamon Bark, 0.8; boiled with water, and made up to 100.

Hamamelidis Cortex. Hamamelis Bark. (Witch Hazel Bark.) The dried bark of *Hamamelis virginiana*. Usually in curved pieces 2-8 inches long, $\frac{1}{16}$ inch thick; outer surface silvery-grey if covered with the cork, but if freed from it nearly smooth and reddish-brown, the

X
inner surface pale pink, with fine longitudinal striae; no marked odour; astringent taste.

Tinctura Hamamelidis. Dose, 30-60 min.; 2-4 c.c.
—10; Alcohol 45%, 100; by percolation.

Hamamelidis Folia. The leaves fresh and dried of *Hamamelis virginiana*. Broadly oval in outline, 3-6 inches long; upper surface dark-green to brownish, the lower paler in colour; no marked odour; an astringent, slightly bitter taste.

Extractum Hamamelidis Liquidum. Dose, 5-15 min.; 0.3-1 c.c.
An alcoholic extract.

Unguentum Hamamelidis.—10; Hydrous Wool Fat, 90.

Liquor Hamamelidis. An alcoholic solution made from the fresh leaves by maceration in alcohol and distillation.

Hemidesmi Radix. *Hemidesmus Root*. The dried root of *Hemidesmus Indicus*. The root is long, nearly cylindrical, tortuous, and longitudinally furrowed; about 1/4 inch thick; brownish in colour; odour fragrant; taste sweet.

Syrupus Hemidesmi. Dose, 30-60 min.; 2-4 c.c.
—10; Sugar, 70; Water, 50.

HIRUDO, LEECHES, *Sanguisuga medicinalis* and *S. officinalis*.

Ψ Homotropinae Hydrobromidum. Homatropine Hydrobromide.

Dose, 1/80-1/20 gr.; 3/4% mgms.

A white crystalline powder or aggregation of crystals. Soluble 1 in 6 of water, 1 in 18 of alcohol. Incompatibles, as for alkaloids.

1Lamelle Homatropinae. Gelatine disks each containing 1/100 gr.

HYDRARGYRUM. MERCURY.

Incompatibility, most salts of mercury are insoluble and hence the range of incompatibility of the soluble salts is a wide one; amongst the substances producing precipitation in solution of mercuric salts are alkali hydrates or carbonates including ammonium, lime-water, borax, soluble iodides and bromides (precipitate soluble in excess), phosphates, hypophosphites, and sulphites, arsenites, ferrous salts, tartarated antimony, tannic acid, albumin, gelatine, some bitter principles, and glucosides. With mercurous salts the reactions are similar with the addition that iodides lead to the formation of metallic mercury and mercuric iodide, the same is true of chlorides; oxidising reagents lead to the formation of mercuric salts; cane-sugar, milk-sugar, acacia and tragacanth reduce mercurous salts.

1Hydrargyrum. A silvery white metal. Volatilises with heat.

Hydrargyrum cum Creta. (Grey Powder.) Dose, 1-5 grs.; $\frac{1}{2}$ -3 dgms.

—33; Prepared Chalk, 66.

Emplastrum Hydrargyri. Mercurial Plaster.—32.8; Olive Oil, 1.4; Sublimed Sulphur, 0.2; Lead Plaster, 65.6.

Pilula Hydrargyri. (Blue Pill.) Dose, 4-8 grs.; $2\frac{1}{2}$ -5 dgms. (in 1 or 2 pills).

—33; Confection of Roses, 49.5; Licorice Root, 16.5. 1 gr. mercury in 3 grs.

Emplastrum Ammoniaci cum Hydrargyri. (See Ammoniacum.)

Unguentum Hydrargyri.—48; Lard, 48; Prepared Suet, 3.

Linimentum Hydrargyri.—33; Strong Solution of Ammonia, 11; Liniment of Camphor q.s. (about 55).

Unguentum Hydrargyri Compositum. (Scott's Dressing.)—40; Yellow Beeswax, 24; Olive Oil (by weight), 24; Camphor, 12.

Hydrargyri Iodidum Rubrum. Dose, $\frac{1}{32}$ - $\frac{1}{16}$ gr.; 2-4 mgms. Mercuric iodide (bimiodide). A vermilion crystalline powder. Almost insoluble in water, sparingly in alcohol, freely in ether, and in solutions of potassium iodide.

Unguentum Hydrargyri Iodidi Rubri.—4; Benzoated Lard, 96.

Hydrargyri Oleas. Mercuric Oleate. An unctuous substance of a light greyish yellow colour, liable to darken on keeping.

Unguentum Hydrargyri Oleatis.—25; Benzoated Lard, 75.

Hydrargyri Oxidum Flavum. Yellow Mercuric Oxide. A yellow powder, insoluble in water.

Unguentum Hydrargyri Oxidi Flavi.—2; Soft Paraffin, yellow, 98.

Hydrargyri Oxidum Rubrum. Red Mercuric Oxide. Orange-red crystalline scales or powder.

Unguentum Hydrargyri Oxidi Rubri.—10; Paraffin Ointment, yellow, 90.

Hydrargyri Perchloridum. Mercuric Chloride. (Bichloride, Perchloride, Corrosive Sublimate.) Dose, $\frac{1}{32}$ - $\frac{1}{16}$ gr.; 2-4 mgms.

HgCl₂. Heavy, colourless crystalline masses, with a highly acrid metallic taste. Soluble 1 in 16 of cold, 1 in 2 of boiling water; 1 in 3 of alcohol; 1 in 4 of ether; 1 in 2 of glycerin with trituration.

Liquor Hydrargyri Perchloridi. Dose, 30-60 min.; 2-4 c.c. —0.114; Water, 100.

Hydrargyri Subchloridum. Mercurous Chloride. (Subchloride, Calomel.) Dose, $\frac{1}{2}$ -5 grs.; $\frac{1}{4}$ -3 dgms.

HgCl₂. A dull white, heavy, nearly tasteless powder. Insoluble in water, alcohol or ether.

\times ¹Pilula Hydrargyri Subchloridi Composita. (Compound Calomel Pill, Plummer's Pill.) Dose, 4-8 grs.; 2½-4 dgms. (In 1 or 2 pills). .7j

—22.5; Sulphurated Antimony, 22.5; Guaiacum Resin, 45. Castor Oil (by weight), 9.27; Alcohol, q.s. Almost 1 gr. calomel in 4 grs.

²Unguentum Hydrargyri Subchloridi.—10; Benzoated Lard, 90.

³Hydrargyrum Ammoniatum. Ammoniated Mercury. A white powder, but little acted upon by water.

⁴Unguentum Hydrargyri Ammoniatum.—10; White Paraffin Ointment, 90.

⁵Liquor Hydrargyri Nitratis Acidus. Mercuric nitrate in solution in nitric acid.

⁶Unguentum Hydrargyri Nitratis. (Citrine Ointment.) Mercury, 4 in Nitric Acid, 12. Cooled and added to a mixture of Lard, 16 in Olive Oil, 28.

⁷Unguentum Hydrargyri Nitratis Dilutum.—25; Soft Paraffin, 75.

\times ⁸Lotio Hydrargyri Nigra. Black Mercurial Solution. (Black Wash.) Mercurous Chloride, 0.685; Glycerine, 5; Mucilage of Tragacanth, 12.5; Solution of Lime, to 100. The Black oxide is formed. $Hg_2Cl_2 + Ca(OH)_2 = HgO + CaCl_2 + H_2O$.

\times ⁹Lotio Hydrargyri Flava. Yellow Mercurial Lotion. (Yellow Wash.) Mercuric Chloride, 0.46; Solution of Lime to 100. The yellow oxide is formed. $HgCl_2 + Ca(OH)_2 = HgO + CaCl_2 + H_2O$.

¹⁰Liquor Arsenii et Hydrargyri Iodidi. Dose, 5-20 min.; 0.3-1.2 c.c.

1 of Arsenious Iodide and 1 of Mercuric Iodide in 100 of Water.

HYDRASTIS RHIZOMA. HYDRASTIS RHIZOME. (Golden Seal.) The dried rhizome and roots of Hydrastis Canadensis. The rhizome is tortuous, often branched, ½-1½ inch long, 1/8-½ inch thick; yellowish-brown, on the upper surface ascending branches and on the lower numerous thin brittle roots; slight but characteristic odour; taste bitter. Active principles the alkaloids, hydrastine and berberine.

¹Extractum Hydrastis Liquidum. Dose, 5-15 min.; 0.3-1 c.c. An alcoholic extract.

²Tinctura Hydrastis. Dose, 30-60 min.; 2-4 c.c. —10; Alcohol 60%, 100; by percolation.

Hyoscyami Folia. *Hyoscyamus* (Henbane) **Leaves.** The fresh leaves, flowers, and branches of *Hyoscyamus niger*, also the same dried. The leaves vary in length but are seldom more than 10 inches long; oblong, with a conspicuous mid-rib, pale green, with hairs especially along the veins and on the under surface. The flower yellowish, with purplish veins. The herb has a strong characteristic odour, and a bitter slightly acrid taste. Active principles the alkaloids hyoscyne and hyoscyamine.

¹Extractum Hyoscyami Viride. Dose, 2-8 grs.; 1-5 dgms.

The juice expressed from the fresh herb evaporated to a soft extract.

²Pilula Colocynthis et Hyoscyami see Colocynthis.

³Succus Hyoscyami. Dose, 30-60 min.; 2-4 c.c.

Fresh expressed juice, 75; Alcohol, 25.

⁴Tinctura Hyoscyami. Dose, 30-60 min.; 2-4 c.c.

Dried leaves and tops, 10; Alcohol, 45%, 100; by percolation.

Hyoscinæ Hydrobromidum. (Scopolamine Hydrobromide.) Dose, 1/200-1/100 gr.; 1/3-2/3 mgms.

This alkaloid is also obtained from *Datura alba* and *Scopola*. Colourless, transparent crystals, odourless; taste acrid and slightly bitter. Soluble 1 in 1 of water, 1 in 1 of alcohol. Incompatibles, as for alkaloids but is not precipitated by bicarbonates or ammonium carbonate; decomposed by alkalies or water if warmed.

Hyoscyaminæ Sulphas. Dose, 1/200-1/100 gr.; 1/3-2/3 mgms.

A crystalline powder, odourless, deliquescent, with a bitter, acrid taste. Soluble 1 in 1/2 of water, 1 in 2.5 of alcohol, very slightly in ether or chloroform. Incompatibles as for hyoscyne.

Infusæ. (The following with a dose of 1/2-1 fl. oz. *Aurantii*, *Aurantii* Comp., *Calumbæ*, *Caryophylli*, *Cascarilla*, *Chirata*, *Cinchona Acidum*, *Gentiane* Comp., *Quassia*, *Rhei*, *Rosæ Acidum*, *Scoparii*, *Senegæ*, *Serpentaria*, *Uvæ Ursi*; with a dose of 1/2-2 fl. oz. *Senne*; with a dose of 1-2 fl. oz. *Buchu*, *Cuspariæ*, *Ergotæ*, *Krameria*, *Lupuli*; with a dose of 2-4 fl. dr. only, *Digitalis*.)

Injectiones Hypodermicæ. (The following with a dose of 2-5 min. *Cocainæ*, *Morphinæ*; with a dose of 3-10 min. *Ergotæ*; with a dose of 5-10 min. *Xpomorphinæ*.)

Iodoformum. Iodoform. Dose, 1/2-3 grs.; 1/4-2 dgms.

Tri-iodomethane, CHI_3 . Shining lemon-yellow crystals, somewhat unctuous to the touch, with a persistent characteristic and disagreeable odour and taste. Very sparingly soluble in water or benzol, more soluble in alcohol 1 in 120, ether 1 in 7, chloroform 1 in 14, glycerin 1 in 100, olive oil 1 in 30, and in other fixed oils and lanolin.

Suppositoria Iodoformi. Each suppository contains 3 gr.—20; Oil of Theobroma, to 100.

Unguentum Iodoformi.—10; Paraffin Ointment, to 100.

Iodum. Iodine. In crystals, of a dark colour and metallic lustre, yielding if heated, violet fumes. Soluble 1 in 5,000 of water, readily in ether, alcohol, chloroform, or a solution of potassium iodide.

Incompatibles, alkali hydrates or carbonates, ammonia, nitric acid, hypophosphites, sulphites, chlorates, mercurous salts; in the presence of alkalies, iron, ferrous and arsenous salts; lime-water, tannic acid, fixed oils, volatile oils especially turpentine, alkaloids.

Liquor Iodi Fortis. (Linimentum Iodi.)—12; Potassium Iodide, 7.2; Water, 12; Alcohol, 86.4. Approximately 1 in 10.

Tinctura Iodi. Dose, 2-5 min.; 0.1-0.3 c.c.
—2.5 Potassium Iodide, 2.5; Water, 2.5; Alcohol to 100.

Unguentum Iodi.—4; Potassium Iodide, 4; Glycerine, 12; Lard, 80.

Ipecacuanhæ Radix. Ipecacuanha Root. Dose, as an expectorant, 1/4-2 grs.; 15-120 mgms.; as an emetic, 15-30 grs.; 1-2 gms. The dried root of *Psychotria Ipecacuanha*. Somewhat tortuous pieces, rarely longer than 6 inches, or thinner than 1/4 inch, in colour varying from dark red to dark red-brown; odour slight, taste bitter. Active principle the alkaloid, emetine.

Extractum Ipecacuanhæ Liquidum. Dose, as an expectorant, 1/2-1 min.; 0.03-0.12 c.c.; as an emetic, 15-20 min.; 1-1.2 c.c. An alcoholic extract containing calcium hydroxide, and standardised to contain 2.25% of alkaloids.

Acetum Ipecacuanhæ. Dose, 10-30 min.; 0.6-2 c.c.
—5; Diluted Acetic Acid, 85; Alcohol, 10. Contains 1/10% of alkaloids.

Vinum Ipecacuanhæ. Dose, as an expectorant, 10-30 min.; 0.6-2 c.c.; as an emetic, 4-6 fl. dr.; 16-24 c.c.

Pulvis Ipecacuanhæ Compositus. (Dover's Powder.) Dose, 5-15 grs.; 3-10 dgms.
—10; Opium, 10; Potassium Sulphate, 80. 1 gr. of Opium and 1 of Ipecacuanha in 10 grs.

Pilula Ipecacuanhæ cum Scilla. Dose, 4-8 grs.; 2 1/2-5 dgms. (in 1 or 2 pills).
—60; Squill, 20; Ammoniacum, 20; Syrup of Glucose, q.s. In each pill about 1/4 gr. of opium.

Trochiscus Ipecacuanhæ. 1/4 gr. with the Fruit Basis.

Trochiscus Morphine et Ipecacuanhæ.—1/12 gr.; Morphine Hydrochloride, 1/30 gr., with the Tolu Basis.

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¹Pulvis Kino Compositus. Dose, 5-20 grs.; 3-12 dgms.
—75; Opium, 5; Cinnamon Bark, 20, 1 gr. Opium in 20 grs.

²Tinctura Kino. Dose, 30-60 min.; 2-4 c.c.
—10; Glycerin, 15; Water, 25; Alcohol, to 100; by maceration.

KRAMERIA RADIX, KRAMERIA ROOT. (Rhatany.) The dried root of *Krameria triandra* and *K. argentea*. Both kinds of root have an astringent taste and tinge the saliva red if chewed.

²Extractum Krameriae. Dose, 5-15 grs.; 3-10 dgms.
A dried aqueous extract.

²Trochiscus Krameriae. 1 gr. in each with the Fruit Basis.

²Trochiscus Krameriae et Cocaina. 1 gr.; Cocaine Hydrochloride, 1/20 gr. with the Fruit Basis.

²Infusum Krameriae. Dose, ½-1 fl. oz.; 15-30 c.c.
—5; boiling Water, 100.

²Liquor Krameriae Concentratus. Dose, 30-60 min.; 2-4 c.c.
—50; Alcohol 20% to 100; by percolation.

²Tinctura Krameriae. Dose, 30-60 min.; 2-4 c.c.
—20; Alcohol 60%, 100; by percolation.

Lamelle (see Atropina, Cocaina, Homatropina, Physostigmina).

LAUROCERASI FOLIA, CHERRY-LAUREL LEAVES. The fresh leaves of *Prunus Laurocerasus*. Thick, somewhat oblong, leaves 5-7 inches long, dark green, smooth and shining above, much paler beneath; inodorous, but emitting when bruised an odour like bitter almonds. Contain a small amount of hydrocyanic acid.

¹Aqua Laurocerasi. Dose, ½-2 fl. dr.; 2-8 c.c.
Standardised to contain 0.1% of hydrocyanic acid.

LIMONIS CORTEX, LEMON PEEL. The fresh outer part of the pericarp of the fruit of *Citrus Medica*, var. *Limonum*.

²Syrupus Limonis. Dose, 30-60 min.; 2-4 c.c.
—2; Alcohol, q.s.; Lemon Juice, 50; Sugar, 76.

²Tinctura Limonis. Dose, 30-60 min.; 2-4 c.c.
—25; Alcohol, 100; by maceration.

²Oleum Limonis. Dose, ½-3 min.; 0.05-0.2 c.c.
A pale yellow, fragrant oil; taste warm, bitter and aromatic.

Succus Limonis, *Lemon Juice*. The freshly expressed juice of the ripe fruit of *Citrus Medica*.

LINIMENTI. (Aconiti, Ammoniae, Belladonnae, Calcis, Camphorae, Ammoniatum, Chloroformi, Crotonis, Hydrargyri, Opii, Potassii Iodidum Saponum, Saponis, Sinapis, Terebinthinae, Terebinthinae Aceticum.)

LINUM. LINSEED. The dried ripe seeds of *Linum usitatissimum*. Small brown glassy, nearly flat seeds, about 1/6-1/4 inch long; odourless; taste oily and mucilaginous.

¹Linum Contusum. Crushed Linseed. The above powdered. It should not be rancid.

²Oleum Lini. Made by expressing the seeds. Viscid, yellow, with a faint odour and a bland taste. Soluble 1 in 10 of alcohol, and in oil of turpentine.

Liquores. (With a dose of 1/2-1 min. Atropina Sulphatis; 1/2-2 min. Trinitrini; 2-8 min. Arsenicalis, Arsenici Hydrochlorici, Sodii Arsenatis, Strychnina Hydrochloridi; 5-15 min. Ferri Arsenatis, Ferri Perchloridi, Ferri Persulphatis, Thyroidei; 5-20 min. Arsenii et Hydrargyri Iodidi; 10-20 min. Soda Chlorinate; 10-30 min. Potassae; 10-60 min. Morphinae Acetatis, Morphinae Hydrochloridi, Morphinae Tartaratis; 20-60 min. Calcis Saccharatus, Ethyl Nitritus; 30-60 min. Bismuthi et Ammonii Citratis, Hydrargyri Perchloridi; 1/2-2 fl. dr. Hydrogeni Peroxidi; 2-4 fl. dr. Potassii Permanganatis; 2-6 fl. dr. Ammonii Acetatis, Ammonii Citratis; 1-2 fl. oz. Magnesii Carbonatis 1-4 fl. oz. Liquor Calcis; without stated dose, either stock solutions or for external use, Acidi Chromici, Ammoniae, Ammoniae Fortis, Calcis Chlorinate, Caoutchouc, Epispasticus, Ferri Perchloridi Fortis, Ferri Persulphatis, Hamamelidis, Iodi Fortis, Plumbi Carbonis, Plumbi Subacetatis Dilutus, Plumbi Subacetatis Fortis, Sodii Ethylatis, Zinci Chloridi.)

Liquores Concentrati. (With dose of 30-60 min. Calumbae, Chiratae, Cuspariae, Krameriae, Quassiae, Rhei, Senegae, Sennae; with dose, 1/2-2 fl. dr. Serpentariae; dose, 2-8 fl. dr. Sarsae Comp.)

Liquor Ethyl Nitris. Solution of Ethyl Nitrite. Dose, 20-60 min.; 1.2-4 c.c.

A mixture of 95 parts by weight of absolute alcohol and 5 parts of glycerin, containing between 2 1/2 and 3 % of ethyl nitrite. A highly inflammable, limpid, colourless liquid with a characteristic apple-like odour.

Liquor Hydrogenii Peroxidi. SOLUTION OF HYDROGEN PEROXIDE. Dose, 1/2-2 fl. dr. 2-8 c.c.

An aqueous solution of hydrogen peroxide. A colourless, odourless liquid, with a slightly acid taste; renders saliva frothy.

AMERICAN DISPENSARY
NEW YORK

LIQUOR PANCREATIS. PANCREATIC SOLUTION. An alcoholic preparation containing the digestive principles of the pig's pancreas.

Liquor Sodii Ethylatis. Solution of Sodium Ethylate. A colourless liquid of syrupy consistence, becoming brown on keeping. Made by dissolving sodium in absolute alcohol.

Liquor Trinitrini. Solution of Trinitrin. (Nitroglycerine Glonoin.) Dose, $\frac{1}{2}$ -2 min.; 0.03-0.12 c.c.
Trinitroglycerine of commerce, 1; Alcohol, 100. A clear and colourless liquid.

LITHIUM. LITHIUM.

Incompatible with lithium salts in solution are carbonates and phosphates.

¹Lithii Carbonas. Dose, 2.5 grs.; $\frac{1}{2}$ -3 dgms.

A white powder or minute crystalline grains; in solution has an alkaline reaction. Soluble 1 in 70 of water, insoluble in alcohol.

²Lithii Citras. Dose, 5-10 grs.; 3-6 dgms.

A white crystalline deliquescent salt. Soluble 1 in 2 of water.

³Lithii Citras Effervescens. Dose, 60-120 grs.; 4-8 gms.

—5; Sodium Bicarbonate, 58; Tartaric Acid, 31; Citric Acid, 21. A granular powder.

Lobelia. Lobelia. The dried flowering herb of *Lobelia inflata*. Stems are angular, channelled, and furnished with narrow wings, purplish in colour, hairy. The leaves are irregularly toothed and hairy. Odour somewhat irritant. Taste at first not marked but subsequently burning and acid.

Tinctura Lobelia Ethera. Dose, 5-15 min.; 0.3-1 c.c.

—20; Spirit of Ether, 100; by percolation.

Lotiones (see Hydrargyrum).

LAPULUS. Hops. (Humulus.) The dried fruits (strobiles) of *Humulus Lupulus*. The fruits are about $1\frac{1}{4}$ inches long, and consist of a number of imbricated bracts and stipules. The odour is aromatic and characteristic; taste bitter, aromatic, and somewhat astringent.

¹Tinctura Lupuli. Dose, 30-60 min.; 2-4 c.c.

—20; Alcohol 60% 100; by maceration.

²Infusum Lupuli. Dose, 1-2 fl. oz.; 15-30 c.c.

—5; boiling Water, 100.

³Lupulinum. Lupulin. Dose, 2-5 gr.; 1-3 dgms.

Glands obtained from the fruits of *Humulus Lupulus*. A granular yellow-brown powder, consisting of the minute glands, odour strong and hop-like,* taste bitter and aromatic.

4 Magnesium. Magnesium.

Incompatibility, soluble salts of magnesium in strong solutions are precipitated by the hydrates of the alkalis and the alkaline earths; alkali carbonates, phosphates, arsenates; sulphites, oxalates, tartrates.

²Magnesia Levis. Light Magnesia. (Light Calcined Magnesia, Light Magnesium Oxide.) Dose, if repeated, 5-30 grs.; 3-20 dgms.; for a single administration, 30-60 grs.; 2-4 gms.

A bulky white powder. Insoluble in water.

²Magnesia Ponderosa. Heavy Magnesia. (Heavy Calcined Magnesia, Heavy Magnesium Oxide.) Dose, as above for the Light Magnesia.

A white powder insoluble in water. Differs in weight only from the Light Magnesia, the same weight having only 2/7 of the volume of that of the Light.

²Magnesi Carbonas Levis. Light Magnesium Carbonate. Dose, as for Light Magnesia.

A very light powder. Insoluble in water.

²Magnesium Carbonas Ponderosus. Dose, as for Light Magnesia.

A heavy white powder. Insoluble in water.

²Magnesi Sulphas (Epsom Salt). Dose, if repeated, 30-120 grs.; 2-8 gms.; for a single administration 1/4-1/2 oz.; 8-15 gms.

Small, colourless crystals, with a bitter taste. Soluble, 1 in 1 of water, insoluble in alcohol.

²Magnesi Sulphas Effervescens. Dose, if repeated, 60-240 grs.; 4-16 gms.; for a single administration, 1/2-1 oz.; 15-30 gms.

—50; Sodium Bicarbonate, 36; Tartaric Acid, 19; Citric Acid, 12.5; Sugar, 19.5.

Liquor Magnesi Carbonatis. Dose, 1-2 fl. oz.; 30-60 c.c. Magnesium Sulphate, 10; Sodium Carbonate, 12.5; Water to 100.

MELLITA (see Boron).

MEL. DEPURATUM. CLARIFIED HONEY. The honey of commerce melted and strained through flannel.

²Oxymel. Oxymel. Dose, 1-2 fl. dr.; 4-8 c.c. —80; Acetic Acid, 10; Water to 100.

Menthol. Menthol. Dose, 1/2-2 grs.; 3-12 egms. $C_{10}H_{17}OH$. A saturated secondary alcohol obtained from various species of *Mentha*. Colourless, brittle crystals, with a strong odour of peppermint, and a warm aromatic taste followed by a sensation of cold on drawing air into the mouth. Almost insoluble in water and

glycerin, soluble 5 in 1 of alcohol, 8 in 3 of ether, 4 in 1 of chloroform, 1 in 4 of olive oil, and in other oils.

Incompatibility, when triturated gives a liquid or soft mass with butylchloral, camphor, chloral, resin, resorcin, thymol.

Emplastrum Menthol.—15; Yellow Wax, 10; Resin, 75.

Mezeri Cortex. Mezereon Bark. The dried bark of *Daphne Mezereum*, *D. Laureola*, or *D. Genkium*. In long, thin, more or less flattened strips, or quills of various lengths, flexible, very tough and fibrous; outer surface brown, inner white and silky; no marked odour but an acrid burning taste.

MISTURE (see Ammoniacum, Amygdala, Creosotum, Creta, Ferrum, Gualacum, Oleum Ricini, Senna, Vinum Gallicum). Dose, ½-1 fl. oz.; save that the last three have a dose of 1-2 fl. oz.

Morphina (see Opium).

Moschus. Musk. Dose, 5-10 gr.; 3-6 dgms.

The dried secretions from the preputial follicles of *Moschus moschiferus*.

MUCILAGINES (see Acacia, Tragacanth).

Myristica. Nutmeg. The dried seeds of *Myristica fragrans*. Oval or rounded seeds rarely exceeding an inch in length; odour strong and agreeably aromatic; taste aromatic, warm and slightly bitter.

Oleum Myristicæ. Dose, ½-3 min.; 0.03-0.2 c.c.

A colourless or pale yellow oil having the taste of nutmeg. Soluble 1 in 4½ of alcohol, in all proportions in absolute alcohol.

Spiritus Myristicæ. Dose, 5-20 min.; 0.3-1.2 c.c.
—10; Alcohol, to 100.

MYRRHA. MYRRH. A gum resin obtained from the stem of *Balsamodendron Myrrha*. Rounded or irregular tears or masses of tears, reddish externally, dry and brittle and more or less covered with a fine powder; odour aromatic, taste aromatic, acrid and bitter.

Pilula Aloes et Myrrhæ (see Aloe).

Tinctura Myrrhæ. Dose, 30-60 min.; 2-4 c.c.
—20; Alcohol, 100; by maceration.

NAPHTHOL. BETA-NAPHTHOL. Dose, 3-10 grs.; 2-6 dgms.
Betamono-hydroxynaphthalene, $C_{10}H_7OH$. White or nearly white crystalline laminae or in powder; taste sharp and pungent; odour resembling phenol. Soluble 1 in 1,000 of water, 1 in less than 2 of alcohol.



NUX VOMICA. NUX VOMICA. Dose, in powder, 1-4 grs.; 6-25 cgms.

The dried ripe seeds of *Strychnos Nux-vomica*. Nearly disc-shaped, greyish in colour, $\frac{3}{4}$ -1 inch in diameter, and $\frac{1}{4}$ inch thick: concavo-convex nearly flat, but sometimes irregularly bent: taste bitter.

¹Extractum Nucis Vomicae Liquidum. Dose, 1-3 min.; 0.06-0.2 c.c.

An alcoholic extract standardised to contain 1.5 gr. of strychnine in 110 min.

²Extractum Nucis Vomicae. Dose, $\frac{1}{4}$ -1 gr.; 15-60 mgms. The liquid extract evaporated and Milk-sugar added, and standardised to contain 5% of strychnine.

³Tinctura Nucis Vomicae. Dose, 5-15 min.; 0.3-1 c.c. —16.6; Water, 25; Alcohol to 100. Contains $\frac{1}{4}$ gr. strychnine in 110 min.

STRYCHNINA. STRYCHNINE. Dose, 1/60-1/15 gr.; 1-4 mgms. Colourless, inodorous crystals. Soluble 1 in 7,000 of cold, 1 in 2,500 of hot water, 1 in 170 of alcohol, 1 in 6 of chloroform.

Incompatibles as for alkaloids.

STRYCHNINAE HYDROCHLORIDUM. Dose, 1/60-1/15 gr.; 1-4 mgms. Small colourless crystals, which readily effloresce in the air. Soluble, 1 in 35 of water, 1 in 60 of alcohol.

¹Liquor Strychninae Hydrochloridi. Dose, 2-8 min.; 0.1-0.5 c.c.

—1; Alcohol, 25; Water to 100. 1 gr. strychnine in 110 min.

Olea (see Amygdala, Anethum, Anisum, Anthemis, Caruam, Caryophyllum, Cinnamomum, Copaiba, Coriandrum, Cubeba, Limon, Linum, Myristica, Phosphorus, Pimenta, Rosa, Sinapis, and the following).

Oleum Cedinum. Oil of Cade. (Juniper Tar Oil) An empyreumatic oily liquid obtained by the destructive distillation of the woody portions of *Juniperus Oxycedrus*. A dark reddish-brown, almost black, more or less viscid oily liquid, with a not unpleasant empyreumatic odour and an aromatic, bitter and acrid taste. Slightly soluble in water, partially soluble in alcohol.

Oleum Cajuputi. Oil of Cajuput. Dose, $\frac{1}{2}$ -3 min.; 0.03-0.2 c.c. The oil distilled from the leaves of *Melaleuca Leucadendron*. Blueish-green, with a penetrating camphoraceous odour, and an aromatic, bitterish taste.

Spiritus Cajuputi. Dose, 5-20 min.; 0.3-1.2 c.c. —10; Alcohol to 100.

rod

1-21

1-3

1-1

6-15

16/90

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN

X

Oleum Crotonis. Croton Oil. Dose, $\frac{1}{2}$ -1 min.; 0.03-0.06 c.c.

The oil expressed from the seeds of *Croton Tiglium*. Brownish-yellow to dark reddish-brown, viscid, with a disagreeable odour, and an acrid, burning taste. Entirely soluble in absolute alcohol, freely soluble in ether and chloroform.

Linimentum Crotonis.—12.5; Oil of Cajuput, 43.75; Alcohol, 43.75.

OLEUM EUCALYPTI. OIL OF EUCALYPTUS. Dose, $\frac{1}{2}$ -3 min.; 0.03-0.2 c.c.

The oil distilled from the fresh leaves of *Eucalyptus globulus* and other species. Colourless or pale yellow oil, with an aromatic, camphoraceous odour, and a pungent taste; leaves a sensation of coldness in the mouth.

Unguentum Eucalypti.—10 by weight; Hard Paraffin, 40; Soft Paraffin, 50.

Oleum Juniperi. Oil of Juniper. Dose, $\frac{1}{2}$ -3 min.; 0.03-0.2 c.c.

The oil distilled from the full-grown, unripe, green fruit of *Juniperus communis*. Colourless or pale green-yellow with the characteristic odour of the fruit and an aromatic, warm, bitterish taste.

Spiritus Juniperi. Dose, 20-60 min.; 1.2-4 c.c.
5; Alcohol, 90.

OLEUM LAVANDULÆ. OIL OF LAVENDER. Dose, $\frac{1}{2}$ -3 min.; 0.03-0.2 c.c.

The oil distilled from the flowers of *Lavandula vera*. Pale yellow or nearly colourless, with the fragrant odour of the flowers, and a pungent, bitter taste. Soluble 1 in 3 of alcohol 70°.

Spiritus Lavandulæ. Dose, 5-20 min.; 0.3-1.2 c.c.
10; Alcohol, 90.

Tinctura Lavandulæ Composita. Dose, 30-60 min.; 2-4 c.c.
0.47; Oil of Rosemary, 0.05; Cinnamon Bark, 0.85; Nutmeg, 0.85; Red Sanders Wood, 1.7; Alcohol, to 100; by maceration and solution.

Oleum Menthæ Piperitæ. Oil of Peppermint. Dose $\frac{1}{2}$ -3 min.; 0.03-0.2 c.c.

The oil distilled from fresh flowering peppermint, *Mentha piperita*. Colourless, or pale yellowish, when fresh but darkening with age; odour of peppermint and a strong, aromatic taste, followed by a sensation of coldness in the mouth.

Aqua Menthæ Piperitæ. 1 in about 1,000 by distillation.

Spiritus Menthæ Piperitæ. Dose, 5-20 min.; 0.3-1.2 c.c.
10; Alcohol, 90.

Oleum Menthæ Viridis. Oil of Spearmint. Dose, $\frac{1}{2}$ -3 min.; 0.03-0.2 c.c.

The oil distilled from the fresh flowering spearmint, *Mentha viridis*. Colourless, or pale yellowish, when fresh but darkening with age; odour and taste of the herb. Soluble about 1 in 1 of alcohol; soluble in alcohol absolute.

¹Aqua Menthæ Viridis. 1 in about 1,000, by distillation.

Oleum Morrhuæ. Cod-liver Oil. Dose, 1-4 fl. dr.; 4-16 c.c.

The oil extracted from the fresh liver of the cod, *Gadus Morrhuæ*. Pale yellow, with a slight fishy, but not rancid, odour. Readily soluble in ether or chloroform and slightly soluble in alcohol.

OLEUM OLIVÆ. Olive Oil. The oil expressed from the ripe fruit of *Olea Europæa*. A pale yellow oil with a faint odour and a bland taste.

OLEUM PINI. OIL OF PINE. The oil distilled from the fresh leaves of *Pinus Pumilio*. Colourless or nearly so with a pleasant aromatic odour and pungent taste.

Oleum Ricini. Castor Oil. Dose, 1-8 fl. dr.; 4-32 c.c.

The oil expressed from the seeds of *Ricinus communis*. Viscid, almost colourless, almost odourless and a bland taste at first, but afterwards acrid and unpleasant. Soluble 1 in 1 of absolute alcohol, 1 in 5 of alcohol.

²Mistura Olei Ricini. Dose, 1-2 fl. oz.; 30-60 c.c.
—37.5; Mucilage of Acacia, 18.75; Orange-flower Water, 12.5; Cinnamon Water, 31.25.

OLEUM ROSMARINI. OIL OF ROSEMARY. Dose, $\frac{1}{2}$ -3 min.; 0.03-0.2 c.c.

The oil distilled from the flowering tops of *Rosmarinus officinalis*. Colourless or pale yellow, with the odour of rosemary, and a warm, camphoraceous taste.

¹Spiritus Rosmarini.—10; Alcohol to 100.

Oleum Santali. Oil of Sandal Wood. Dose, 5-30 min.; 0.3-2 c.c.

The oil distilled from the wood of *Santalum album*. Somewhat viscid, pale yellow oil with a strongly aromatic odour and a pungent, spicy taste.

Oleum Terebinthinæ. Oil of Turpentine. Dose, 2-10 min.; 0.1-0.6 c.c.; as an anthelmintic, 3-4 fl. dr.; 12-16 c.c.

The oil distilled, usually with the aid of steam, from the oleo-resin

X
1/4 gr opium 1 - 2900

(turpentine) obtained from *Pinus sylvestris* and other species. Limpid, colourless, with a strong odour, and a pungent and somewhat bitter taste.

Linimentum Terebinthinae.—65; Soft Soap, 7.5; Camphor, 5.0; Water to 100.

Linimentum Terebinthinae Aeticum.—44; Glacial Acetic Acid, by weight, 11; Liniment of Camphor, 44.

OLEUM THEOBROMATIS. OIL OF THEOBROMA. (Cacao Butter.) A concrete oil obtained by pressing the warm, crushed seeds of *Theobroma Cacao*. A yellowish-white solid, with an odour resembling cacao, taste bland and agreeable, free from rancidity. It softens at 80° F. (26.6° C.) and melts between 88°-93° F. (31.1°-33.9° C.). Contained in all suppositories except that of Glycerin.

OPIUM. OPIUM. Dose, 1/2-2 grs., 3-12 cgms.

The juice obtained by incision from the unripe capsules of *Papaver somniferum*, inspissated by spontaneous evaporation. Usually in rounded or more or less irregular large masses, when dry, hard and a dark brown-black in colour; odour strong and characteristic, taste bitter. For the use in the preparation of standardised galenical preparations any suitable variety may be used, provided that it contain not less than 7.5% of anhydrous morphine when dry. For all other purposes opium must contain of its dry weight 9.5-10.5% of anhydrous morphine. The chief alkaloidal constituent is morphine, the alkaloids codeine, thebaine, narceine, are the chief of the other alkaloids that occur. Opium also contains meconic acid, free and in combination. Incompatibles, as for alkaloids and due to meconic acid, ferric salts (red colour), lead acetate, silver nitrate, barium chloride, calcium chloride, nitric acid.

Emplastrum Opii.—10; Resin Plaster, 90.

Extractum Opii. 1/4-1 gr.; 15-60 mgms.

A partially dried aqueous extract, standardised to contain 20% of morphine.

Extractum Opii Liquidum. Dose, 5-30 min.; 0.3-2 cc.

Of the Extract, 3.75; Alcohol, 20; Water, 80. Contains about 3/4 gr. morphine in 110 min.

Pilula Plumbi cum Opii. Dose, 2-4 grs.; 12-24 cgms. (In 1 or 2 pills).

—12.5; Lead Acetate, 75; Syrup of Glucose, q.s. Each pill contains 1/4 gr. of opium.

Pilula Saponis Composita. Dose, 2-4 grs.; 12-24 cgms. (In 1 or 2 pills.)

—20; Hard Soap, 60; Syrup of Glucose, 20. Each pill contains 2/5 gr. of opium.

²Pulvis Opii Compositus. Dose, 2-10 grs.; 1-6 dgms.
—10.5; Black Pepper, 14; Ginger, 35; Caraway Fruit, 42; Traga-
canth, 3.5. Contains roughly 1 gr. opium in 10 grs. of powder.

³Pulvis Ipecacuanhae Compositus. (Dover's Powder.) Dose,
5-15 grs.; 3-10 dgms.
—10; Ipecacuanha Root, 10; Potassium Sulphate, 80. 1 gr. opium in
10 grs.

⁴Pilula Ipecacuanhae cum Scilla. (See Ipecacuanha.)
Contains 1 gr. of opium in 20 grs.

⁵Pulvis Kino Compositus. Dose, 5-20 grs.; 3-12 dgms.
—5; Kino, 75; Cinnamon Bark, 20. Contains 1 gr. opium in 20 grs.

⁶Pulvis Cretae Aromaticus cum Opio. Dose, 10-40 grs.; 6-24
dgms.
—2.5; Aromatic Powder of Chalk, 97.5. Contains 1 gr. of opium in
40 grs.

⁷Suppositoria Plumbi Composita. (See Plumbum.) Contains
1 gr. in each.

⁸Tinctura Opii. (Laudanum.) Dose, if repeated, 5-15 min.;
0.3-1 c.c.; for a single administration, 20-30 min.; 1.2-2 c.c.
A tincture standardised to contain 1 gr. opium in 15 min., or 0.7-0.8%
of anhydrous morphine.

⁹Linimentum Opii. 50; Liniment of Soap, 50.

¹⁰Tinctura Opii Ammonjata. (Scotch Paregoric.) Dose,
30-60 min.; 2-4 c.c.

—15; Benzoic Acid, 2.06; Oil of Anise, 0.625; Solution of Ammonia,
20; Alcohol, to 100. Contains about 0.62 gr. of opium in 1 fl. dr.

¹¹Tinctura Camphorae Composita. (Paregoric, Paregoric
Elixir.) Dose, 30-60 min.; 2-4 c.c.

—6.09; Benzoic Acid, 0.46; Camphor, 0.34; Oil of Anise, 0.31; Alcohol
60 to 100. Contains 0.25 gr. opium, or 1/30 morphine hydrochloride,
in 1 fl. dr.

¹²Unguentum Galla cum Opio. Opium, 75; Gall Ointment,
92.5.

MORPHINAE HYDROCHLORIDUM. Dose, 1/8-1/2 gr.; 8-30
mgms.

White acicular, silky crystals or a white crystalline powder. Solu-
bility, 1 in 24 of cold, 1 in 1 of boiling water; 1 in 50 of alcohol.

¹Liquor Morphinae Hydrochloridi. Dose, 10-60 min.; 1/2-4
c.c.

—1; Diluted Hydrochloric Acid, 2; Alcohol, 25; Water, to 100. 1 gr.
in 110 min.

²Suppositoria Morphinae. 1/4 gr. in each; Oil of Theo-
broma, 14.75.

Handwritten notes:
1/4 gr opium + m.s. 8
30 30
2 1/2

Handwritten notes:
Dose 1/2 - 1 gr
Alcohol 100

AMERICAN DISPENSARY, 1110 BROADWAY, NEW YORK

Handwritten notes:
 Chloroformi et Morphinae Composita
 Trochiscus Morphinae
 Carduus

²Tinctura Chloroformi et Morphinae Composita. Dose, 5-15 min.; 0.3-1 c.c.
 0.9 gr. of morphine in 10 min. (see Chloroform).

³Trochiscus Morphinae. 1/36 gr. with the Tolu Basis.

²Trochiscus Morphinae et Ipecacuanhae. 1/36 gr. with 1/12 gr. of Ipecacuanha and the Tolu Basis.

∇ **MORPHINAE ACETAS.** Dose, 1/8-1/2 gr.; 8-30 mgms.

A white crystalline or amorphous powder. Soluble 1 in 2 1/2 of water, 1 in 100 of alcohol.

³Liquor Morphinae Acetatis. Dose, 10-60 min.; 1/2-4 c.c.
 -1; Diluted Acetic Acid, 2; Alcohol, 25; Water, to 100.

∇ **MORPHINAE TARTRAS.** Dose, 1/8-1/2 gr.; 8-30 mgms.

A white crystalline powder. Soluble, 1 in 11 of water, almost insoluble in alcohol.

³Injectio Morphinae Hypodermica. Dose, 2-5 min.; 0.1-0.3 c.c.
 -5; Water 100. 1 gr. of the tartrate in 22 min.

³Liquor Morphinae Tartratis. Dose, 10-60 min.; 1/2-4 c.c.
 -1; Alcohol, 25; Water, to 100.

Codeina. **Codeina.** Dose, 1/4-2 grs.; 15-120 mgms.

An alkaloid obtained from Opium or from morphine. Nearly colourless crystals. Soluble, 1 in 80 of water, 1 in 2 of alcohol.

Codeinae Phosphas. Dose, 1/4-2 grs.; 15-120 mgms.

White bitter crystals. Soluble 1 in 4 of water, 1 in 200 of alcohol.

³Syrupus Codeinae. Dose, 1/2-2 fl. dr.; 2-8 c.c.

-0.46; Water, 1.25; Syrup, 98.75. 1/4 gr. of codeine phosphate in 1 fl. dr.

Oxytel (see Mel and Scilla).

Papaveris Capsulae. *Poppy Capsules.* The nearly ripe dried fruits of *Papaver somniferum*.

PARAFFINUM DURUM. **HARD PARAFFIN.** A mixture of several of the harder paraffins. Colourless, semi-transparent, crystalline, inodorous and tasteless. Melting-point 130°-135° F. (54.4°-57.2° C.). Insoluble in water, slightly soluble in alcohol, readily soluble in ether.

³Unguentum Paraffini.—30; Soft Paraffin, 70.

PARAFFINUM LIQUIDUM. **LIQUID PARAFFIN.** A clear, colourless, odourless, tasteless liquid, obtained from petroleum.

PARAFFINUM MOLLE. SOFT PARAFFIN. A white or yellow, translucent, soft, unctuous, mixture of the softer members of the paraffin series. Melts at 96°-102° F. (35.5°-38.9° C.). Insoluble in water, slightly soluble in absolute alcohol, readily soluble in ether, chloroform and benzol.

* **PARALDEHYDUM.** PARALDEHYDE. Dose, $\frac{1}{2}$ -2 fl. dr.; 2-8 c.c.
A clear colourless liquid, with a characteristic odour and an ethereal, acid and afterwards cool, taste. Soluble 1 in 10 of water, miscible in alcohol and ether.

Pareira Radix. *Pareira Root.* The dried root of *Chondrodendron tomentosum*. In long nearly cylindrical and somewhat twisted pieces, from 3/4-2 inches or more in diameter; covered with a thin black bark with numerous furrows, ridges and fissures; internally greyish; no odour, taste bitter.

Extractum Pareiræ Liquidum. Dose, $\frac{1}{2}$ -2 fl. dr.; 2-8 c.c.
Aqueous and alcoholic.

Pepsinum. Pepsin. Dose, 5-10 gr.; 3-6 dgms.

The enzyme obtained from the stomach of the pig, sheep or calf. It should be capable of dissolving 2500 times its weight of hard-boiled white of egg.

¹Glycerini Pepsini. Dose, 1-2 fl. dr.; 4-8 c.c.
—9.15; Hydrochloric Acid, 1.15; Glycerine, 60; Water, to 100.

L **Phenacetinum.** **Phenacetip.** Dose, 5-10 grs. 3-6 dgms. *antipyretic*
Paraacet-phenetid. $C_9H_9O_2N$. $NHCOCH_3$. White tasteless, inodorous, crystals, neutral to litmus. Soluble, 1 in 1,700 of water, 1 in 21 of alcohol.

Phenazonum. **Phenazone.** (Antipyrene.) Dose, 5-20 grs.; 3-12 dgms.

Phenyldimethyl-iso-pyrazolone. Colourless, inodorous, scaly crystals, with a bitter taste. Soluble, 1 in 1 of water, 1 in a little more than 1 of alcohol. Incompatibles, ferric chloride (gives a red colour), syrup of ferrous iodide, calomel, mercuric chloride, solution of arsenic and mercuric iodides, iodine, potassium permanganate, tannic acid, spirits of nitrous ether and other solutions containing nitrites (a green colour being produced), chloral (in strong solutions); triturated with sodium salicylate a mass or liquid is formed; with thymol, acetanellid, and resorcin a liquid is formed.

Phosphorus. **Phosphorus.** Dose, in pill or solution, 1/100-1/20 gr.; $\frac{1}{2}$ -3 mgms.

Handwritten notes at the top of the page, including "E. coli..." and "1000..."

A semi-transparent, wax-like solid. Insoluble in water, but soluble 1 in 350 of alcohol absolute, 1 in 80 of ether, 1 in 25 of chloroform, 1 in 1/2 of carbon bisulphide, 1 in 80 of olive oil.

Incompatibles oxidising agents, explodes if triturated with them.

Oleum Phosphoratum. Dose, 15 min. 0.06-0.3 c.c.

—1; dissolved at 180° F. in 99 of Almond Oil.

Pilula Phosphori. Dose, 1-2 grs.; 6-12 egms.

—2; White Beeswax, 25; Lard, 25; Kaolin, 23; Carbon Bisulphide, q.s.; Gum Acacia, q.s. To this mass is to be added 1/3 of its weight of Gum Acacia before dispensing. The pills should be varnished.

Physostigmatis Semina, Calabar Bean. The ripe seeds of *Physostigma venenosum*. Large brownish reniform seeds, usually an inch long by 3/4 of an inch wide and 1/2 inch thick. The active principle is the alkaloid physostigmine.

Extractum Physostigmatis. Dose, 1/4-1 gr.; 15-60 mgms.

An evaporated alcoholic extract to which three times its weight of Milk-sugar has been added. *Handwritten note: Tinctura 5-1000*

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action
depression
A stimulant
in small doses
in large doses
in small doses
in large doses

PHYSOSTIGMINAE SULPHAS. (*Eserine Sulphate*.) Dose,

1/60-1/20 gr.; 1-3 mgms.

Yellowish white, minute crystals, which turn red on exposure to air and light. Soluble 1 in 4 of water, 2 1/2 in 1 of alcohol.

Lamellae Physostigmine. 1/1,000 in gelatine discs.

Picrotoxinum, Picrotoxia. Dose, 1/100-1/25 gr.; 1/2-2 1/2 mgms.

Colourless, inodorous, crystals, with a bitter taste. Soluble 1 in 330 of water, 1 in 13 of alcohol. *Handwritten note: Picrotoxinum 5-1000*

Pilocarpina (see *Jaborandi*).

PILULE. (The following with a dose of 1-2 grs. Phosphori; with a dose of 2-4 grs. Plumbi cum Opio, Saponis Comp.; with a dose of 2-8 grs. Quinine Sulphatis; with a dose of 4-8 grs. Aloes Barbardensis, Aloes et Asafetida, Aloes et Ferri, Aloes et Myrrhae, Aloes Socotrina, Cambogiæ Comp., Colocyntidis Comp., Colocyntidis et Hyoseyami, Galbani Comp., Hydrargyri, Hydrargyri Subchloridi Comp., Ipeacuanhæ cum Scilla, Rhei Comp., Scammonii Comp., Scilla Comp.; with a dose of 5-15 grs. Ferri.)

Pimenta, Pimenta. The dried full-grown fruit of *Pimenta officinalis*. Dark reddish-brown, nearly globular, two-celled, fruits, about 1/5-1/3 inches in diameter; odour and taste characteristic, somewhat like cloves.

Aqua Pimentæ.—5; Water 200; distill off 100.

Handwritten notes at the bottom of the page, including "action stimulant to..." and "82..."

grs. of lead acetate in each suppository with Oil of Theobroma.

Suppositoria Plumbi Composita. 1 gr. of opium and 3—75: Syrup of Glucose, q.s. 1 gr. of Opium in 8½ grs. (In 1 or 2 pills).

Piula Plumbi cum Opio. Dose, 2-4 grs.; 12-24 grains. with resin, and sodium salicylate a stiff mass.

Incompatibles, other than the above, with phenol, chloral, salicylic acid, sodium phosphate, gives when triturated a liquid or soft mass.

Pr(C₂H₃O₂)₂ 3H₂O. Small white crystals, slightly efflorescent, with an acous odour and a sweet astringent taste. Soluble 1 in less than 3 of water, 1 in 30 of alcohol.

Plumbi Acetas. Dose, 1-2 grs.; ½-3 grains.

Incompatibles of soluble lead salt, alkali hydrates, carbonates, borax matters, resins, gluco-sides, neutral principles, and alkaloids, in strong benzoates, citrates, tartrates, salicylates, meconates, many colouring sulphates, bromides, iodides, phosphates, cyanides, alkali sulphites.

Plumbum, Lead.

Tingentium Plumbi Liquidum.—71.5: Yellow beeswax, 28.5. aromatic odour. Soluble 1 in 10 of alcohol.

Pix Liquida. Tar. A bituminous liquid prepared from the wood of *Pinus sylvestris* and other species of *Pinus*, by destructive distillation; by percolation and digestion.

Liquor Plumbi Carbonatis.—20: Quillina Bark, 10: Alcohol to 100: by percolation and digestion.

Pix Carbonis Preparata. Prepared Coal Tar. Beeswax, 9: Olive Oil, 4: Water, 4.

Emplastrum Plumbi.—52: Frankincense, 20: Resin, 9: Yellow aromatic.

Pix Burgundica. Burgundy Pitch. The resinous exudation obtained from the stem of *Picea excelsa*. Hard and brittle yet slowly flowing; dull red or yellow-brown; odour aromatic, taste sweet and

—10: Caraway Fruit 15; Clarified Honey, 75. Confectio Piperis. Dose, 60-120 grs.; 4-8 grains.

Piper Nigrum. Almost globular, one-celled fruits, about 1/5 of an inch in diameter; odour aromatic and taste pungent.

Piper Nigrum, Black Pepper. The dried nuptie fruit of *Piper*

Yellowish or yellowish-red oil becoming darker on keeping; odour and taste of pimento.

Unguentum Pimentae. Dose, ½-2 min.; 0.00-0.02 cc.

X
¹Unguentum Plumbi Acetatis.—4; Paraffin Ointment, white, 96.

¹Liquor Plumbi Subacetatis Fortis. (Goulard's Extract.) A clear colourless liquid with a sweet astringent taste and an alkaline reaction.

¹Liquor Plumbi Subacetatis Dilutus. (Goulard's Lotion or Water.)
—1.25; Alcohol, 1.25; Water to 100.

²Glycerinum Plumbi Subacetatis.—15; Lead Oxide, 10.5; Glycerine, 50; Water, 36; boiled together and partly evaporated.

³Unguentum Glycerini Plumbi Subacetatis.—16.5; Paraffin Ointment, white, 82.5.

³Plumbi Carbonas. A hydroxycarbonate, $2(\text{PbCO}_3)$, $\text{Pb}(\text{OH})_2$. A soft heavy white powder, insoluble in water.

¹Unguentum Plumbi Carbonatis.—10; Paraffin Ointment, white, 90.

¹Plumbi Iodidum. Lead Iodide, PbI_2 . A heavy bright yellow, tasteless and odourless powder. Soluble 1 in 200 of boiling water.

¹Emplastrum Plumbi Iodidi.—10; Lead Plaster, 80; Resin, 2.

¹Unguentum Plumbi Iodidi.—10; Paraffin Ointment, yellow, 90.

¹Plumbi Oxidum. Lead Oxide (Litharge). Heavy pale yellowish red scales. Insoluble in water.

¹Emplastrum Plumbi. Lead Plaster.—25; Olive Oil, 50; Water, 25; boiled gently for several hours. An oleate of lead is formed.

Podophylli Rhizoma. Podophyllum Rhizome. The dried rhizome and roots of *Podophyllum peltatum*. Dark reddish-brown, smooth or slightly wrinkled, nearly cylindrical pieces, several inches in length and about 1/3 inch in diameter, with enlargements about 2 inches apart, which bear on their upper surface the scar of an ascending stem and on the lower surface numerous roots. Odour, characteristic, taste slightly acrid and bitter.

¹Podophylli Resina. Dose, $\frac{1}{4}$ -1 gr.; 15-60 mgms.

The resinous precipitate formed by pouring a partially evaporated alcoholic extract into acidified water. An amorphous powder, with a bitter taste. Insoluble in water, soluble in alcohol, and in ammonia solution.

¹Tinctura Podophylli. Dose, 5-15 min.; 0.3-1 c.c.
—3.65; Alcohol to 100; by maceration.

POTASSIUM. POTASSIUM.

The incompatibles of the salts of potassium do not depend upon the

potassium, but upon the other radicals present and may hence be best found by looking up the incompatibilities of those radicles.

¹Potassa Caustica. Potassium Hydroxide. (Hydrate, Caustic Potash.) Hard, white pencils or cakes, very deliquescent. Soluble, 2 in 1 of water, 1 in 2 of alcohol.

¹Liquor Potassæ. Dose, 10-30 min.; 0.6-2 c.c., freely diluted.

—6.19; Water, 100. A colourless odourless alkaline liquid.

¹Potassa Sulphurata. Sulphurated Potash. (Liver of Sulphur.) A mixture of the salts of sulphur but chiefly sulphides.

¹Potassii Acetas. Dose, 10-60 grs.; 6-40 dgms. Either in white foliaceous satiny masses or in granular particles, very deliquescent, alkaline in reaction. Soluble 1 in $\frac{1}{2}$ of water, 1 in 2 of alcohol.

¹Potassii Bicarbonas. Dose, 5-30 grs.; 3-20 dgms. KHCO_3 . Colourless crystals, with a feebly alkaline, saline taste. Soluble, 1 in 4 of water, insoluble in alcohol. 20 grs. neutralise 14 grs. of citric or 15 grs. of tartaric acid.

¹Potassii Bichromas. Dose, 1/10-1/5 gr.; 6-12 mgms. K_2CrO_4 . Large orange-red transparent crystals. Soluble 1 in 10 of water.

¹Potassii Bromidum. Dose, 5-30 grs.; 1/3-2 gms. KBr . Colourless, crystals, odourless, with a pungent saline taste. Soluble, 1 in 2 of water, 1 in 200 of alcohol.

¹Potassii Carbonas. Dose, 5-20 grs.; 3-12 dgms. K_2CO_3 . A white crystalline powder, alkaline and caustic to the taste, very deliquescent. Soluble, 1 in 1 of water, insoluble in alcohol.

¹Potassii Chloras. Dose, 5-15 grs.; 3-10 dgms. KClO_4 . Colourless crystals with a cool saline taste. Soluble 1 in 16 of cold, 1 in 3 of hot water, 1 in 1,700 of alcohol.

¹Trochiscus Potassii Chloratis.—3 grs. with the Rose Basis.

¹Potassii Citras. Dose, 10-40 grs.; $\frac{1}{2}$ -2 $\frac{1}{2}$ grs. $\text{C}_2\text{H}_3\text{O}_4(\text{COOK})_3$. A white powder of a feebly acid saline taste, deliquescent. Soluble 1 in 0.6 of water, 1 in 2 of glycerine, 1 in 9 of alcohol 60%.

¹Potassii Iodidum. Dose, 5-20 grs.; 3-12 dgms. KI . Colourless crystals with a pungent saline and subsequently bitter taste. Soluble, 1 in less than 1 of water, 1 in 10 of alcohol, 1 in 3 of glycerin.

¹Linimentum Potassii Iodidi cum Sapone.—10.125; Curd Soap, 13.5; Glycerin, 6.75; Oil of Lemon, 0.844; Water, 67.5.

¹Unguentum Potassii Iodidi.—10; Potassium Carbonate, 0.6; Water, 9.4; Benzoated Lard, 80.

¹Potassii Nitras. (Nitre, Saltpetre.) Dose, 5-20 grs.; 3-12 dgms.

KNO_3 . White crystalline masses, colourless with a cool, saline taste. Soluble 1 in 4 of cold, 1 in $\frac{1}{2}$ of hot water, sparingly soluble in alcohol.

¹Potassii Permanganas. Dose, 1-3 grs.; $\frac{1}{2}$ -2 dgms.

Dark purple slender iridescent crystals, with a sweet astringent taste. Soluble 1 in 20 of cold, 1 in 3 of hot water.

²Liquor Potassii Permanganatis. Dose, 2-4 fl. dr.; 8-16 c.c. —1; Water, 100.

¹Potassii Sulphas. Dose, 10-40 grs.; $\frac{1}{2}$ -2 $\frac{1}{2}$ gms.

Colourless, hard crystals. Soluble 1 in 10 of cold, 1 in 4 of hot water, insoluble in alcohol.

¹Potassii Tartras. Dose, 30-240 grs.; 2-16 gms.

Normal potassium tartrate, $(CHOH)_2(COOK)_2, H_2O$. Small, colourless crystals. Soluble 1 in 0.6 of water, insoluble in alcohol.

¹Potassii Tartras Acidus. (Bitartrate, Purified Cream of Tartar.) Dose, 20-60 grs.; 1 $\frac{1}{2}$ -4 gms.

A white gritty powder, or fragments of cakes crystallised on one surface, with an acid taste. Soluble 1 in 200 of water, insoluble in alcohol.

PRUNI VIRGINIANÆ CORTEX. The bark of *Prunus serotina*. In curved pieces or irregular fragments about $\frac{1}{12}$ inch thick. Taste astringent aromatic, and bitter; when macerated an odour of bitter almonds, due to the formation of hydrocyanic acid from the amygdalin under the action of the ferment, emulsin.

¹Syrupus Pruni Virginiana. Dose, 30-60 min.; 2-4 c.c.

A macerate and percolate of the bark in water to which sugar and glycerin are added.

¹Tinctura Pruni Virginiana. Dose, 30-60 min.; 2-4 c.c.

—20; Alcohol, 62.5; Water, 37.5; by maceration.

Prunum. Prunes. The dried ripe fruit of *Prunus domestica*. Contained in Confectio Senna.

Pterocarpi Lignum. *Red Sanders Wood.* (Red Sandal Wood.)

The heart wood of *Pterocarpus santalinus*. Usually imported in logs. In chips it varies in colour from blood-red with lighter zones to a very dark brown; a slight astringent taste and a faint odour when warmed. The colouring matter is soluble in alcohol, and to a very slight extent in water. Used in the Compound Tincture of Lavender.

PULVERES. (The following, with a dose of 1-4 grs. Elaterini Comp.; dose 1-5 grs. Hydrargyrum cum Creta; with dose, 3-6 grs. Antimonialis; dose, 2-10 grs. Opii Comp.; dose 5-15 grs. Ipecacuanhae

Comp.; dose, 5-20 grs. Kino Comp.; dose, 10-20 grs. Scammonii Comp.; dose, 10-40 grs. Cretæ Aromaticus cum Opio, Cinnamomi Comp.; dose, 10-60 grs. Cretæ Aromaticus; dose, 20-40 grs. Catechu Comp.; dose, 20-60 grs. Jalapæ Comp., Rhei Comp., Tragacanthæ Comp.; dose, 60-120 grs. Glycyrrhizæ Comp.; dose, (60-120 grs.). Amygdalæ Comp.; Soda Tartarata Effervesceus, q.v.)

Pyrethri Radix. The dried root of *Anacyclus Pyrethrum*. Pieces 2-4 inches in length, $\frac{1}{2}$ inch or more in diameter, nearly cylindrical or tapering towards each end; outer surface brown and wrinkled; odour characteristic, taste pungent and exciting a copious flow of saliva.

Tinctura Pyrethri.—20; Alcohol 70% 100; by percolation.

Pyroxylum. *Pyroxylum.* (Gum-cotton.) Soluble readily in equal parts of ether and alcohol.

Collodium, Collodium.—2; Ether, 72; Alcohol, 24.

Collodium Flexile.—96; Canada Turpentine, 4; Castor Oil, 2.

Collodium Vesicans, Blistering Collodium.—2.5; Blistering Liquid, 100.

Quassia Lignum. The wood of the trunk and branches of *Picramnia excelsa*. Imported in logs. Retailled in chips of a yellowish-white colour, very light and with a persistently bitter taste.

Infusum Quassia. Dose, $\frac{1}{2}$ -1 fl. oz.; 15-30 c.c.

—1; Water, 100.

Liquor Quassia Concentratus. Dose, $\frac{1}{2}$ -1 fl. dr.; 2-4 c.c.

10; Alcohol, 100; an alcoholic extract.

Tinctura Quassia. Dose, 30-60 min.; 2-4 c.c.

—10; Alcohol 45% 100; by maceration.

Quillaia Cortex. *Quillaia Bark.* (Panama Bark.) The inner bark of *Quillaja Saponaria*. In large flat pieces, $\frac{1}{6}$ inch thick and 2 feet or more long, the outer surface is brownish; the inner, smooth and white or yellowish-white; the taste is astringent and acrid, the powder irritating to the nostrils.

Tinctura Quillaia. Dose, 30-60 min.; 2-4 c.c.

—5; alcohol, 100; by percolation.

Quinina (see Cinchona).

RESINA. RESIN. The residue left after the distillation of the oil of turpentine from the crude oleo-resin of various species of *Pinus*. Translucent, of a light amber colour, compact, brittle, pulverisable. Soluble in alcohol, ether, benzol, and carbon disulphide.

1Emplastrum Resinae.—10 Lead Plaster, 80; Hard Soap, 5.

2Unguentum Resinae.—28; Yellow Beeswax, 28; Olive Oil by weight, 28; Lard, 21.

Rhei Radix. Rhubarb Root. Dose, if repeated 3-10 grs.; 2-6 dgms.; for a single administration 15-30 grs.; 1-2 gms.

The erect rhizome or so-called root of *Rheum palmatum*, *R. officinale* and probably other species, deprived of more or less of their cortex and dried. In hard, compact, more or less irregular pieces, smooth, usually reddish-brown or greyish, marked with darker lines and with small scattered star-like marks; odour characteristic somewhat aromatic; taste bitter and feebly astringent. The important pharmacological constituents are the tannoid bodies, of which there are several and the purgative principle, rheopurgarin.

3Extractum Rhei. Dose, 2-8 grs.; 1-5 dgms.
An alcoholic percolate evaporated.

4Infusum Rhei. Dose, 1½-1 fl. oz.; 15-30 c.c.
—5; boiling Water, 100.

5Liquor Rhei Concentratus. Dose, 30-60 min.; 2-4 c.c.
—50; Alcohol, 20% to 100; by percolation.

6Pilula Rhei Composita. Dose, 4-8 grs.; 2½-5 dgms. (In 1 or 2 pills).

—27; Socotrine Aloes, 20.25; Myrrh, 13.5; Hard Soap, 13.5; Oil of Peppermint, 1.69; Syrup of Glucose, q.s.

7Pulvis Rhei Compositus. (Gregory's Powder.) Dose, 20-60 grs.; 1.2-4 gms.

—22; Light Magnesia, 66; Ginger, 11.

8Syrupus Rhei. Dose, ½-2 fl. dr.; 2-8 c.c.

—5; Coriander, Fruit, 5; Sugar, 60; Alcohol, 20; Water, 60.

9Tinctura Rhei Composita. Dose, if repeated, ½-1 fl. dr.; 2-4 c.c.; for a single administration, 2-4 fl. drs.; 8-15 c.c.

—10; Cardamon Seeds, 1.23; Coriander Fruit, 1.25; Glycerin, 10; Alcohol, to 100.

Rhocados Petala. Red-poppay Petals. The fresh petals of *Papaver Rhoeas*. The fresh petals are bright scarlet, with a characteristic somewhat unpleasant odour, and a slightly bitter taste.

Syrupus Rhocados. Dose, 30-60 min.; 2-4 c.c.

—22.75; Sugar, 63; Alcohol, 4.375; Water to 100.

Rosa Gallica Petala. The dried and fresh unexpanded petals of *Rosa gallica*. The fresh petals are purplish-red; occur in little cone-shaped masses; odour fragrant; taste somewhat bitter, feebly acid and astringent. Contains a small quantity of tannic acid.

Confectio Rose Gallica. Fresh Petals, 25; Sugar, 75.

Infusum Rosa Acidum. Dose, $\frac{1}{2}$ -1 fl. oz.; 15-30 c.c.

--2.5; Diluted Sulphuric Acid, 1.25; Water, boiling, 100.

Syrupus Rosa. Dose, 30-60 min.; 2-4 c.c.

--4; Sugar, 60; boiling Water, 40.

OLEUM ROSE. (Oil of Rose.) The oil distilled from the fresh flowers of *Rosa damascena*. A pale yellow crystalline semi-solid with the strong fragrant odour of rose and a sweet taste.

AQUA ROSE. Prepared by the distillation from the flowers of *Rosa damascena*.

²Unguentum Aqua Rose.—42; Beeswax, white, 9; Spermaceti, 9; Almond Oil by weight, 54; Oil of Rose, 0.1.

SACCHARUM LACTIS. MILK SUGAR. (Lactose.) In crystalline masses, with a sweet taste.

Saccharum Purificatum. Refined Sugar. (Sucrose.) Referred to through this book as sugar. Obtained from the Sugar-cane, sweet, crystals. Soluble 2 in 1 of water.

²Syrupus. Syrup.—66.6; boiling Water, to produce 100 by weight.

²Syrupus Aromaticus. Dose, 30-60 min.; 2-4 c.c.
--50; Cinnamon Water, 25; Tincture of Orange, 25.

²Syrupus Glucosi. Syrup of Glucose.—66.6; Liquid commercial glucose, 33.3.

Salicinum. Salicin. Dose, 5-20 grs.; 3-12 dgms.

A crystalline glucoside obtained from the bark of various species of *Salix* and *Populus*. Colourless, shining crystals with a bitter taste.

Salol. Salol. Dose, 5-15 grs.; 3-10 dgms.

Phenyl salicylate. Colourless crystals, with a faint aromatic odour and a slight taste. Almost quite insoluble in water, soluble 1 in 12 of alcohol, 1 in 10 of liquid paraffin, and in fixed and volatile oils, very slightly soluble in glycerin.

Acidum Salicylicum. Dose, 5-20 grs.; 3-12 dgms.

Oxybenzoic acid, $C_6H_4(OH)COOC_2H_5$. Colourless crystals, taste at first sweetish then acid and leaving a burning sensation in the mouth. Soluble, 1 in about 500 of cold, 1 in 15 of hot water, 1 in 3 of alcohol, 1 in 200 of glycerin. Incompatibles, carbonates (CO_2 freed), lead acetate, silver nitrate, ferric salts (violet colour produced), potassium iodide, and chlorate, spirits of nitrous ether, quinine sulphate; damp

powders or liquids are formed when triturated with lead acetate, sodium phosphate and antipyrine.

Unguentum Acidi Salicylici.—2; Paraffin Ointment, white, 98.

Sambuci Flores, Elder Flowers. The flowers of *Sambucus nigra*. Small, flowers, with a slightly bitter taste, and a sweet faint and not altogether agreeable odour.

Aqua Sambuci.—100; Water, 500; distil over 100.

Santoninum, Santonin. Dose, 2.5 grs.; 1.3 dgms.

A bitter principle prepared from the flowers of *Artemesia maritima*, var. *Stechmanniana*. Colourless, flat crystals. Scarcely soluble in cold water, sparingly in boiling, 1 in 40 of alcohol.

Trochiscus Santonini. 1 gr. with the Simple Basis.

SAPU ANIMALIS, CURD SOAP. A soap made with sodium hydroxide and a purified animal fat consisting principally of stearin; contains about 30% of water. White, or almost so, dry, nearly inodorous; becomes horny and pulverisable when dried.

SAPU DURUS, HARD SOAP. Soap made with sodium hydroxide and olive oil; contains about 30% of water. Sodium oleate, greyish-white, dry inodorous; becomes horny and pulverisable when dry.

Pilula Saponis Composita. Dose, 2.4 grs.; 12.25 dgms. (In 1 or 2 pills).
—60; Opium, 20; Syrup of Glucose, 20. About 2/5 gr. opium in each pill.

Emplastrum Saponis.—15; Lead Plaster, 90; Resin, 2.5.

SAPU MOLLIS, SOFT SOAP. Made with potassium hydrate and olive oil. Yellowish-white or green, almost inodorous, and of an unctuous consistence.

Linimentum Saponis.—9; Camphor, 4.5; Oil of Rosemary, 1.69; Alcohol, 72; Water, 18.

SARSÆ RADIX, SARSAPARILLA. The dried root of *Smilax ornata*. Very tough, long flexible roots, brownish in colour, odourless, taste slight and bitter.

Extractum Sarsæ Liquidum. Dose, 1.4 fl. dr.; 4.16 c.c.
—100; Glycerin, 10; Alcohol, 20 sufficient to produce 100; by repeated percolation.

Liquor Sarsæ Compositus Concentratus.—100; Sassafras Root, 10; Guaiacum Wood, 10; Dried Licorice Root, 10; Mezereon Bark, 5;

- Alcohol, 22.5; Water, 9.5; by repeated infusion, extraction and evaporation.
- Sassafras Radix*. The dried root of *Sassafras officinale*. In large branched pieces more or less covered with a rough brownish bark; odour agreeable, peculiar, aromatic, astringent taste.
- SCAMMOXYLE RADIX**. **SCAMMOXY ROOT**. The dried root of *Convolvulus Scammonia*. Greyish tapering or nearly cylindrical roots, often contorted and longitudinally furrowed; enlarged at the crown and bears the remains of slender aerial stems; odour characteristic, taste at first somewhat sweet, afterwards acid.
- SCAMMOXYLE RESINA**. **SCAMMOXY RESIN**. Dose, 5-8 grs.; 2-5 dgrms. Prepared by extracting the root with alcohol and precipitating the gum with water. Brownish translucent pieces, brittle, with a sweet odour. (In 1 or 2 pills.)
- 32; Jalap, Resin, 32; Tincture of Ginger, 90.
- Phyllis Scammonii Composita**. Dose, 4-8 grs.; 2½-5 dgrms. (In 1 or 2 pills.)
- 50; Jalap, 38.5; Ginger, 12.5.
- SCAMMOXYUM**. **SCAMMOXY**. Dose, 5-10 grs.; 5-6 dgrms.
- A gum resin obtained by the incision of the living root of *Convolvulus Scammonia*, often called Virgin scammony. In flattened cakes or irregular pieces, dark grey to black externally and covered with a greyish powder, very brittle and the resin within is more or less porous, glossy, and nearly black; odour characteristic; taste, acid.
- Scilla Squill**. Dose, 1-3 grs.; 6-18 grains.
- The bulb of *Scilla*, divested of its dry membranous outer scales and dried. The slices of the inner scales usually present the form of curved strips frequently tapering towards the ends, yellowish or pinkish, somewhat translucent; inodorous, disagreeably bitter.
- Aetium Scilla**. Dose, 10-30 min.; 0.2-2 cc.
- 12.5; Diluted Acetic Acid, 100; by maceration.
- Syrupus Scilla**. Dose, 30-60 min.; 2-4 cc.
- 34.5; Sugar, 65.5; product should weigh 100.
- Oxyneel Scilla**. Dose, 30-60 min.; 2-4 cc.
- 6.75; Acetic Acid, 6.75; Water, 21.6; Clarified Honey to 100.
- Phlida Scilla Composita**. Dose, 4-8 grs.; 2½-5 dgrms. (In 1 or 2 pills.)
- 25; Ginger, 20; Ammoniacum, 20; Hard Soap, 20; Syrup of Glucose, 9.5.

¹Pilula Ipecacuanha cum Scilla (see Ipecacuanha).

²Tinctura Scilla. Dose, 5-15 min.; 0.3-0.6 c.c.

—20; Alcohol, 60%, 100; by maceration.

SCOPARIUM CACUMINA. BROOM TOPS. The fresh and dried tops of *Cytisus scoparius*.

¹Infusum Scoparii. Dose, 1-2 fl. oz.; 30-60 c.c.

—10; boiling Water, 100.

²Succus Scoparii. Dose, 1-2 fl. dr.; 4-8 c.c.

75 of juice of fresh tops; Alcohol, 25.

SENEGAL RADIX. SENEGA ROOT. The dried root of *Polygala Senega*. Greyish or yellowish slender roots, 2-4 inches long, enlarged at the top into a crown bearing the basis of numerous slender aerial stems; odour distinctive; taste at first sweet, subsequently acid.

¹Infusum Senegae. Dose, $\frac{1}{2}$ -1 fl. oz.; 15-30 c.c.

—5; boiling Water, 100.

²Liquor Senegae Concentratus. Dose, 30-60 min.; 2-4 c.c.

The extract of 50 in 100 of diluted alcohol.

³Tinctura Senegae. Dose, 30-60 min.; 2-4 c.c.

—20; Alcohol 60%, 100; by percolation.

Senna Alexandrina. Alexandrine Senna. The dried leaflets of *Cassia acutifolia*. Pale, greyish-green, brittle leaflets, $\frac{3}{4}$ -1 $\frac{1}{4}$ inch in length, unequal at the base; odour, faint, peculiar; taste mucilaginous and unpleasant.

Senna Indica. East Indian Senna. (Tinnivelly Senna.) The dried leaflets of *Cassia angustifolia*. Pale yellowish-green leaflets unequal at the base; odour and taste similar to the above. The following preparations may be made from either of these two drugs.

¹Confectio Sennae. Dose, 60-120 grs.; 4-8 gms.

—9.33; Coriander Fruit, 4; Figs, 16; Tamarinds, 12; Cassia Pulp, 12; Prunes, 8; Extract of Liquorice, 1.33; Sugar, 40; Water sufficient to produce 100 by weight.

²Infusum Sennae. Dose, $\frac{1}{2}$ -1 fl. oz.; 15-30 c.c.; as a draught, 2 fl. oz.; 60 c.c.

—10; Ginger, 0.63; boiling Water, 100.

³Mistura Sennae Composita. (Black Draught.) Dose, 1-2 fl. oz.; 30-60 c.c.

Magnesium Sulphate, 25; Liquid Extract of Liquorice, 5; Compound Tincture of Cardamons, 10; Aromatic Spirit of Ammonia, 5; Infusum of Senna to 100.

Liquor Sennae Concentratus. Dose, 30-60 min.; 2-4 c.c.
Senna—100; Tincture of Ginger, 12.5; Alcohol, 10 Water, to 100; by repeated percolation.

Syrupus Sennae. Dose, $\frac{1}{2}$ -2 fl. dr.; 2-8 c.c.
—40; Oil of Coriander, 0.02; Alcohol, 0.08; Sugar, 50; Alcohol, 20%
70; Water, q.s.; by repeated maceration, evaporation, and solution.

Tinctura Sennae Composita. Dose, if repeated, 30-60 min.;
2-4 c.c.; for a single administration 2-4, fl. dr.; 8-16 c.c.
—20; Raisins, 10; Caraway Fruit, 2.5; Coriander Fruit, 2.5; Alcohol
45% , 100; by maceration.

Serpentaria Rhizoma, Serpentry Rhizome. The dried rhizome and roots of *Aristolochia Serpentina* or of *A. reticulata*. The rhizome of *A. Serpentina* is tortuous and slender about 1 inch long and 1/8 in diameter, bears on its upper surface remains of aerial stems and on the lower numerous wiry roots. *A. reticulata* is similar but the rhizome is larger. Odour camphoraceous, taste strong, bitter, and aromatic.

Infusum Serpentinae. Dose, $\frac{1}{2}$ -1 fl. oz.; 15-30 c.c.
—5; boiling Water, 100.

Liquor Serpentinae. Dose, $\frac{1}{2}$ -2 fl. dr.; 2-8 c.c.
—50; Alcohol, 20% , 100; by percolation.

Tinctura Serpentinae. Dose, 30-60 min.; 2-4 c.c.
—20; Alcohol, 70% , 100; by percolation.

Serum Peneperitum, Prepared Suet. The internal fat of the abdomen of the sheep, *Ovis Aries*, prepared by melting and straining.

SINAPIS, MUSTARD. The dried ripe seeds of *Brassica nigra* and *B. alba* powdered and mixed. A greenish yellow powder, with a bitter pungent taste, and a pungent odour when moist.

Charta Sinapis, Mustard Paper. The bruised seeds are percolated with benzol to remove the fixed oil. The residue is dried, powdered, mixed with the solution of India rubber and spread upon cartridge paper and dried.

Sinapis Alba Semen, White Mustard Seed. The dried ripe seeds of *Brassica alba*. Very small, pale yellow seeds, in taste less pungent than the black mustard.

SINAPIS NIGRE SEMINA, BLACK MUSTARD SEED. The dried ripe seeds of *Brassica nigra*. Very small, dark brown, spherical seeds; taste bitter and pungent; odourless until ground with water, when the sinigrin is broken up by the ferment myrosin, and the pungent volatile oil, allylthioisocyanate is produced.

Oilum Sinapis Volatile. Distilled from the seeds after maceration with water. Colourless or pale yellow oil, with an intensely penetrating odour and an acrid taste; almost immediately vesicates the skin.

Linimentum Sinapis. 4; Camphor, 6; Castor Oil, 14; Alcohol, 86.

SODIUM. SODIUM. The metal of commerce.

The incompatibles of the salts of sodium do not depend upon the sodium but upon the other radicles present and may best be found by looking up these.

Soda Tartarata. Sodium Potassium Tartrate. (Rochelle Salt.) Dose, 120-240 grs.; 8-16 gms.

(CHOH)₂ COONa (COOK , $4\text{H}_2\text{O}$). Crystals, colourless, with a saline taste. Soluble 1 in $1\frac{1}{2}$ of water, insoluble in alcohol.

Pulvis Soda Tartarata Effervescens. (Seidlitz Powder.) Dose, the two powders mixed in water. (1)-120; Sodium Bicarbonate, 40 grs. (in blue paper). (2) Tartaric Acid, dried, 38 grs. (in white paper).

Sodii Arsenas. Sodium Arsenate. Dose, 1/40-1/10 gr.; $1\frac{1}{2}$ -6 mgms.

An anhydrous disodium hydrogen arsenate, Na_2HASO_4 . A white powder. Soluble 1 in 6 of water, (solution has an alkaline reaction). Slightly soluble in alcohol.

Liquor Sodii Arsenatis. Dose, 2-8 min.; 0.1-0.8 c.c.
—1; Water, 100.

Sodii Benzoas. Sodium Benzoate. Dose, 5-30 grs.; $\frac{1}{4}$ -2 gms. A white, crystalline or amorphous powder, inodorous, or with a faint odour of benzoïn, and an unpleasant sweetish saline taste. Soluble 1 in 2 of water, 1 in 24 of alcohol.

Sodii Bicarbonas. Dose, 5-30 grs.; $\frac{1}{4}$ -2 gms.
 NaHCO_3 . In powder or small, white crystals, with a saline taste. Soluble 1 in 11 of water.

Trochiscus Sodii Bicarbonatis. 3 grs, with the Rose Basis.

Sodii Bromidum. Sodium Bromide. Dose, 5-30 grs.; $\frac{1}{4}$ -2 gms.

NaBr . Small, white crystals somewhat deliquescent, inodorous, with a saline taste. Soluble 1 in 1.2 of water, 1 in 16 of alcohol.

Sodii Carbonas. Sodium Carbonate. Dose, 5-30 grs.; $\frac{1}{2}$ -2 gms.

$\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$. Transparent, colourless crystals, efflorescent, with a harsh taste, and a strongly alkaline reaction. Soluble 1 in 2 of water, 10 parts neutralise 4.9 parts of citric acid or 5.75 parts of tartaric acid.

Sodii Carbonas Exsiccatus. Dose, 3-10 grs.; 2-6 dgms.
Sodium carbonate freed from its water of crystallization by heat. A white powder.

Sodii Chloridum. Sodium Chloride. Purified common salt.

Sodii Citro-tartras Effervescens. Dose, 60-120 grs.; 4-8 gms.
Sodium Bicarbonate, 51; Tartaric Acid, 27; Citric Acid, 18; Sugar, 15.

Sodii Hypophosphis. Dose, 3-10 grs.; 2-6 dgms.
 $\text{Na}_2\text{P}_2\text{O}_7$. A white deliquescent granular salt, with a bitter nauseous taste. Soluble 1 in 1 of water, 1 in 30 of alcohol.

Sodii Iodidum. Sodium Iodide. Dose, 5-20 grs.; 3-12 dgms.
 NaI . A dry white crystalline powder, with a saline and somewhat bitter taste. Soluble 1 in 0.55 of water, 1 in 3 of Alcohol, 1 in 1 of glycerine.

Sodii Nitris. Sodium Nitrite. Dose, 1-2 grs.; 6-30 cgms.
A white deliquescent crystalline powder. Soluble 1 in 1.2 of water, 1 in 50 of alcohol.

Sodii Phosphas. Dose, if repeated, 30-120 grs.; 2-8 gms.; for a single administration, $\frac{1}{4}$ - $\frac{1}{2}$ oz.; 7-14 gms.
Di-sodium-hydrogen-phosphate, $\text{Na}_2\text{HPO}_4 \cdot 12\text{H}_2\text{O}$. Transparent, colourless crystals, efflorescent, with an alkaline reaction and a saline taste. Soluble 1 in 6 of water, insoluble in alcohol.

Sodii Phosphas Effervescens. Dose, if repeated 60-120 grs.; 4-8 gms.; for a single administration, $\frac{1}{4}$ - $\frac{1}{2}$ oz.; 7-14 gms.
—50; Sodium Bicarbonate, 50; Tartaric Acid, 27; Citric Acid, 18. The sodium phosphate should be desiccated before using.

Sodii Salicylas. Dose, 10-30 grs.; $\frac{1}{2}$ -2 gms.
In small, colourless scales or crystals, with a pearly lustre; taste sweetish, but unpleasantly saline, odourless. Soluble 1 in 1 of water, 1 in 5 of alcohol.

Sodii Sulphas. Dose, if repeated, 30-120 grs.; 2-8 gms.; for a single administration, $\frac{1}{4}$ - $\frac{1}{2}$ oz.; 7-14 gms.
Transparent crystalline, efflorescent salt, with a bitter saline taste. Soluble 1 in 2.8 of water at 15° C.; 1 in 0.3 at 33° C., insoluble in alcohol.

Sodii Sulphas Effervescens. Dose, if repeated, 60-120 grs.; 4-8 gms.; for a single administration, $\frac{1}{4}$ - $\frac{1}{2}$ oz.; 7-14 gms.
—50; Sodium Bicarbonate, 50; Tartaric Acid, 27; Citric Acid, 18. The sodium sulphate should be desiccated before using.

Sodii Sulphis. Sodium Sulphite. Dose, 5-20 grs.; 3-12 dgms.
 $\text{Na}_2\text{SO}_3 \cdot 7\text{H}_2\text{O}$. Colourless, transparent, efflorescent crystals, inodorous, with a saline and sulphurous taste. Soluble 1 in 3 of water, insoluble in alcohol.

Sodii Sulphocarbolas. Sodium Sulphocarbolate. Dose, 5-15 grs.; 3-10 dgms.

Sodium phenol-para-sulphonate, $C_6H_4(OH)SO_3Na, 2H_2O$. Colourless, transparent crystals, with a saline and somewhat bitter taste. Soluble 1 in 6 of water.

Liquor Sodii Ethylatis. Contains 18% of sodium ethylate, NaC_2H_5O . A colourless syrupy liquid, made by cautiously dissolving sodium in absolute alcohol. Incompatible with water.

Spiritus Aetheris Nitrosi. Spirit of Nitrous Ether. (Sweet Spirit of Nitre). Dose, if repeated, 20-40 min.; 1½-2½ c.c.; for a single administration, 60-90 min.; 4-6 c.c.

An alcoholic solution containing ethyl nitrite, aldehyde and other substances. An inflammable limpid liquid, of a faint yellow colour, and with a peculiar, penetrating apple-like odour, and a characteristic taste. Often slightly acid in reaction due to free nitrous acid.

Incompatibles, alkali hydrates; if acid hypophosphites, sulphites, chlorates, iodides, ammonium bromide, mercurous salts, permanganates, antipyrine, acetanilid, salicylates, tannic acid, thymol, morphine, guaiacum, acetates.

SPIRITUS. (With a dose of 5-20 min. Anisi, Cajuputi, Camphora, Cinnamon, Lavandula, Mentha Piperita, Myristice; dose of 5-20 or 30-40 min. Chloroform; dose, 20-60 min. Juniperi; dose, 20-40 or 60-90 min. Etheris, Etheris Comp., Etheris Nitrosi, Ammonia Aromaticus, Ammonia Fetidus; dose, 1-2 fl. dr. Armoracia Comp.; without stated dose, Rosmarini (5-30 min.), Rectificatus, Vini Gallici.)

Staphisagria Semen. *Staphisagria Seeds.* The dried ripe seeds of Delphinium Staphisagria. Irregularly, triangular or quadrangular, brownish seeds, with no marked odour and a nauseous, bitter acrid taste.

Unguentum Staphisagriae.—20; Yellow Beeswax, 10; Benzoylated Lard, 85.

STRAMMONII FOLIA. The dried leaves of Datura Stramonium. Dark greyish-green, wrinkled leaves, 4-6 inches long, with a characteristic odour, and an unpleasant bitter taste.

Tinctura Stramonii. Dose, 5-15 min.; 0.3-1 c.c.
—20; Alcohol 45 to 100.

STRAMMONII SEMINA. The dried ripe seeds of Datura Stramonium. Dark brown or nearly black, flattened, reniform seeds about 1/6 of an inch long; surface is pitted; no marked odour, but a slightly bitter taste.

Extractum Stramonii. Dose, ¼-1 gr.; 15-90 mgms.
An evaporated alcoholic percolate.

Strophanthi Semina. Strophanthus Seeds. The dried ripe seeds of *Strophanthus Kombe*. Oval acuminate, flattened seeds about 3/5 inch long, covered with silky hairs, greenish-fawn in colour; odour characteristic, taste very bitter. The active principle is the glucoside strophanthin.

Extractum Strophanthi. Dose, 1/4-1 gr.; 15-60 mgms. An alcoholic percolate evaporated and to which milk-sugar has been added.

Tinctura Strophanthi. Dose, 5-15 min.; 0.3-1 c.c. —2.5; Alcohol 70° 100; by percolation.

Strychnina (see *Nux Vomica*).

Styracis Preparatus. Prepared Storax. A balsam obtained from the trunk of *Liquidambar orientalis* purified. A semi-transparent, brownish-yellow, semi-liquid balsam, with a strong agreeable odour and balsamic taste.

Succi. (With dose, 5-15 min. Belladonna; dose, 30-60 min. Hyoseyami; 1-2 fl. dr. Conii, Scoparii, Taraxaci; (1-2 fl. oz.), Limonis.)

SULPHOSAL. SULPHONAL. Dose, 10-30 grs.; 1/2-2 gms. Dimethyl-methane-diethylsulphone. $(CH_3)_2C(SO_2C_2H_5)_2$. Colourless, inodorous, nearly tasteless crystals. Soluble, 1 in 450 of cold, 1 in 15 of boiling water, 1 in 50 of alcohol.

Sulphur. Sulphur.

Incompatibles, triturated with strong oxidising agents, such as potassium permanganate or chlorate, an explosion is apt to occur.

Sulphur Precipitatum. Precipitated Sulphur. (Milk of Sulphur.) Dose, 20-60 grs.; 1.2-4 gms.

A greyish-yellow soft powder, free from grittiness and from the smell of hydrogen sulphide.

Trochisci Sulphuris.—32.4; Acid Potassium Tartrate, 6.48; Sugar, 51.84; Gum Acacia, 6.48; Tincture of Orange, 5.9; Mucilage of Acacia, 5.9; 100 Trochisci, the quantities of the solids in grammes, those of the liquids in cubic centimetres.

Sulphur Sublimatum. Sublimed Sulphur. (Flowers of Sulphur.) Dose, 20-60 grs.; 1.2-4 gms.

A slightly gritty powder, without taste or odour.

Confectio Sulphuris. Dose, 60-120 grs.; 4.8 gms. —10; Acid Potassium Tartrate, 10; Tragacanth, 0.4; Syrup, 20; Tincture of Orange, 5; Glycerin sufficient to produce 100 by weight.

Unguentum Sulphuris.—10; Benzoated Lard, 90.

Sulphuris Iodidum. Sulphur Iodide. A greyish-black, solid substance, with the odour of iodine.

H₂S formed - 97

... of ...

Dioscorea ...

Schizol ... 1-1/2 grains

... & ...

actinomycetes Tonic

Unguentum Sulphuris Iodidi.—4; Glycerin, 4; Benzoated Lard, 92.

Syobul Radix, Sumbul Root. The dried transverse slices of the root of Ferula Sumbul. Pieces varying much in size, covered on the outer surface with a brown, papery, wrinkled cork, often beset with short hairs; internally, spongy, dry, fibrous and yellowish-brown; odour strong and musk-like; taste bitter and aromatic.

Tinctura Sumbul. 30-60 min.; 2-4 c.c.
—10; Alcohol 70%, 100.

SPHROSTORIA (see Acidum Carbolicum, Acidum Tannicum, Belladonna, Glycerinum, Iodoformum, Morphia, Plumbum.)

SYRUP. (Without stated dose Syrupus and Syrupus Glucosi; with a dose of ½-1 fl. dr. Aromaticus, Aurantii, Aurantii Floris, Caleii Lactophosphatis, Ferri Iodidi, Ferri Phosphatis, Ferri Phosphatis cum Quinina et Strychnina, Hemidesmi, Limonis, Pruni Virginiana, Rheados, Rose, Tolutannus, Zingiberis; with dose, ½-2 fl. dr. Cascara Aromaticus, Chloral, Codeina, Rhei, Senne.)

✕ TABLET TRINITRUM. TRINITRIN TABLETS. Dose, 1-2 tablets. Tablets of chocolate weighing 5 grs. each containing 1/100 gr. of Nitroglycerine. *Nitroglycerine*

Tamarindus, Tamarinds. The fruits of Tamarindus indica, freed from the brittle outer part and preserved in sugar.

TARAXACI RADIX, TARAXACUM ROOT. The fresh and dried roots of Taraxacum officinale. The fresh roots are frequently more than a foot in length, break readily and from the broken surface a milk exudes. The dried root is shrivelled and wrinkled, dark brown in colour. Inodorous, taste bitter.

Extractum Taraxaci. Dose, 5-15 grs.; 3-10 dgms.
The price of the fresh root dried to a soft consistence.

Extractum Taraxaci Liquidum. Dose, ½-2 fl. dr., 2-8 c.c.
An extract in diluted alcohol made by maceration and partial evaporation.

Succus Taraxaci. Dose, 1-2 fl. dr.; 4-8 c.c.
Fresh juice, 75; Alcohol, 25.

TEREBINUM, TEREBENE. Dose, 5-15 min.; 0.3-1 c.c.
A mixture of hydrocarbons. A colourless liquid, with an agreeable odour, and an aromatic taste. *Sambal Virginiana*

✓ *Terebinthina Canadensis, Canada Turpentine.* (Canada Balsam.)
The oleo-resin obtained from Abies balsamea. Pale yellow and faintly greenish, transparent oleo-resin of the consistence of thin honey.

Micrococci

Thus Anacardium, Fraxinaceae. The concrete oleo-resin scraped off the trunks of *Pinus palustris* and *P. Taeda*.

THYMOL, THYMOLOL. Dose, $\frac{1}{2}$ -2 grs.; 3-12 cgrms.

A crystalline substance obtained from the volatile oils of *Thymus vulgaris*, *Monarda punctata*, and *Carum copticum*. Large, colourless crystals, with the odour of thyme and a pungent aromatic taste. Almost insoluble in water, freely soluble in alcohol.

Incompatibles, spirit of nitrous ether; gives a soft or liquid mass when triturated with, acetanilid, antipyrine, camphor, phenol, chloral, menthol, quinine sulphate, resin, salol.

Thyroideum Siccum, Dry Thyroid. Dose, 3-10 grs.; 2-6 dgms.

A powder prepared from the fresh and healthy thyroid of the sheep.

LIQUOR THYROIDEI, THYROID SOLUTION. Dose, 5-15 min.; 0.3-1 c.c. A watery extract of the fresh and healthy thyroid glands of the sheep, containing 9.5% of phenol as a preservative. A pinkish, turbid liquid, entirely free from any odour of putrescence.

TINCTURE (see *Aconitum*, *Aloe*, *Arnica*, *Asafetida*, *Aurantium*, *Belladonna*, *Benzoinum*, *Bichu*, *Calumba*, *Camphora*, *Cannabis Indica*, *Cantharis*, *Capsicum*, *Cardamomum*, *Cascarilla*, *Catechu*, *Chirata*, *Chloroformum*, *Cimicifuga*, *Cinchona*, *Ginamomum*, *Cocculus*, *Colechicum*, *Conium*, *Crocus*, *Cubeba*, *Digitalis*, *Ergota*, *Ferrum*, *Gelsemium*, *Gentiana*, *Guaiacum*, *Hamamelis*, *Hydrastis*, *Hyoscyamus*, *Iodum*, *Jaborandi*, *Jalapa*, *Kino*, *Krameria*, *Lavandula*, *Limon*, *Lobelia (etherial)*, *Lupulus*, *Myrrha*, *Nux Vomica*, *Opium*, *Podophyllum*, *Prunus Virginiana*, *Pyrethrum*, *Quassia*, *Quillaia*, *Quinina*, *Rheum*, *Scilla*, *Senega*, *Senna*, *Serpentaria*, *Stramonium*, *Strophanthus*, *Sumbul*, *Balsamum Tolutanum*, *Valeriana*, *Zingiber*). 30-60 min. is the dose of all tinctures except the following: (1) having a dose of 5-15 min. *Belladonna*, *Cannabis Indica*, *Capsicum*, *Chloroform* and *Morphine*, *Cocculus*, *Colechicum*, *Digitalis*, *Iron Perchloride*, *Lobelia*, *Nux Vomica*, *Opium*, *Podophyllum*, *Squills*, *Stramonium*, *Strophanthus*; (2) Having a dose of 2-5 min. *Iodum*, *Aconite*, and *Cantharides*, the two latter may for a single administration be given in 5-15 min. doses.

TRAGACANTHA. A gummy exudation obtained from the stem of *Astragalus gummifer*, and other species, white or pale yellowish flakes, flattened, thin, irregular and marked on the surface by concentric rings; somewhat translucent, horny, inodorous and almost tasteless. Sparingly soluble in water, but swells into a mass with it.

♁Glycerinum Tragacanthæ.—20; Glycerin, 60; Water, 20; by trituration.

Acacia gum *Acacia gum*

Mucilago Tragacanthae. 1.38; Alcohol, 2.25; suspend the former in the alcohol; and add Water to 100.

Pulvis Tragacantha Compositus. Dose, 20-60 grs.; 1.2-4 cc. - 16.5; Gum Acacia, 16.5; Starch, 16.5; Sugar, 49.5.

Trochisci (see Acidum Benzoicum, Acidum Carboicum, Acidum Tannicum, Bismuthum, Catechu, Eucalyptus, Ferrum, Galuacum, Ipecacuanha, Krameria, Morphina, Potassii Chloras, Santoninum, Sodii Bicarbonas, Sulphur.)

The Trochisci, Lozenges are made with three bases of which the chief constituents are Gum Acacia, Mucilage of Acacia and Sugar. The Simple Basis consists of these ingredients alone, the Fruit Basis contains black currant paste as flavouring; the Rose Basis contains Rose Water, and the Tolu Basis, Tincture of Tolu.

Unguenti (see Acidum Boricum, Acidum Carboicum, Acidum Salicylicum, Aconitina, Rosa, Atropina, Belladonna, Cantharis, Capsicum, Cetaceum, Chrysarobinum, Cocaina, Conium, Crocotum, Eucalyptus, Galla, Plumbum, Hamamelis, Hydrargyrum, Iodum, Iodoformum, Paraffinum, Pix, Plumbum, Potassium, Resina, Staphisagria, Sulphur, Veratrina, Zincum.)

✓ UVAE URSI FOLIA. BEARBERRY LEAVES. The dried leaves of *Ametostaphylos Uva-ursi*. Yellowish-green coriaceous leaves, about 3/4 inch long, the upper surface glabrous, shining and reticulate, with depressed veinlets; no definite odour but a very astringent taste. The active principle is a glucoside, arbutin.

Infusum Uvae Ursi. Dose, 1/2-1 fl. oz.; 15-30 cc. - 5; boiling Water, 100.

VALERIANÆ RHIZOMA. VALERIAN, RHIZOME. (Root.) The dried erect Rhizome and roots of *Valeriana officinale*. A short erect rhizome often sliced, yellowish-brown externally, with numerous slender roots; odour strong characteristic and disagreeable, taste, unpleasant camphoraceous, and slightly bitter.

Tinctura Valerianae Ammoniata. Dose, 30-60 min.; 2-4 cc. - 20; Oil of Nutmeg, 0.31; Oil of Lemon, 0.21; Solution of Ammonia 10; Alcohol 60, 90.

Veratrina, Veratrina. An alkaloid prepared from the dried ripe seeds of *Schoenocaulon officinale*. Pale grey, amorphous, odourless but powerful irritant to the nose, strongly and persistently bitter and intensely acrid.

Unguentum Veratrina. - 2; Oleic Acid, 8; Lard, 90.

Vini. (With a dose of 10-30 min. or 2-4 fl. dr. Antimoniale. Dose, 10-30 min. or 4-6 fl. dr. Ipecacuanha; dose, 10-30 min. Colchici; dose, 1-4 fl. dr. Ferri Citratis; 1/2-1 fl. oz. Quinina; without stated dose. Aurantii, Xerium.)

Zincum. Zinc.

Incompatibles of soluble salts in solution, hydrates, carbonates, phosphates, arsenates, borax, tannic acid, albumin.

Zinci Acetas. Zinc acetate. Dose, 1-2 grs.; 6-12 egms. Translucent, colourless, crystals with a pearly lustre, and a sharp unpleasant taste. Soluble 1 in 2½ of water.

Zinci Carbonas. A hydroxycarbonate, $ZnCO_3 \cdot (ZnHCO_3)_2 \cdot H_2O$. A white tasteless, odourless powder. Insoluble in water.

Zinci Chloridum. $ZnCl_2$. Colourless, opaque rods or tablets very deliquescent and caustic. Almost entirely soluble in water, and alcohol.

Liquor Zinci Chloridi. Colourless liquid with a sweetish astringent taste.

Zinci Oxidum. Dose, 3-10 grs.; 2-6 dgms. A soft, nearly white, tasteless and inodorous powder.

Unguentum Zinci. -15; Benzoated Lard, 85.

Zinci Sulphas. Dose, as a tonic, 1-3 grs.; ½-2 dgms; as an emetic, 10-30 grs.; 6-20 dgms.

$ZnSO_4 \cdot 7H_2O$. Colourless, transparent crystals, with a strong metallic styptic taste. Soluble, 1 in less than 1 of water.

Zinci Sulphocarbonas. Zinc Sulphocarbonate. Zinc phenol parasulphonate. Colourless, transparent, efflorescent crystals. Soluble 1 in 2 of water, 1 in 2½ of alcohol.

Zinci Valerianas. Dose, 1-3 grs.; ½-2 dgms. Pearly white tabular crystals with a disagreeable odour and a metallic taste, very slightly soluble in cold water, soluble in hot water and alcohol.

Unguentum Zinci Oleatis. A precipitate due to the mixture of solutions of Zinc Sulphate and Hard Soap, washed and dried and then mixed with Soft Paraffin.

ZINGIBER. GINGER. The dried and scraped rhizome of *Zingiber officinale*. Flat, irregular branched pieces, varying in length; odour agreeable aromatic, taste hot and pungent.

Syrupus Zingiberis. Dose, 30-60 min.; 2-4 cc. A strong tincture, 5; Syrup to 100.

Tinctura Zingiberis. Dose, 30-60 min.; 2-4 cc. 10; Alcohol, 100; by percolation.

*Action on the system is similar to Mentha piperita
Tonic and a Perminative*

CHAPTER VI.

NON-OFFICIAL MATERIA MEDICA.

The authors have selected a few of the newer remedies as illustrations of the non-official materia medica. In their selection they have been guided by two considerations, the degree of popularity that the drugs enjoy and the likelihood of their proving to be permanently useful. Examples of some of the non-official methods of galenic preparation such as the elixirs have also been included as it was considered that they would be of use to the student. The arrangement of these drugs is the same as in the preceding chapter and the source for them has largely been the British Pharmaceutical Codex.

ACETOMORPHINÆ HYDROCHLORIDUM. ACETOMORPHINE HYDROCHLORIDE. Dose, 1/40-1/6 gr.; 2-10 mgms.

An alkaloid obtained from morphine by the substitution of two H. groups by acetyl groups, diacetyl-morphine-hydrochloride. White crystals, soluble in water 1 in 2, in alcohol 1 in 9. (Trade name, Heroin.)

ACIDUM CRESYLICUM. CRESYLIC ACID. (Cresol.) Dose, 1-3 min.; 0.05-0.2 c.c.

A mixture of ortho-, meta-, and para-cresols. Crude cresol is a yellowish liquid, darkening on keeping, with a characteristic odour resembling phenol. Soluble 1 in 80 of water, readily in alcohol, ether, chloroform, glycerine, olive oil. Pure ortho-cresol is a colourless, deliquescent, crystalline solid.

ACIDUM SALICYLICUM. SALICYLIC ACID. Dose, 8-15 grs.; 1/2-1 gm. Acetyl-salicylic Acid, $C_6H_4(COOH)COCH_3$. A white crystalline powder, or colourless crystals. Soluble 1 in 400 of water. Soluble 1 in 5 of alcohol. Both aqueous and alcoholic solutions do not keep on standing. (Trade names, Acetysal, Aletodin, Aspirin, Saletin, etc.)

ADRENINA. (Epinephrine, Nephridine.) Dioxy-phenyl-ethanol-methylamine, $C_8H_9(OH)_2CHOHCH_2NHCH_3$. The active principle of the suprarenal gland (nephridium, adrenal, epirenal); it may also be produced synthetically. A drab or buff coloured, minutely crystalline powder. Decomposes in the presence of water, and especially in the weak alkalis. Soluble 1 in 5000 of ether or alcohol, readily soluble in water acidulated with hydrochloric acid. (Trade names for the active principle of the suprarenal, Adrenalin, Adrenin, Epirenan, Haemostasin, Heminine, Suprarenin, etc.)

¹Ammonium Bromidum. Ammonium Bromide. Dose, 5-30 gra.; 3-20 dgms.

Colourless crystals or a white crystalline powder. Soluble, 2 in 3 of water, 1 in 15 of alcohol.

Argyrol. (Silver Vitellin.) A compound of silver and a vegetable proteid containing about 30% of silver. Readily soluble in water (the solution decomposes on keeping).

¹Boroglycerinum. Boric Acid, 47; Glycerin by weight, 64. Differs from the official Glycerin of Boric Acid in the proportions and the method of making. It contains glyceryl borate, which readily breaks down in the presence of water. A white viscid opaque liquid of a honey-like consistence. Readily soluble in water and alcohol.

¹Calcii Lactas. Calcium Lactate. Dose, 10-60 gra.; $\frac{1}{2}$ -4 gms. White, granular masses, or powder, or in crystals, odourless and with scarcely any taste. Soluble 1 in 15 of water, scarcely soluble in alcohol.

CARBASUS ABSORBENS. Absorbent Cotton. Open-weave cotton gauze or mulls prepared from cotton freed from its natural oil.

¹Carbasus Acidii Borici. Boric Acid Gauze.—100; Saturated Solution of Boric Acid tinted with aniline red a sufficient quantity. The gauze is immersed in the boiling solution and subsequently dried. It should contain 40-50% of boric acid.

¹Carbasus Iodoformi. A gauze impregnated with 10% of iodoform.

¹Cataplasma Kaolini. Kaolin Poultice. Kaolin, 52.7; Boric Acid, 4.5; Thymol, 0.05; Methyl Salicylate, by weight, 0.2; Oil of Peppermint, by weight, 0.05; Glycerin, by weight, 32.5. Heat the kaolin to 100° C. and maintain at that temperature for one hour, occasionally stirring, add the boric acid, mix intimately, incorporate the glycerin, finally add the thymol dissolved in the methyl-salicylate and the oil of peppermint. The mixture should be kept warm for four hours with occasional stirring, and preserved in air-tight vessels.

¹Cataplasma Lini. Linseed Poultice. Linseed, crushed, 28; boiling water, 100. Add the linseed gradually to the boiling water stirring constantly.

¹Cataplasma Sinapis. Mustard Poultice. Linseed, crushed, 28; Mustard, powdered, 2; Water to produce 100. Add the linseed to about 70 of water, then add the mustard, previously rubbed to a paste with water.

¹Ceratum Galeni. Galen's Cerate. (Cold Cream.) Soft Paraffin, white, 12; White Beeswax, 12; Almond Oil, 50; Borax, 1; Oil of Rose, 0.10; Rose Water, 25.

Antidotes

Elixer Aromaticum. Aromatic Elixer. Dose, $\frac{1}{2}$ -2 fl. dr.; 2-8 c.c. Compound Spirit of Orange, 2.5; Syrup, 37.5; Purified Tale, 3; Alcohol, a sufficient quantity; Water to 100. Filtered.

Elixer Aurantii. Elixer of Orange, 15-60 min.; 1-4 c.c. Oil of Bitter Orange, 0.3; Alcohol, 30; Syrup, 35; Cinnamon Water to 100.

Elixer Bismuthi. Elixer of Bismuth. Dose, $\frac{1}{2}$ -1 fl. dr.; 2-4 c.c. Bismuth and Ammonium Citrate, 3.3; Distilled Water, hot, 6; Solution of Ammonia a quantity sufficient (to keep the mixture clear); Aromatic Elixer to 100.

Emulsio Olei Morrhuae. Emulsion of Cod-liver Oil. Dose, $\frac{1}{4}$ -1 fl. oz.; 8-30 c.c. Cod-liver Oil, 50; Gum Acacia, 12.5; Syrup, 6.25; Oil of Bitter Almonds, 0.1; Water to 100.

Enema Asafetida. Enema of Asafetida. Tincture of Asafetida, 3; Mucilage of Starch to 100.

Enema Magnesi Sulphatis. Magnesium Sulphate, 6; Olive Oil, 6; Mucilage of Starch to 100.

Enema Olei Ricini. Castor Oil, 10; Mucilage of Starch to 100.

Enema Terebinthinae. Oil of Turpentine, 2; Mucilage of Starch to 100.

Ergotoxina. Ergotoxine. Dose, 1/12-1/6 gr.; 5-10 mgms. An alkaloid, probably the active principle of ergot. A light, white, amorphous powder. Practically insoluble in water. Its salts are, however, soluble.

Ethylis Chloridum. Ethyl Chloride, C_2H_5Cl . A colourless, mobile liquid, with a sweetish burning taste, and an agreeable odour. Boiling point $12.5^\circ C$.

ETHYLMORPHINÆ HYDROCHLORIDUM. ETHYLMORPHINE HYDROCHLORIDE. Dose, 1/10- $\frac{1}{2}$ gr. 6-30 mgms. A white minutely crystalline powder, odourless with a bitter taste. Soluble 1 in 7 of water, 1 in 5 of alcohol. (Trade name, Dionin.)

Eucalyptol. Eucalyptol. Dose, 1-5 min.; 0.05-0.3 c.c. A purified substance prepared from oil of eucalyptus and other sources. A colourless liquid, with a characteristic aromatic camphoraceous odour and a spicy pungent taste, leaving a cool sensation in the mouth. Miscible in all proportions with alcohol, but not with water.

Gargarisma Acidi Tannici. Tannic Acid Gargle. Glycerin of Tannic Acid, 10; Water to 100.

Gargarisma Aluminis. Alum Gargle. Alum, 2; Acid Infusion of Roses to 100.

³Gargarisma Boracis. Borax, 4; Water to 100.

³Gargarisma Potassii Chloratis. Potassium chlorate, 2; Diluted Hydrochloric Acid, 1; Water to 100.

³Gossipium Acidi Borici. Boric Acid Wool. Cotton Wool immersed in a saturated solution of boric acid tinged with aniline red and removed and dried. Contains 40-50% of boric acid.

Guaiaacol, Guaiacol. Dose, 1-5 min.; 0.06-0.2 c.c.
C10H10O2. Obtained either synthetically or by the fractional distillation of wood creosote. An oily colourless liquid, with a penetrating, smoky odour and a caustic taste. Soluble 1 in 80 of water, miscible with alcohol ether and oils.

³Guaiacolis Carbonas. Guaiacol Carbonate. Dose, 5-15 grs.; 2-10 dgms. May be gradually increased to 30 grs.; 2 gms.
The carbonic ester of guaiacol. A white crystalline powder almost without taste or odour. Soluble 1 in 70 of alcohol, insoluble in water.

LIQUOR FORMALDEHYDI. A solution of formaldehyde obtained by dissolving in water formic aldehyde. A colourless transparent liquid with a pungent odour and a caustic taste. Miscible with water and alcohol. Should contain 38-39% of aldehyde.

HEXAMETHYLENAMINA, HEXAMETHYLENE-TETRAMINE.
(Hexamethylenamine, Formamine.) Dose, 5-15 grs.; 3-10 dgms.
(CH2)6N4. A white crystalline powder, odourless; in solution has an alkaline reaction. Soluble 1 in 1½ of water, 1 in 8 of alcohol (urotropin).

Methylthioninæ Hydrochloricum. (Methylene Blue.) Dose, 1-5 grs.; ½-3 dgms.
A dull dark-green crystalline powder. Soluble 1 in 50 of water, less soluble in alcohol.

³Mucilago Amyli. Mucilage of Starch, Starch 2.5; Water, to 100.

PELLETIERINE TANNAS, PELLETIERINE TANNATE. Dose, 5-8 grs.; 3-5 dgms.
The tannate of an alkaloid obtained from the root-bark of pomegranate, *Punica Granatum*. A light yellow amorphous powder, greyish-white, odourless, with an astringent taste and an acid reaction. Soluble 1 in 700 of water, 1 in 80 of alcohol.

PHENOLPHTHALEINUM, PHENOLPHTHALEIN. Dose, 1-8 grs.; ½-5 dgms.
A white or almost white amorphous or crystalline powder, odourless. Soluble 1 in 800 of water, 1 in 10 of alcohol. Trade names are many e.g. Laxans, Laxoin, Laxophen, Probillin, Purgen, etc.

used in Tuberculosis

ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED

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STRONTIUM BROMIDUM. STRONTIUM BROMIDE. Dose, 5-30 grs.; $\frac{1}{4}$ -2 gms.

$SrBr_2 \cdot 6H_2O$. Colourless transparent odourless crystals, deliquescent, and with a strong bitter saline metallic taste. Soluble 2 in 1 of water, 1 in 3 of alcohol.

Theobromina. Theobromine. Dose, 5-10 grs.; 3-6 dgms.

A dimethylxanthin obtained from the seeds of Theobroma Cacao. A white crystalline powder odourless with a bitter taste. Soluble 1 in 1,700 of water, 1 in 1,400 of alcohol. A compound with sodium and sodium salicylate, Theobromine Sodii-salicylate, has a sweetish taste and is more soluble, 1 in 1 of water, and is hence used in place of the alkaloid alone. (It is sold under the trade name of Diuretin.)

TERPIN HYDRAS. TERPIN HYDRATE. (Terpine Hydrate.) Dose, 3-10 grs.; 3-6 dgms.

An alcoholic hydrate prepared from oil of turpentine. Colourless, glistening crystals or a crystalline powder, with a slight aromatic odour and a bitter taste. Soluble 1 in 280 of water, 1 in 14 of alcohol.

SERUM ANTIDIPHTHERICUM. ANTIDIPHTHERIC SERUM. (Diphtheria Antitoxine.) Dose, as a prophylactic, 500 units; as a curative agent, 2,000-4,000 units or more.

A unit is the quantity of antitoxine necessary to prevent the death of a guinea-pig weighing 250 grammes when injected with 100 lethal doses of diphtheria toxin. The serum is the blood-serum of horses immunised by the injection at stated intervals with diphtheria toxin in amounts at first sublethal but finally many times the lethal dose. The blood is drawn from the horse under the most careful aseptic precautions, is allowed to clot, the serum removed and set aside for several weeks during which time a precipitate forms which is filtered off. The serum is now put up in suitable containers, usually with the addition of some antiseptic, such as phenol or cresol. Its antitoxic power is tested previous to its being placed in the containers and into each of these latter is put a definite number of units. The number of units and the date of the preparation of the serum must be placed on a label upon each container. The serum decreases in activity with age, losing 10-30% per annum. A dried serum is also prepared.

SERUM ANTITETANICUM. ANTITETANIC SERUM. (Tetanus Antitoxin.) This is similarly prepared to the antidiphtheric serum, the horses being injected with tetanus toxin.

SERUM ANTISTREPTOCOCCICUM. ANTISTREPTOCOCCIC SERUM. Dose, 30 c.c. daily subcutaneously.

The serum obtained from the blood of a horse immunised by repeated injections of at first killed cultures of *Streptococcus pyogenes* or *P. erysipelatos* of many different stems, and later of virulent living cultures.

SERUM ANTIMENINGOCOCCICUM. (Flexner's Serum.) A serum prepared in an analogous manner by injections of the *Diplococcus intracellu-
laris*, and used in the treatment of Cerebro-spinal Meningitis.

Tuberculinum, Tuberculin. (Old.) Three months old glycerine-veal broth cultures of the *Bacillus tuberculosis* are concentrated over a water-bath and filtered through a porcelain filter to remove the bacilli. For treatment New Tuberculin or other similar preparations are more largely used. *For description of Tuberculinum*

TUBERCULINUM NOVUM. NEW TUBERCULIN. (Tuberculin R.) The *Bacillus tuberculosis* is grown on glycerine-serum and the resulting cultures scraped off and heated to 60° C. to kill the bacteria, dried in vacuo and triturated. The resulting mass is emulsified and centrifuged, the upper layer rejected and the lower again dried, triturated and again emulsified and centrifuged, the upper layer is set aside and the residue subjected to the same process. The resulting layers are preserved with glycerine and standardised to contain 10 milligrammes of solids in 1 c.c. It may be used thus as a liquid or may be dried. The dose is calculated as 1/3,000-1/1,000 mgms. of solid substance.

CHAPTER VII.

PRESCRIBING.

It should be remembered in the writing of prescriptions that a constant effort towards simplicity is desirable, but that while this is the aim we may not forget that drugs oftentimes act best in combination. For instance, in the administration of the purgatives, painful intestinal peristalsis is often set up, to overcome or to prevent which some carminative such as a volatile oil or a nervous sedative is added. We cannot afford to secure simplicity then at the expense of efficiency.

Medicines are administered by way of the skin, and the various inlets of the body. In selecting any drug for the treatment of disease the ability of the different organs to receive the remedy must be taken into account. As an example, the administration of a general tonic, as *Columba*, may not be effected through the skin because that organ is unable to absorb it or is unable to take it up with sufficient rapidity, or because the drug cannot on account of its insolubility or of its bulk be given hypodermically. Facts such as these may make any other mode than administration by the way of the mouth an impossibility. Again, a purely local effect may be the one desired as in the treatment of skin diseases, where no general action upon the system is wanted. Here an ointment, such as *Unguentum Acidi Borici*, made with a non-absorbable and permanent base (*Paraffin*) is chosen. Some drugs lend themselves to administration by the mouth alone and there may be but one or two preparations available, while with another, as *Mercury*, there may be many modes of presenting it and consequently many preparations. The pharmacopoeia then provides us with those preparations of the various drugs best suited for their introduction to the system.

Avenues of Administration and available pharmacopoeial groups. For administration by the skin:

(a) For local application—the Lotions, Liniments, Poultices, Plasters, Papers (*Chartae*), Ointments or Cerates, especially those made with the non-absorbable bases.

Hypodermic Injections and Tablets, usually by the subcutaneous method.

(b) For systemic conditions—any of the above (a) and especially the Ointments and Cerates made with absorbable bases, as Lard and Wool Fat.

Hypodermic Injections, both by the subcutaneous and the interstitial methods.

Intravenous Injections.

For administration by the various inlets of the body:—

(a) BY THE MOUTH.—Naturally the most frequent channel for the giving of drugs and for which an endless variation of combinations are effected, the ingenuity of the Physician and the Pharmacist being taxed to devise means whereby palatable remedies may be supplied. Of galenic preparations the Liquors, Vinegars, Waters, Spirits, Syrups, Tinctures, Emulsions, Mixtures, Extracts, Liquids Extracts, Compound Powders, Capsules, Pills, and Tablets all lend themselves to administration by the mouth.

PRESCRIBING OF UNPALATABLE POWDERS, ETC.—In view of the demand of aesthetic patients that remedies be dispensed so as to avoid their unpleasant taste it is well to utilize the capsules and cachets or the coated tablets where such are possible. In this connection one should remember the possibility of substituting for powders of unpleasant taste one of the more delectable preparations such as one of the Syrups or one of the non-official Elixirs, or of disguising the taste by suspending the remedy in one of the Aromatic Syrups or Waters.

PRESCRIBING OF MIXTURES.—Avoid if possible the use of insoluble powders or of salts of low solubility such as make it impossible to send out mixtures free of deposit, because of the difficulty of securing uniform doses under such conditions. If it seems wise to admit such to a mixture secure its suspension, if insoluble, by the addition of Mucilage or one of the viscid vehicles such as Glycerin or Syrup.

PRESCRIBING OF PILLS.—When prescribing extemporaneously, use concentrated drugs as the Extracts and Active Principles, avoiding bulky drugs. Make it the rule to order small pills, which will usually please your patients. Do not prescribe deliquescent powders or salts as these interfere with the making and the keeping of pills. Volatile substances also, unless the pills are coated, are better not used. If it is desired to have the medicines liberated in the bowel and not in the stomach then direct the dispenser to coat them with Salol or with a solution of Keratin (prepared from horn shavings).

PRESCRIPTIONS FOR CACHETS AND CAPSULES.—The elegant pharmacy of to-day demands that the nauseous, insoluble drugs which are too bulky to administer in effective doses in the form of pills, should be inclosed in either a cachet or capsule. This method permits the exhibition of many drugs which would otherwise be almost impossible.

(b) FOR ADMINISTRATION BY THE RECTUM.—For this purpose the Suppositories, Rectal Capsules, the Enemata which may contain a great variety of medicines held in solution or in suspension, can be used. Drugs given by this route for the purpose of attaining some general effect must be prescribed in about double the quantity given by the mouth.

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(c) FOR ADMINISTRATION BY THE VAGINA. A purely local effect is the only one ever desired. The Suppositories (here oftentimes called Pessaries), and the Vaginal Injections, consisting of drugs dissolved or suspended in Water or Saline Solution (a solution of Sodium Chloride—6.40 of 1 per cent.) are constantly in use. Also Vaginal Tampons impregnated with solutions of active drugs in Glycerin or Glycerin of Boric Acid.

(d) FOR ADMINISTRATION BY THE URETHRA. Here likewise a local effect is the only one ever sought. The Suppositories (now called Bougies) and the Urethral Injections made with Water or with some bland Oil as a base afford the opportunity for a variety of formulae.

(e) FOR ADMINISTRATION BY THE AIR PASSAGES. Drugs which are unirritating may if reduced to a condition of very fine powder be inhaled into the nasal chambers and pharynx for the relief of local conditions. Solutions of the various Antiseptics, Astringents, and Haemostatics may be applied by irrigation, or by the use of the Atomizer or the Vaporizer. Ointments may likewise be applied topically. The antiseptic Volatile Oils are frequently used dissolved in a bland, oily base such as Liquid Paraffin.

For the treatment of conditions of the lower air passages, solutions in Water or in Liquid Paraffin are frequently of use by means of the Vaporizer, as also are the Inhalations, and Fumigations. By these means the antiseptic oils, and antiseptics such as Creosote, Carbonic Acid, Iodine, etc., may be carried to the larger tubes, but the possibility of thus conveying them to the finer ramifications of the Bronchi or to the Alveoli is very doubtful. It must not be forgotten, however, that Ether and Chloroform are administered by inhalation and thus make possible general anaesthesia by virtue of the ease and rapidity with which they are taken up by the blood in the spaces surrounding the air cells.

(f) FOR ADMINISTRATION TO OTHER MUCOUS SURFACES. To the Conjunctiva. The Collyria, and Ointments made with a fatty base which contains no free fatty acids (as in pure Paraffin), and occasionally the mineral astringents, and caustics themselves, such as Silver Nitrate and Copper Sulphate, are applied to the eye. The weaker astringents such as Sulphate of Zinc, Tannic Acid, the Albuminoid salts of Silver, the antiseptics of bland nature as Boric Acid, the myotic and mydriatic alkaloidal salts, as those of Cocaine, Atropine, Pilocarpine, all lend themselves to this form of administration.

TO THE BLADDER.—As with the Urethra any application made to the mucous membrane of this organ is intended to induce a local effect only. The caustics are applied, occasionally, directly to the bladder in female patients. Injections and Irrigations of astringent and antiseptic substances as weak solutions of Silver Nitrate and Solutions of Boric Acid are frequently made.

CHAPTER VIII.

PRESCRIPTION-WRITING.

When the physician has decided upon the drugs which he wishes to administer to a patient, the form, pill, powder mixture, etc., in which he wishes to administer them, and the preparations that are best suited to the form chosen, he has still to write a prescription which will convey his wishes clearly and concisely to the pharmacist. Even if the physician does his own dispensing the writing of a careful prescription is not to be omitted, as it is essential that he have for the purpose of consultation in the future a statement in writing of the treatment adopted, also the writing of a prescription will save many errors in dispensing. The question of the ownership of the prescription is a doubtful one some claiming that it is simply an order by the physician to the pharmacist, who should keep it as a record of the orders given him. On the other hand very many persons hold that the prescription is the property of the patient to whom it is given. The pharmacist can hardly refuse to give the original holder of the prescription a copy thereof, unless he has distinct orders not to do so from the physician. In view of this when the physician writes a prescription which he does not want repeated he should not only mark it "ne repetatur" but should also inform the patient that this prescription is one in which he has no proprietary interest but is only the physician's instructions to the pharmacist. This precaution should always be taken when prescribing morphine in any form. The pharmacist is expected, not only not to give any copy of any prescription to any but the person to whom the physician gave it, but also not to make any further use of it.

The prescription was formerly written entirely in Latin, and even to-day the great majority of prescriptions are written largely in that language. This custom possesses some distinct advantages. The official Latin names are concise and distinctive so that there is little danger of error. Formerly when Latin was the universal language of science and medicine, it ensured that the prescription could be universally read and understood, this still to a certain extent holds good as most civilised governments have adopted official Latin names in their pharmacopœias, though unfortunately the Latin names adopted differ slightly in different countries.

It is a good rule to write the names of the drugs and the directions to the pharmacist if they be simple and well understood in Latin while the directions to the patient which are to be inscribed by the pharmacist upon the label should be written in English as this ensures that no

error will arise in translating them. The directions to the patient should be full and explicit and such general directions as "To be used as directed" should be avoided in as far as possible. There are a few very commonly employed stereotyped Latin phrases which have definite and well-known abbreviations which are frequently used in writing the directions to the patient; these will be found appended to the vocabulary.

In writing a prescription always write legibly. Do not endanger the success of your treatment or possibly even the patient's life by careless, illegible hand-writing. Whenever large quantities of any powerful drug are ordered, and especially if they surpass the pharmacopœial dose, the quantities should be not only written in numerals but should also be written out in full in words.

The following is a typical prescription:—

Inscription For Arthur H.
Superscription ℞ Potass Acet
Subscription ℥ij Ammon Acet ʒij
Spir Eth Nit ʒiij
Infus Buchu ad ʒiij
℞ ℥iij acet. Signa—
Signature a drachm (or teaspoonful) three times a day after meals
(Recipere in ʒiij) & R. E.

The words to the left, inscription, superscription, subscription and signature, are the names applied to those parts of the prescription opposite which they are set. The signature includes the directions to the patient. The other three parts are for the pharmacist. The subscription includes the compounding directions to the pharmacist.

The following is a transcription in unabbreviated Latin of the above prescription with an interlinear translation.

For Arthur H.
Recipe
Take thou
Potassii Acetatisunciam unam.
Of Acetate of Potassiumone drachm.
Liquoris Ammonii Acetatisdrachmas tres cum semisse.
Of Solution of Acetate of Ammonium...three and a half drachms.
Spiritus Etheris Nitrosidrachmas duas.
Of Spirits of Nitrous Ether.....two drachms.
Infusi Buchu. (quantum, sufficiat usque) ad uncias quattuor.
Of Infusion of Buchu (a quantity sufficient) up to four ounces.

Misce. Fiat mi-stura. Signa:—

Mix. Let a mixture be made. Label:—

Drachmam unam ter in die post cibos.

One drachm three times a day after meals.

The grammatical form proves on examination not to be a difficult one. The verb "recipe" which is invariably used, governs the accusative. It is clear that the pharmacist is not to take all of his stock of any ingredient but only a part thereof. Hence the nouns expressing the quantity, "unciam" "drachmas" are in the accusative governed by "recipe." The names of the ingredients of which the stated quantities are to be taken are in the partitive genitive. Adjectives must agree with the noun that they modify in gender, number, and case; so "duas" and "tres" agree with "drachmas," "unam" with "unciam," and "quattuor" though indeclinable with "uncias;" "Nitrosi" also agrees with "Etheris. Potassii" is again in the partitive genitive as are both "Ammonii" and "Acetatis" in the following line.

The last line of the inscription gives slightly more trouble. As usually written the words included within brackets are omitted, yet the clause beginning with "quantum" is the object of the sentence and is governed by the verb "recipe." "Infusi" is again in the partitive genitive. "Quantum" is in the accusative for the reason given; "sufficiat" is the third person singular of the present subjunctive owing to the clause being a subordinate one; "usque" is an adverb meaning "upto" "until"; "ad" a preposition governing the noun "uncias." There is a slightly different form in which this line is occasionally written in which in place of "Infusi" "Infusum" would be written, this is the partitive use of the accusative.

"Miscere" like "Recipe" is the second person singular form in the imperative mood of a verb of the second conjugation, while "signa" is the form of the same tense, number, person, and mood of a verb of the first. "Mistura" is the nominative of a noun of the first declension. "Fiat" is the third person singular of the present subjunctive and is an example of the jussive use of that tense as a mild imperative. "Drachmam unam" is the accusative governed by some such verb understood as "capiat" an other example of the jussive use of the subjunctive. "Ter" is a numeral adverb. "Die" the ablative of the noun "dies" after the preposition "in." "Cibos" is the accusative plural of "Cibus." Several other similar stereotyped forms are in use in the signature of which the following is one of the more common "Drachma una ter in die sumenda." The translation would be the same. "Drachma" is in the ablative absolute and has agreeing with it the gerundive of the transitive verb "sumo." This use of the gerundive signifies duty or necessity and hence an order in a mild form.

The following points in regard to the manner of writing should be noted. The custom has been adopted of writing the numeral express-

ing the quantity after the abbreviation for the measure. The numeral is written in small Roman numerals except in the case of fractions, or where one wishes to draw special attention to the quantity; in both these cases the Arabic numerals are used. Further the "i's" in the Roman numerals should have a dash above the letter and the dot should be carefully and distinctly written above the dash, so that they may be counted in confirmation of the number of strokes below the dash, should any question arise.

Abbreviations should be used with the greatest care and only such as are certain to be understood. For example such an abbreviation as "chlor," which might mean chloral, chloroform, chloridum, or such as "hyd," which might stand for hydrargyrum, hydras, or hydrochloridum, is not permissible. The usual abbreviations for common words will be found in the vocabulary.

Were the above prescription written in the metric system it would be as follows (in order to fill a standard bottle of 150 c.c. it has been recalculated and now contains 42 doses).

R			Gm. vel. c.c.
Potassii Acet.	41.5	gms.	} or {
Liq. Ammon. Acet.	17.5	c.c.	
Spt. Eth. Nit.	10.25	c.c.	
Infus. Buchu.	ad 150.00	c.c.	
			41|50
			17|50
			10|25
			150|00

The quantities are as a rule written in Arabic numerals, and the measure of prescription be not written on paper with a heading as shown on the right follows the numerals as is shown on the left. Fractions are always written as decimals and again paper as printed on the right with a perpendicular line to distinctly mark the decimal point is a distinct advantage, and a great safe-guard. Such prescriptions when read are commonly read in English and not in Latin.

The mathematics involved in prescription writing are not more difficult than is the grammar. Two points must first be decided. (1) For how many days and how many doses a day are you going to give the medicine? Taking the case used above as an illustration, we will suppose that you have decided to give three doses a day for a period of ten days, in all thirty doses. (2) How much of each ingredient do you wish to give at each dose? We will suppose that you intend to give 15 grs. of Potassium Acetate, 7 min. of Solution of Ammonium Acetate, 4 min. of the Spirit of Nitrous Ether, and some of the Infusion of Buchu (the latter is a comparatively inactive flavouring ingredient and may be given in considerable doses). You have already only 11 mins. of fluid; the acetate is very soluble and would readily dissolve in 30 min. therefore there is no need to give a larger dose than 1 fl. dr. The total quantity that you will want is 30 fl. dr. 32 fl. dr. make 4 fl. oz., which is the size of a standard bottle. The prescription will then be written for 32 doses, or, of Acetate of Potassium 32 x 15

grs. = 480 grs. one Troy ounce; of Solution of Ammonium Acetate, $32 \times 7 = 224$ min. or approximately $3\frac{1}{2}$ fl. dr. (210 min.); of Spirits of Nitrous Ether $4 \times 32 = 128$ min. approximately 2 fl. dr. Similar calculations may readily be made for any other prescription. It is customary to round off the amounts to make even numbers in drachms or ounces if the drugs be not very potent but if potent this practice should never be followed.

PHARMACOPŒIAL NOMENCLATURE.—The principles of the pharmacopœial nomenclature are very simple. As far as possible the Latin names are direct equivalents of the English names. . . . The names of acids may be considered as a direct translation of the English names. For example "Hydrochloric Acid, becomes "Acidum Hydrochloricum." "Acidum" is a neuter noun of the second declension with a genitive "Acidi." "Hydrochloricum" is an adjective (termination -us, -a, -um) agreeing with "Acidum" in gender, number and case. There may even, as in English, be a second adjective in the title, for example "Acidum Hydrochloricum Dilutum," or "Acidum Aceticum Glaciale" ("Glacialis" is an adjective of the third declension nom. -is, -e, gen. -is.) The names of salts may again be looked upon as the Latin form of their English names, though not their official English names, for example "Potassium Bromide," "Bromide of Potassium," becomes "Potassii Bromidum." Bromidum the name of the acid constituent is a noun of the second declension as is Potassium but the latter appears in the partitive genitive in the official name. . . . All salts whose names end in "ide" have names in Latin ending idum. The names of salts ending in "ate" have Latin names in a "as" (gen. -atis) and are masculine nouns of the third declension, example "Sodium Citrate" is "Sodii Citras." Those salt names ending in "ite" have Latin names masculine and of the third declension in "is" (gen. -itis), example Sodii Sulphis.

The names of alkaloids become in Latin feminine substantives of the first declension with a termination "ina" (gen. -inae), example Strychnina. Those of glucosides, bitters and neutral principles are neuter substantives of the second declension with a termination "-inum" (gen. -ini), example Aloin, Aloinum.

The names of parts of plants may be looked upon also as direct translations, example "Belladonna Leaves, Leaves of Belladonna, Belladonna Folia," Folia being a neuter noun in the plural (nom. sing. folium gen. folii pl. folia, gen. foliorum). "Belladonna" is the genitive of the feminine noun of the first declension, "Belladonna."

The names of preparations are again similarly formed "Tincture of Opium, Tinctura Opii"; Tinctura is a feminine noun of the first declension "Opii" the genitive of the neuter noun of the second declension "Opium."

The formation of the genitive and plural should as a rule give no trouble, but the following nouns have somewhat irregular genitives. Mel, Mellis; Fel, Fellis; Mas, Maris; Rhizoma, Theobroma, Physostigma, enema, gargarisma, make the genitive in -atis; Aloe, Aloes, Cantharis, Cantharidis; Rheas Rheados, Colocynthis, Colocynthisis; Flos, Floris; Digitalis, Hydrastis, Sinapis do not change in the genitive; Jaborandi, Kino, Catechu, Buchu, Kouso, Peru, Tolu, and most names ending in "I" are indeclinable. Spiritus, Fructus, Cornus are nouns of the fourth declension with genitives in -us.

The gender of Latin substantives may usually be judged by their termination. Substantives in -us and -or being usually masculine (exceptions names of plants in -us, Prunus Virginiana); those in -a are feminine; those in -um and -on and indeclinable nouns neuter.

VOCABULARY of words commonly occurring in the INSCRIPTIONS. The parts of speech are indicated by the usual abbreviations, as is the gender of the nouns, the case governed by prepositions; the genitive, singular (or plural in the case of plural nouns) and the plural will also be given for substantives and the terminations of the nominative for adjectives, also the accepted abbreviations.

Latin.	Abbreviation.	English.
Acetum—s, masc. i. a.	vinegar.
Ad—prep. acc.	to
Ana—indecl.	of each.
Aqua—s, fem. a. e.	water.
Aromaticus—adj. us. a. um.	aromat.
Acidum—s, neut. i. a.	acid, or ac.
Acidus—adj. us. a. um.	"
Balsamum—s, neut. i. a.	balsam.
Cataplasma—s, fem. atis. ates.	poultice.
Centimetrum (Cubicum) i. a.	centimetre (cubic).
Ceratum—s. i. a.	cerat.
Charta—s, fem. a. e.	chart.
Compositus—adj. us. a. um.	comp.
Confectio—s, onis. ones.	conf.
Corginus—s, masc. i. i.	gallon.
Collyrium—s, neut. i. a.	collyr.
Cum—prep. abl.	with.
cum semisse	and a half.
Decoctum—s, neut. i. a.	decoct.
Dilutus—adj. us. a. um.	dil.
Dimidius—adj. us. a. um.	used thus "unciam dimidium."
Drachma—s, fem. a. e.	dr. or ʒ
Emplastrum—s. i. a.	empl.
Emulsio—s, fem. onis. ones.	emuls.
Enema—s, fem. atis. ates.	enema.
Extractum—s, neut. i. a.	extr.
Flavus—adj. us. a. um.	yellow.
Fluidus—adj. us. a. um.	fluid.
Flos—s, masc. floris. thores.	flower.

Folium—s, neut. i. a. (gen. pl. -orum),	fol.	.....	a leaf.
Gargarismata—s, neut. atis, -ates, . . . . .		.....	a gargle.
Granum—s, neut. i. a.	gr.	.....	a grain.
Gramma—s, ata,	g. or gm.	.....	a gramme.
Infusum—s, neut. i. a.	infus.	.....	an infusion.
Libra—s, fem. a. a.	lb.	.....	a pound.
Lignum—s, neut. i. a. . . . .		.....	wood.
Linimentum—s, neut. i. a.	liniment.	.....	a liniment.
Liquidus—adj. us. a. um.	liquid.	.....	liquid.
Liquor—s, masc. oris, ores,	liq.	.....	a fluid, a solution.
Lotio—s, fem. onis, ones,	lot.	.....	a lotion.
Minimum—s, neut. i. a.	min. or m.	.....	a minim.
Mollis—adj. is. e. . . . .		.....	soft.
Mistura—s, fem. a. a.	mista.	.....	a mixture.
Mel—s, Mellis pl. Mellita (Mella), . . . . .		.....	a honey.
Mucilago—s, fem. onis, ones,	mucilag.	.....	a mucilage.
Niger—adj. nigra. um. . . . .		.....	black.
Nux—s, fem. nucis, nucees, . . . . .		.....	a nut.
Octarius—s, masc. ii. ii.	O.	.....	a pint.
Oleum—s, neut. i. a.	ol.	.....	an oil.
Pilula—s, fem. a. a.	pil.	.....	a pill.
Pulvis—s, masc. eris, eres,	pulv.	.....	a powder.
Preparatus—adj. us. a. um. . . . .		.....	prepared.
Quantum—sufficit (satis),	q.s.	.....	as much as may be required.
Radix—s, fem. icis, icees, . . . . .		.....	a root.
Recipe—v.	R	.....	take.
Rectificatus—adj. us. a. um.	rect.	.....	rectified.
Resina—s, fem. a. a. . . . .		.....	a resin.
Serupulus—s, masc. i. i.	scr. j)	.....	a scruple.
Semen—s, neut. inis, ina (gen. pl. inum), . . . . .		.....	a seed.
Semis	ss.	.....	a half.
Spiritus—s, masc. us, us,	spt.	.....	a spirit.
Succus—s, masc. i. i. . . . .		.....	a juice.
Suppositorium—s, neut. i. a.	suppos.	.....	a suppository.
Syrupus—s, masc. i. i.	syr.	.....	a syrup.
Tinctura—s, fem. a. a.	tinct.	.....	a tincture.
Uncia—s, fem. a. a.	oz. or $\frac{3}{4}$	.....	an ounce.
Unguentum—s, neut. i. a.	ung.	.....	an ointment.
Viridis—adj. is. e. . . . .		.....	green.

Words and phrases commonly occurring in the subscription:—

Ad usum	ad. us.	.....	according to custom.
Cola	col.	.....	strain.
Coloretur	color.	.....	let be coloured.
Coque	coq.	.....	boil.
Cujus	eui.	.....	of which.
Detur	det.	.....	let be given.
detur tales doses . . . . .		.....	let such doses be given.
detur quattuor doses . . . . .		.....	let four doses be given.

Divide	.....	divide.
divide in partes aequales	.....	" into equal parts.
divide in pilules viginti	.....	" into twenty pills.
Extende	.....	spread.
Extende super alutam	.....	" on leather.
Fiat	.....	let be made.
Fiat mistura	.....	" a mixture be made.
Fiat pilula	.....	" a pill be made.
Fiat massa	.....	" a mass be made.
Fiat haustus	.....	" a draught be made.
Lege artis	.....	according to rule.
Misce	.....	mix.
Misce detur signetur	.....	let be given and labelled.
Mitte	.....	send.
Mitte pilulas in numero	.....	send pills to the number of
viginti	.....	20.
Ne repetatur	.....	do not repeat.
Signa	.....	label.
Secundum artem	.....	skillfully.
Signa nomine proprio	.....	label with its common name.

Words and phrases commonly occurring in the signature:

Ad libitum	.....	ad lib.	at will, as much as may be desired.
Alternis diebus	.....	alt. dieb.	every other day.
Alternis horis	.....	alt. hor.	every other hour.
Bis indies	.....	bis ind.	twice a day.
Capiat	.....		take.
Cibus	.....		food.
post vel ante cibos, p. vel n. e.	.....		after or before meals.
Cochleare	.....	coch.	a spoonful.
" parvum (vel infantis)	.....		a teaspoonful.
" medium (vel modicum)	.....		a dessertspoonful.
" amplum (vel magnum)	.....		a table-spoonful.
Diebus tertiis vel quartis	.....		every third or fourth day.
Ex aqua	.....	ex aq.	in water.
Febre durante	.....		during the fever.
Hora	.....	hor.	hour.
" decubitus	.....	h. decub.	at bed-time.
" somni	.....	h. somni	
Indies	.....	ind.	daily.
Omni hora	.....	omn. hor.	every hour.
" quadrante hora	.....		every quarter hour.
Pro re nata	.....	p. r. n.	when required.
Quaque secunda hora	.....		every second (other) hour.
Quaque quarta hora	.....		every fourth hour.
Omni quarta hora	.....		every fourth hour.
Sumendus, a. um, gerundiv	.....		take.
of "sumo"	.....	
Ter in die	.....	t. i. d.	three times a day.

CHAPTER IX.

MAGISTRAL PHARMACY.

To Magistral or Extemporaneous Pharmacy belongs the compounding and dispensing of drugs. Its successful performance naturally has to be preceded by a knowledge of the physical and chemical characters of drugs. Dexterity in the art can only be secured by large practice, something for which the medical student has not the opportunity. The dispenser stands between the prescriber and the patient and only a very intimate acquaintance with the characters and doses of medicines will enable him to successfully perform his duty to each. The physician who dispenses his own remedies assumes a double liability in that he becomes sponsor for the proper selection of the remedy as well as its being prepared as to dose and form so that the patient may take the prescribed quantity without danger to himself.

The dispensing of prescriptions:—

General remarks:—

AS TO BOTTLES.—Those used for dispensing may be had in various coloured glass and of oval, round or square shape. Medicines for internal use are commonly dispensed in the flint or colourless glass which is somewhat more expensive than bottles made of green glass but the better appearance makes ample return for the additional cost. Amber and blue glass bottles are in frequent use for sending out poisons and also for storing solutions which may be affected deleteriously by actinic light. Vials, for poisons, of unusual shape and studded with raised points of glass so that they may be instantly recognized, even in the dark, are advised. Prescription bottles vary in size from those containing a drachm to those holding as much as a pint or more. Cylindrical flint glass bottles holding one, two and four fluid drachms are known as homeopathic vials, and are of use in the dispensing of small quantities of eye lotions and other remedies to be administered in minute doses. For ordinary prescriptions bottles hold from a half to sixteen fluid ounces and the size is determined by the individual capacity for holding fluids. The various sizes are known respectively as $\frac{1}{2}$, 1, 2, 3, 4, 6, 8, 10, 12 and 16 ounce bottles. After the three ounce there are no odd sizes made for dispensing so that prescriptions calling for more than that quantity of fluid should be written for even numbers of ounces.

AS TO LABELS.—These should be of a style and shape to suit the special package to which they are attached. It is well to have two sizes for bottles. They should bear the physician's name and address,

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and if desired his office hours and telephone number. These items should be printed or lithographed plainly but unobtrusively, so as to leave ample space for directions to the patient, which space may be ruled or not. They may be already gummed if that is wished, though labels so prepared are apt to adhere in warm weather and thus become spoiled.

BOXES FOR POWDERS.—These are made of paper and are oblong or square in shape. They may be of the well-known telescope design or have the lid lift from the base, these being the more costly. The upper surface of the cover is reserved for the label.

BOXES FOR PILLS.—Made of paper and ordinarily flat and circular in shape.

BOXES AND JARS FOR OINTMENTS.—These may be of wood, paper, tin or glass. The two former kinds are made impervious by preparatory treatment with a solution of silica. Glass jars may have covers of the same material, or of metal which ought to be non-corrosive. These containers are spoken of as being of $\frac{1}{2}$, 1, 2, 3, 4, 6 and 8 ounce in size, as determined by the capacity of each. Those made of glass are preferable but are the most expensive. Labels are commonly applied to the upper surface of the lids but in the case of those having metal covers it may be found difficult without a special mucilage to keep them adherent. With the glass jars having metal covers this may be obviated by placing the label either upon the side or the bottom.

CARE IN DISPENSING.—Carelessness in weighing and measuring medicines should not be tolerated for an instant. Weighing potent drugs by rule of thumb should never be begun, let alone made a practice of. At the present time if it be necessary to dispense medicines without the aid of a scale the great variety of tablet triturates containing definite weights of active drugs makes it possible at very slight additional cost to secure almost any formula needed in emergency.

RAPID DISPENSING. PERCENTAGE SOLUTIONS.—The physician dispensing his own prescriptions may facilitate his office work by keeping many of the frequently used drugs prepared in concentrated solution. These are made by dissolving a known weight of the drug in a sufficient quantity of the solvent to make a definite volume of the final solution. For instance eight drachms of Bromide of Potassium are dissolved in that quantity of water required to make a solution measuring four fluid ounces. Each four fluid drachms of the latter will then contain one drachm by weight of the Bromide. These are called dispensing solutions and are quite different to the percentage solutions of the chemical laboratory and to those of the Pharmacopœia. The former are solutions of a

definite weight of the substance dissolved, called the Solute, in a definite weight of the solvent, and are used in scientific research. Those of the Pharmacopœia are a close approximation to this and are a definite weight of a drug in a definite volume of a solvent having approximate definite weight. As an instance of a percentage solution for chemical research one gramme of Mercuric Chloride is dissolved in ninety-nine grammes of Water or of Glycerin. Each gramme by weight of the finished solution will now contain one per cent. of the total of Mercuric Chloride, nevertheless the total volume of the solution in water will be a little more than ninety-nine cubic centimetres, while that made with Glycerine will measure 100 grammes by weight but only 89 c.c. by volume. This is due of course to the greater specific gravity of latter solvent. Similarly the official Solution of Mercuric Chloride is of one per cent. strength. It contains one grain of the salt in one hundred grains of the finished product. Because however of the difference existing between the official grain and minim in weight, it requires that one hundred and ten minims of water be used in making this liquor, each minim weighing 0.911 of a grain. So that every minim of the official solution does not contain precisely one one-hundredth of a grain, though the difference is so slight as to be a negligible quantity. This brings the procedure under the rule that all solids shall be weighed in compounding drugs and all liquids measured.

REMARKS ON THE DISPENSING OF MIXTURES.—As with every other operation in the dispensary have all the apparatus to be used perfectly clean. Select a bottle of the correct capacity, lest the patient may misapprehend your intention if too large a vial is used and think that on the one hand his medicine is too concentrated or on the other he is not getting his money's worth. It is difficult to appreciate how full of doubt and fear a sick man is. A slight change in the usual bulk, colour or taste of his medicine will send a messenger to you post haste declaring that a mistake has been made.

If the prescription presents no incompatibilities, proceed to measure into the bottle the fluid ingredients beginning with those of least volume, unless these are of very volatile nature when they should be added last. Separate the soluble solids and dissolve them in a portion of the menstruum by trituration in a mortar before placing them in the bottle. Never permit solids that are completely soluble in the vehicle to leave the dispensary undissolved. The method of adding soluble salts directly to the mixture while it may save some time is not to be commended because of the frequency with which their solutions contain foreign matter which requires filtering out. Insoluble dry drugs if prescribed should now be reduced to fine powder mixed with some of the menstruum and added to the rest. In many instances it is well to suspend these by the addition of gum, mucilage or a viscid fluid such as syrup or glycerin. If the vehicle is water or an aqueous

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fluid and there are oils, balsams or oleo-resins ordered these should be emulsified before being added to the bottle. The remainder of the menstruum is now added and the bottle corked. The mixture should again be examined for the presence of foreign matter such as pieces of straw and these if present removed.

Corks for dispensing bottles should be of the longer cuts, should be kept in a moist atmosphere to prevent their becoming friable and the one used should be of such size as not to require insertion for more than half its length.

Labels ought to be attached so as to make the most symmetrical parcel possible, neither close to the top nor to the bottom of the bottle, rather over the middle third of its face.

A small piece of absorbent cotton in the neck of a funnel makes the most rapid filter for a large proportion of solutions.

The dispensing of fluid medicines necessitates a more complete acquaintance with the subject of incompatibility than is the case with any of the other forms of extemporaneous prescriptions.

DISPENSING OF PILLS.—The prerequisite of a properly made pill is a proper pill mass. This should possess the following characters, consistence, cohesiveness, and plasticity. Proper consistence is essential for if too hard the mass may not be divided into pills while if too soft the pills made will not retain their shape and will tend to run together. Cohesiveness is necessary otherwise when dry the pills tend to fall apart or to crack. Plasticity, for the reason that the mass requires to be of such nature that it may be first rolled into cylindrical rods upon the pill tile or the pill machine and then be divided and moulded into the individual pills.

These qualities may be inherent in the drug used as the basis of the prescription, as in the use of the Compound Extract of Colocyth where the incorporation of a little water is all that is needed to develop them. On the other hand it may be necessary to add some excipient to confer one or other or all of these qualities to the mass. When an excipient is added it should be as little as is essential to the making and keeping of the pill, unless the resulting individual pill would weigh less than one grain when a sufficient quantity of the excipient or of some inert substance is commonly added to make the weight up to that amount. The object sought is a pill which will retain its shape under any ordinary climatic conditions, will always be capable of disintegration in the stomach or bowel, and that will not when completed weigh more than five or six grains, lest the patient experience difficulty in swallowing it.

In making a pill mass, intimately mix the various powders triturating the smaller quantities first, then the larger. If solid extracts are included these should now be mixed and the powders then incorporated with them. If an excipient be required it is now added and

when a plastic homogeneous mass is obtained it is transferred to the pill tile or machine for rolling into rods which are then cut and moulded into pills by the aid of the hands, the machine, or a pill roller. Before being sent out they should be dusted with some inert powder such as Powdered Licorice Root, Corn Starch or French Chalk, to prevent them becoming adherent.

The following are some of the most useful excipients:—

WATER.—Of use where there are considerable proportions of aqueous extracts as those of Aloes, or Cascara; where there is a gummy substance as Asafetida, or with those holding Hard Soap.

GLYCERINE OF TRAGACANTH.—One of the best for general use, being powerfully adhesive, at the same time preserving the consistence of the pill and promoting its solution. Tragacanth has large powers for absorbing water.

SYRUP OF GLUCOSE.—Much used in the official pills and particularly where it is not necessary to confer much adhesiveness to the mass.

EXTRACT OF MALT.—Makes a good excipient for general use, not being eligible of course in those pills where vegetable substances are to be avoided as with pills of Silver Nitrate.

POWDERED LICORICE ROOT AND POWDERED EXTRACT OF LICORICE.—These possess mild adhesiveness, the former because of its absorbent power is useful with very soft masses, it also makes an excellent dusting powder for the finished pills.

POWDERED HARD AND CURE SOAP.—The former is of use in making those pills containing vegetable substances as powdered crude drugs, the extracts, and the gum resins such as Myrrh or Asafetida. The latter is especially helpful with pills of Creosote or the Essential Oils. Avoid using soap for massing metallic salts, acids, or compounds of Tannin.

KOALIN.—Of use in massing easily combustible substances such as Permanganate of Potassium, Nitrate of Silver and Phosphorus. Cohesion is secured by the addition of a fatty substance such as Resin Ointment.

POWDERED ACACIA.—Is mentioned only that it may be avoided unless combined with some fibrous powder as Licorice or Althaea Powder. Pills made with Acacia are apt to become extremely hard and have been known to pass through the bowel undissolved.

COATING OF PILLS.—For the physician to attempt anything more than a simple dusting of new made pills with some inert dry powder such as Licorice would be to tempt disaster as the process of coating with sugar, silver, or gelatine, other than using a gelatine capsule, belongs to the expert dispenser. Pills intended for solution in the bowel may be coated with a preparation of Keratin in which case they must

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be made with a fatty excipient, and are difficult to make. They also may be coated with melted Salol which is placed in a shallow container and the pills rotated in it until covered. If Salol is used the excipient must not be made of fat.

THE DISPENSING OF CAPSULES.—For this purpose the drugs used are powdered finely and placed in the capsule by the aid of a spatula or of a patent capsule filler after being accurately subdivided. The patent filler consists of a stand which supports the capsules in an upright position and a sliding funnel, riding over the base, through which the powder is poured into each capsule. Capsules are made of several sizes, holding from one to ten grains of powdered quinine and more of the denser drugs. All drugs should be reduced to powder before being dispensed in this way.

A second method is to proceed in the same manner as in the making of pills up to the point of the division of the mass when the sections instead of being moulded into pills after being rolled to the proper diameter are inserted into the capsule.

Oils, Balsams, and Alcoholic Solutions may be dispensed in this way but care must be taken to seal the cover on by moistening the base of the capsule with a brush dipped in water at the part which is covered by the lid before this is placed in position. This effectually prevents the contents finding their way out and air from entering. Aqueous fluids may not be given in this manner unless administered at once. Soft capsules are made and filled by the large manufacturers and are not readily dispensed by hand unless special apparatus is available.

In dispensing capsules by hand the skin must be perfectly dry otherwise the fingers will soften the outside of the capsule to which any powders will adhere, making an unsightly product and giving their unpleasant taste to the gelatine. The filled capsule should still possess its lustre and be quite free of the taste of the enclosed medicine.

DISPENSING OF CACHETS.—This is perhaps the most elegant way of administering powders of moderate bulk, it being possible to enclose about double as much as by capsule. As in the dispensing of dry powders by capsule it is first necessary to convert everything to powder form. To turn out cachets properly requires the use of a cachet machine though a serviceable substitute may be made by using two bottles having wide mouths of sufficient inside diameter to hold each a half-cachet. The powder is placed in one half being careful not to allow any to fall upon the projecting edge. The edge of the other half is now moistened with a brush dipped in water, and a very little having been applied the empty half is inverted over the other and with the application of slight pressure becomes adherent. The use of the machine permits the same procedure to be accomplished much more rapidly. Fluids

and deliquescent drugs may not be dispensed in this manner. As there are several sizes of cachets available that best suited to the bulk of the medicine should be selected.

THE DISPENSING OF POWDERS.—Drugs selected for dispensing in powders are commonly those with little unpleasant taste. As we have seen nauseous powders are best given in capsules or cachets. Deliquescent drugs or those affected deleteriously by the atmosphere should not be dispensed unless wrapped in oiled paper.

Every remedy should be reduced to fine powder, and if several are to be mixed this is to be done in the usual order, beginning with those of smallest bulk and gradually adding those which are larger. Powders may be triturated in a mortar with the pestle if light trituration is used as hard pressure is apt to cause caking making the resulting powder difficult to swallow.

A very useful way to obtain the thorough admixture of powders is to pass them repeatedly through a fine sieve. If the total quantity is small, powders may be readily and well mixed by triturating them together upon a piece of paper with a spatula and then passing them once through a sieve. The division of powders may be done with the spatula, equality in size being determined by the aid of the eye, or more exactly each powder may be weighed.

Powder papers should be of equal size and when folded of the same width and length, this being determined by the size of the box in which they are to be placed. The folding over of the ends should be the same in each so as to secure absolute uniformity.

EMULSIONS.—These are mixtures of resinous or oily substances with water. They consist of minute particles of the active substance surrounded with, kept apart, and in suspension by means of mucilage made from one of the gums. Acacia or Tragacanth are commonly selected in the dispensary. Perfect natural emulsions are to be seen in Milk and in the Yolk of Egg.

Of the resinous drugs Asafetida, Myrrh, Copaiba, Extract of Male Fern, the Tinctures of *Cannabis Indica*, Tolu, the Compound Tinctures of Guaiac, and Benzoin frequently require treatment: amongst the oils, Cod Liver and Castor Oils, Turpentine and Camphor. In the case of the gum resins such as Asafetida which contains a good deal of gummy matter it is not necessary to add extraneous gum to obtain an emulsion, that which is part of the drug being sufficient, on trituration with water.

Emulsions are prepared by the aid of a mortar and flat pestle. A thick mucilage is first made and with constant stirring a portion of the drug is added in small quantities until the emulsion is obtained,

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when the balance is added alternately with the remaining water in successive portions until the whole is emulsified.

With oils a second method may be adopted, called the English Method. Two or three parts by weight of Gum Acacia are triturated in a mortar with eight parts of Oil until the gum is completely suspended. Then one and a half parts of Water are added at once when a few revolutions of the pestle will secure an emulsion. The balance of the Water is now to be added in successive quantities until the whole is used. If the emulsion is not completed in the first stage of the process or the water is added too freely the oil separates and the emulsion is said to "crack," and it cannot be restored.

SUPPOSITORIES, BOUGIES, PESSARIES.—The active agent is reduced to powder or to paste and incorporated with the Cocoa Butter which has been melted at a low temperature (preferably on a water bath). When at the point of congealing and while still possible to pour the mixture it is run into metal moulds which have been previously cooled on ice and moistened with Soap Liniment, or a fixed oil such as Almond or Olive Oil. The mould is again placed on the ice until the product has become solid when the suppositories are removed and may then be placed in impervious boxes or those lined with either tin foil or paraffined paper.

Suppositories may likewise be made by hand, by allowing the mixture to become cooled to that point where it is plastic but not hard, when the mass is rapidly moulded on a pill till into conical shapes of definite weight. A third method is to make paper cones which having been oiled are placed, open end up, in sand or linseed meal. The melted mass is now poured into the cones and the vessel containing them is set aside in a cool place. When solid the suppositories are removed from the paper holders and boxed.

In a large way they are manufactured by a special machine which by pressure forces the mixed ingredients, prepared in the cold, into moulds of such shape as may suit the need of the prescriber. This is called the "Cold Method."

Pessaries, Bougies and some Rectal Suppositories are best made with a gelatine base, from a mixture of gelatine and glycerin. This is not useful in the case of Tannic and Carbolic Acids nor with Ichthyol. Essential Oils, as Oil of Eucalyptus, are best made up with the addition of a small quantity of white wax to the Cocoa Butter. About the same weight of wax as of the oil is necessary to make a firm suppository. Wax may be added also in very warm weather.

Heavy Salts such as Acetate of Lead tend when the suppository is made by heat to gravitate during the cooling to the apex where it forms a hard brittle mass. For these the method of making by hand is perhaps the most useful.

ointments.—With no other group of preparations is it so essential to have all solids reduced to a fine powder as with ointments, unless perchance they are readily soluble in fats. The sub-division should be so fine that when incorporated with the base no grittiness is evident to either the eye or the finger.

Ointments may be made upon an ointment slab, with the aid of a spatula, or better with a mortar and pestle. The former is frequently the reverse side of a pill tile, or may be a square of ground glass (12 x 12). The active drug is first made into a paste with a few drops of water, spirit or glycerin. It is then triturated with a small quantity of the base until thoroughly mixed. The rest of the base is then added and the trituration continued until the whole is incorporated. When completed the ointment is to be dispensed in a box or jar. This should be done cautiously so as not to smear the outside of the container and so as to leave a smooth finished surface to the ointment itself. The spatula aided by the flame of a gas or alcohol lamp over which the inverted jar is held for a moment will suffice for this.

The base selected for any ointment should be such as will fulfil the purpose of the prescription, some fats being absorbed by the skin, others not. It should be chosen with a view to avoiding chemical reaction between it and the active constituent. As already stated the chief bases are Wool Fat, Lard, and Paraffin. Their absorption by the skin and their power of absorbing liquids is in the order of mention. For extemporaneous prescriptions the Wool Fat is much more used than in the making of the official ointments.

For impressing the general system then the base should be Wool Fat or Lard, preferably the former. This used alone makes a rather stiff ointment which is difficult to prepare and to apply. This may be avoided by the addition of a small proportion of Lard.

For those to be used purely for their local effect, Soft Paraffin or a mixture of Hard and Soft, depending upon the climate, makes the ideal preparation. In cold weather less, in warm more of the Hard Paraffin.

The Pharmacopœia directs Yellow Paraffin to be used if coloured drugs are to be dispensed and the White for those that are colourless. This is a good rule for all but those ointments to be applied to the eye. White Paraffin is made by bleaching the Yellow with the aid of the mineral acids and there is likely to be a trace present which makes it unsuited for application to the delicate conjunctiva. For these unguents use the Yellow Paraffins. The greatest precaution to obtain ointments absolutely free of grit should be taken when for use in the eye.

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PLASTERS.—The making of plasters has been so completely passed over to the manufacturing pharmacist that it seems needless to discuss the subject. Almost any formula can be had already spread by machinery with such art that the unskilled hand may not hope to obtain such perfect results from a pharmaceutical, let alone from the therapeutical, standpoint.

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