An epitome of pharmaceutical chemistry : whereby the art of prescribing scientifically may be facilitated ... arranged according to the London Pharmacopoeia / by Rees Price.

A Legacy from the late
Dr. Hunter.

AN

EPITOME

OF

PHARMACEUTICAL CHEMISTRY:

WHEREBY

THE ART OF PRESCRIBING SCIENTIFICALLY MAY
BE FACILITATED,

AND

THOSE DECOMPOSITIONS AVOIDED,

WHICH,

RESULTING FROM COMBINATIONS OF INCOMPATIBLE
SUBSTANCES,

OFTEN FRUSTRATE THE VIEWS OF THE PRACTITIONER IN THEIR MEDICAL EFFECTS;

ARRANGED ACCORDING TO THE

LONDON PHARMACOPŒIA.

BY

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1821.

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Introduction.

THE art of prescribing is of the highest consequence, as it regards the safety of the sick, and the character of the practitioner. Vain shall be our labours in tracing the causes of disease, and in selecting appropriate remedies for their cure, if our expectations are to be defeated by an injudicious administration of those medicines, the knowledge of whose virtues and properties, has been the work of ages to acquire. Medicine is a two-edged sword, which, if used

at random, returns upon the head of the unwary; it is a blessing, when ministered by the hand of science—but it is a direful curse, when dispensed by the designing or the ignorant. There is but one way to arrive at Pharmaceutical perfection, and that is, through actual Chemical research and observation. In no other way can the Medical Practitioner receive that knowledge which gives him the power of judiciously combining the numerous remedies which nature and art have profusely given for his use. So various, and almost infinite, are the combinations effected by chemical laws, that the chances would be much against the probability of our being able to take indiscriminately two or three articles in the Dispensary, which would not be found to

destroy the identity of each other in being combined; and we have only to consult the prescriptions of but too many Practitioners of the present day to learn, that such an error is in constant commission. Thus, a Medical Character, ignorant of the decompositions effected in the compounds he is directing, after, perhaps, an elaborate construction of his formula with the best and most appropriate *individual* remedies, presents his patient with a potion rendered inert by the chemical changes it has undergone; or, on the contrary, become virulently noxious, by the production of some pernicious principles.

The study of Chemistry, therefore, is a desideratum of great magnitude; and it

becomes a decided fact, that the practice of medicine cannot be conducted, either with safety or advantage, upon any other basis. A knowledge of Chemistry is not, however, to be attained by a slight and casual attention to the subject: deep study, and long and persevering efforts in the closet and the laboratory are the means by which, only, a competent acquaintance with it can be obtained; and it does not fall to the lot of Medical Practitioners in general, either in the scheme of their education, or by their subsequent opportunities amidst the duties of their professional avocations, to be afforded proper opportunities for acquiring such advantages. Reflections such as these, have suggested to me, that a representation of the articles of the Materia Medica, incompa-

tible or chemically dissimilar with each other, exhibited in a concise manner, would be a valuable resource to the profession at large, and in the arrangement of the following materials, I trust I have contributed to such a desirable end.

It is by no means, however, to be understood, that the Practitioner is prohibited from forming any of the combinations which, in a strictly scientific view alone, are forbidden by the "exposé" of the following pages; for the new compound produced by such union, is frequently the identical power from which its character and energy, as a medicine, is derived; such, for instance, is the case with the celebrated Griffiths's Mixture. The "Black Wash" and the "Yel-

low Wash," also, are examples of the same kind, and our common effervescing draught is another familiar instance; but it is found that many substances, decomposing each other when in solution, may be combined in the "dry way" (as the Chemist calls it), that is, the compound mass may be put into the shape of a pill, without necessarily involving decomposition; for example, Calomel and Soap—Tartar Emetic with Rhubarb or Soap—Opium and Metallic Salts, &c. It is not necessary, therefore, that we should fetter ourselves to an implicit compliance with the precepts laid down here. What process occurs in Gastric Chemistry, preventing that play of affinities which takes place out of the body, I am not prepared to discuss; the knowledge of the fact

is sufficient for our present purpose. But a complete knowledge of Chemistry is necessary before the Practitioner should venture, without a guide, upon the use of medicines, developed by decompositions, the products of extemporaneous prescription; till such a knowledge, therefore, has been acquired, it is better he should regulate his practice conformably to the illustrations which I have attempted to shew.

It will not, I trust, appear to savour of vanity, when I assert my belief that this little work will be despised by none, and will be useful and instructive to many. The Medical Tyro will undoubtedly gain many useful facts with little trouble of research, and the more experienced will find

in it an easy source of reference in the moment of doubt. Its brevity is not the least of its recommendations, and its size adapts it to any repository most suited to the convenience of its possessor, which in some instances may even be the pocket itself. It presents my reader in an instant with the fact inquired after; it is a kind of ready reckoner, to correct the memory or solve a doubt, and not infrequently, perhaps, to assist the uninformed.

A physician of my acquaintance, eminent in his profession, lately prescribed for his patient an injection, composed of a considerable quantity of the Black Drop diffused in Mucilage of Gum Arabic, to which Goulard's Extract was added. The Opium was precipitated, and the mixture rendered so curdy,

that it could not be forced through the pipe of the syringe. Numerous other examples might be cited, but so many must be within the knowledge of every one, as to render it unnecessary to offer more; suffice it to say, I am actuated with the desire to extend information, and to afford the utmost facility to the obtainment of it: and should my endeavours prove useful, but in a solitary instance, I shall not consider they have been misapplied.

Cannon Street, London,
December, 1821.

EPITOME, &c.

[In the left-hand column are the articles of the London Pharmacopœia, in alphabetical order; whilst those placed opposite, in the right-hand one, are the substances with which each is chemically incompatible.]

Acaciæ Gummi	Vide Mucilago Acaciæ.
Acidum citricum .	Nitric and sulphuric acids; nitrate and acetate of mercury; acetate of lead.
Acidum nitricum.	Essential oils; compound spi-

rit of lavender, if there be much added.

Adeps præparata. Extracts; spirituous preparations; tinctures; infusions. These are not capable of combining with it without the intervention of a third substance: but camphor, balsams, dry powders (vegetable or mineral), fixed or volatile oils, combine with it intimately.

Ærugo . . . . . Vinegar converts it into a soluble acetate, and ought not, therefore, to be employed as an antidote to its poison. Sugar exercises a chemical action on it, by which its solubility in the human stomach is diminished, and is, therefore, a specific against

its deleterious consequences.

Alumen	Alkalies and alkaline salts; carbonate of magnesia; carbonate and muriate of ammonia; tartrate of potass; lime water; super-acetate of lead; salts of mercury; many vegetable and animal substances, as galls, kino, bark [1], &c.

[1] *The mixture of alum and decoction of oak bark, in such frequent use, as an injection for fluor albus, is, of course, improper.*

Ammonia subcarbonas	Fixed alkalies and their carbonates; acids; alum; lime; magnesia [2]; super-tartrate of potass; sulphate of magne-

	sia; all acidulous salts; super-acetate of lead; tartarized iron; sulphate of iron; sulphate of zinc; acetate, submuriate, and oxymuriate of mercury.
	[2] *It is by no means unfrequent to exhibit ammonia with magnesia; in this case decomposition ensues, and the gaseous ammonia escaping, produces, by its pungency, uneasiness, and often violent pain in the stomach.*
Ammoniæ murias.	Nitric and sulphuric acids; potass and its carbonate; lime; carbonate of soda.
Antimonium tartarisatum[3] . . .	Mineral acids; alkalies and their carbonates; many of the metals; hydro-sulphu-

rets; soaps; many infusions and decoctions of bitter and astringent vegetables; infusion and tincture of galls; rhubarb; alkaline sulphates, if not perfectly neutral.

℥j *of decoction of cinchona decomposes* ℈j *of this salt. It is often added to the infusion of senna, to increase its purgative effect; but the intention defeats itself.*

Argenti nitras . . Sulphuric, muriatic, and arsenious acids, with their salts; alkalies, except ammonia; lime; aqueous solutions of the salts of mercury or copper; artificial vegetable solutions.

Calumbæ Radix .	Acetate and super-acetate of lead; infusion of galls.
Capsici Baccæ . .	Oxymuriate of mercury; acetate of lead; nitrate of silver; sulphates of iron, zinc, and copper; and the carbonates of alkalies.
Cinchona	Sulphate of zinc; nitrate of silver; tartar emetic; oxymuriate of mercury[4]; salts of iron; solution of arsenic.

[4] *Many practitioners are in the habit of ordering a mixture of the oxymuriate of mercury, dissolved in tincture of bark, in scrophulous diseases. Unchemical as this is, yet from the estimation in which it is held, it is not perhaps to be rejected. Tartar emetic,*

added to the decoction of cinchona, under the notion of increasing its febrifuge effect, is of course absurd, although too much in use.

Coccus . . . . . Acetate of lead[5]; sulphates of zinc and of iron.

[5] *A custom prevails of colouring solutions of lead and of zinc with cochineal; it ought to be abandoned.*

Colchicum . . . . . Acids and oxygenating substances render the vinous infusion drastic; alkalies render it mild by increasing its solubility in the stomach.

Colocynth . . . . . Acetate and super-acetate of lead; sulphate of iron; nitrate of silver; fixed alkalies.

Confectio aromatica	Acids of all kinds.
Conii Foliæ	[6]

[6] *Its energy is greatly diminished by vegetable acids; hence vinegar is the best antidote to its poison.*

Copaiva	Sulphuric and nitric acids.
Cupri sulphas . .	Alkalies and their carbonates; earths and their carbonates; acetate of ammonia; muriate of lime: acetate and super-acetate of lead[7]; subborate of soda; tartrate of potass; nitrate of silver; oxymuriate of mercury; acetate of iron; all astringent vegetable tinctures and infusions.

[7] *I have seen an injection for gonorrhœa, composed of a solution of blue vitriol and sugar of lead.*

Cuspariæ Cortex. Tartarized antimony; muriate of mercury; nitrate of silver; sulphates of iron and copper; acetate and super-acetate of lead; pure potass; infusions of galls, and yellow cinchona[8].

[8] *Cusparia and cinchona are frequently combined, to the destruction of both.*

Decoctum Cinchonæ . . . . . Oxymuriatic acid; tartarized antimony; infusion of galls.

Decoctum Cydoniæ. The same as mucilago acaciæ[9], which see.

	[9] *A very common error is that of directing injections of the preparations of lead in the mucilage of quince seeds.*
Decoctum Ulmi .	Alcohol and tinctures, in any considerable quantities.
Extractum Opii .	Carbonate of potass; muriate of mercury; sulphates of zinc and of copper; acetate of lead; nitrate of silver; solutions of astringent vegetables.
—— *Papaveris.*	The same as above.
Ferri sulphas . . .	Every salt, whose base forms an insoluble compound with sulphuric acid*; alkalies and

* *Ex gr.* the preparations of antimony, lead, mercury, silver, lime.

their carbonates; the earths; borate of soda; muriate of ammonia; acetate of ammonia; acetate and super-acetate of lead; soaps; nitrate of potass; tartrate of potass and soda; nitrate of silver; muriate of barytes.

Ferrum tartarisatum ..... All strong acids; lime water; hydro-sulphuret of potass; infusions of oak bark, galls, and other astringent vegetables[10].

[10] *Fixed alkalies and their carbonates decompose the* solution *very* slowly.

Gallæ ..... METALLIC SALTS. The precipitates produced are composed of tannin, gallic acid, and the metallic oxide.

1°.—IRON forms a *black* precipitate, which is the tannogallate of iron.

2°.—LEAD, *acetate and superacetate of*, produce a *greyish* precipitate.

3°.—ANTIMONY, *tartarised*, produces a *yellowish* precipitate.

4°.—COPPER, *sulphate of*, produces a *brown* precipitate.

5°.—ZINC, *sulphate of*, produces a *reddish black* precipitate.

6°.—SILVER, *nitrate of*, produces a *deep olive* precipitate.

7°.—MERCURY, *nitrate of*, a *bright yellow.*

8°.—MERCURY, *oxymuriate of*, produces only an opacity.

ACIDS. The *sulphuric* produces a *yellowish curdy* precipitate.

The *muriatic*, a *flaky* and *white* precipitate.

The *nitric* merely modifies the colour of the solution.

AMMONIA, solution of, produces no precipitate, but renders the colour deeper. The *carbonate* of ammonia throws down a precipitate.

	FIXED ALKALIES, carbonates of, produce a *yellowish* flaky precipitate.
	LIME WATER, produces a *deep green* precipitate.
	Decoction of cinchona and solution of Isinglass.
Granati Cortex .	Sulphate of iron.
Guaiaci { *Resina et Lignum* }	The mineral acids.
Hæmatoxyli Lignum	The mineral acids; acetic acid; solutions of alum; sulphates of iron and copper; tartarised antimony; acetate of lead.

Hydrargyri oxymurias	Carbonate of fixed alkalies produce a yellow precipitate.
	Ammonia produces a white triple compound.
	Lime water produces a deep yellow colour, which is an oxide of mercury, containing a little muriatic acid.
	Tartarised antimony; nitrate of silver; super-acetate of lead; sulphuret of potass; sulphur; soaps. Copper, lead, bismuth, iron, and zinc, in their metallic state, produce precipitates which are amalgams of the metal with calomel*. Olive oil

* Hence, mortars of glass or earthenware should be

becomes white when triturated with this metallic muriate, and when boiled, calomel is precipitated. Sugar produces the same effect; volatile oils reduce it; infusions of camomile, horse-radish root, calumba root, catechu, cinchona, rhubarb, senna, simarouba, and oak bark; tea; almond emulsion, precipitate it; albumen*. Light partially decomposes it.

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used for dispensing medicines containing the oxymuriate of mercury.

* White of egg, therefore, diluted with water, is the best antidote to this poison, as it reduces it to the state of mild muriate, the compound formed being quite inert in the intestinal canal.

Hydrargyri sub-murias	Nitric and oxymuriatic acids; alkalies and their carbonates; soaps; sulphuret of potass and of antimony; lime water; iron; lead; copper.
Hyosciami Foliæ.	Super-acetate of lead; nitrate of silver; sulphate of iron.
Infusum Anthemidis	All preparations of iron; isinglass; infusion of cinchona; nitrate of silver; oxymuriate of mercury; acetate and super-acetate of lead.
—— *Armoraciæ compositum*	Carbonates of alkalies; nitrate of silver; oxymuriate of mercury; infusions of galls and cinchonæ.
—— *Aurantii compositum* . . .	Super-acetate of lead; sulphate of iron; lime water; infusion of cinchona.

Infusum Caryophillorum . . . . Super-acetate of lead; tartarised antimony; sulphate of iron; nitrate of silver; sulphate of zinc; infusion of cinchona; lime water.

——— *Cascarillæ.* The same as above; infusion of galls.

——— *Calumbæ.* Acetate of lead; oxymuriate of quicksilver; tartarised antimony; nitrate of silver; infusion of cinchona.

——— *Catechu compositum* . . . Sulphate of iron; tartarised antimony; sulphate of zinc; oxymuriate of mercury; strong acids; solution of isinglass; infusion of cinchona.

——— *Cinchonæ.* Sulphates of iron and zinc; muriate of mercury; tartarised antimony; nitrate of

	silver; alkaline carbonates; lime water; decoction of galls; and infusions of almost all the vegetable bitters.
Infusum Cuspariæ.	Tartarised antimony; nitrate of silver; sulphates of iron and zinc; super-acetate of lead; oxymuriate of quicksilver; infusions of catechu and galls.
—— *Digitalis.*	Super-acetate of lead; sulphate of iron; infusion of cinchona.
—— *Gentianæ compositum . . .*	Acetate and super-acetate of lead. Sulphate of iron strikes a brown colour, but produces no precipitate for several hours.

Infusum Lini . . .	Alcohol; preparations of lead; tinctura ferri muriatis[11].
—— *Quassiæ* .	Nitrate of silver and super-acetate of lead.
—— *Rhei* . . .	The stronger acids; sulphates of iron and zinc; nitrate of silver; tartarised antimony[12]; acetate and super-acetate of lead; oxymuriate of quicksilver; solution of isinglass; infusions of cusparia, cinchona, catechu, galls, and some other astringent vegetables.

[11] *The same objection obtains with the infusion of lint-seed, as with the mucilage of quince-seed.*

[12] *Combining tartar emetic*

with this infusion, as is very commonly done, is, as is seen, worse than useless.

Infusum Rosæ . . Sulphates of iron and zinc; super-acetate of lead[13]; and all bodies decomposed by sulphuric acid.

[13] *In cases of hæmoptysis it is often the practice to exhibit the super-acetate of lead, and to wash it down with the infusion of roses. No remark is necessary.*

——— *Senna* . . . Strong acids; lime water; the alkaline carbonates; nitrate of silver; oxymuriate of mercury; super-acetate of lead; tartarised antimony[14]; infusion of yellow cinchona.

[14] *Avoid the frequent error of adding emetic tartar to this infusion.*

Infusum Simaroubæ	Lime water; decoction of galls; infusion of catechu and yellow bark; oxymuriate of mercury; nitrate of silver; super-acetate of lead.
Ipecacuanhæ Radix	All vegetable [15] astringents, as infusion of galls, &c.

[15] *Vegetable acids, the acetic acid in particular, weaken its power. By exposure to air and light, it becomes quite inert.*

Kino	The mineral acids; alkalies and their carbonates; isin-

glass; acetate of lead; nitrate of silver; tartarised antimony; super-acetate of lead; sulphate of iron; muriate of mercury; decoction of galls, and, in fact, all those substances which decompose tannin.

Vide galls and inf. catechu.

Linimentum Camphoræ compositum . . . . . } Acids and water.

Liquor Ammoniæ. The acids; the metallic salts; alum.

——— *Ammoniæ acetatis* . . . . . } Fixed alkalies; acids; lime water; alum; sulphate of magnesia[16]; oxymuriate of mercury; sulphates of zinc,

copper, and iron; nitrate of silver; super-acetate of lead*; magnesia. This last substance enters into combination with one part of the ammonia, forming a triple salt, whilst the other part being liberated, renders the mixture highly pungent.

[16] *No combination is more in general use than Epsom salts, dissolved in mixtures, with this preparation of am-*

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* In this decomposition the precipitate is formed by the carbonic acid, which is diffused through the solution uniting with the base of this salt, and forming carbonate of lead; which being insoluble, separates, and falls to the bottom of the vessel.

monia. Magnesia also is very frequently given in the same draught.

Liquor Antimonii tartarisati . . .	Preparations of cinchona, and bitter and astringent vegetables.
——— *Arsenicalis*	Lime water; nitrate of silver; salts of copper; hydro-sulphuret of potass; infusion and decoction of bark.
——— *Calcis* . .	All alkaline and metallic salts; borates; tartrates; citrates; acids; sulphur; spirituous preparations; infusions of orange peel, calumba, cinchona[17], rhubarb, senna, and all other astringent vege-

Vide antimonium tartarisatum.

tables. Carbonic acid throws down carbonate of lime.

[17] *Formulæ are still recommended for making infusions of cinchona in lime water.*

Liquor Ferri alkalini	Water; vegetable infusions and decoctions; pure acids; alkalies; alcohol.
——— *Hydrargyri oxymuriatis*	*Vide* hydrargyri oxymurias.
——— *Plumbi acetatis*	Undistilled water; alkalies, and their carbonates; alkaline sulphates and sulphurets; mucilages[18].

[18] *The observations made*

	upon mucilaginous substances should ever be remembered in dispensing this article.
Liquor Potassæ .	Acids and metallic salts.
Magnesia carbonas[19]	Acids and acidulous salts; alum; alkalies; neutral salts; cream of tartar; nitrate of silver; nitrate of mercury; oxymuriate of mercury; super-acetate of lead; sulphates of zinc, copper, and iron.

[19] *Every person must be immediately struck with the errors (which a view of the above present) made constantly, in combining this substance with others in common use.*

——— *sulphas.*	Muriates of ammonia, baryta,

and lime; nitrates of lime and of silver; sub-acetate and super-acetate of lead; fixed* alkalies and their carbonates; lime water.

Malva ..... Liquor plumbi acetatis and other salts of lead.

Mistura Ammoniaci ..... Vinegar; oxymels[20]; æthers; oxymuriate of mercury.

[20] *For coughs, asthmas, &c. one or more of the three first articles are certain of being directed, if the mistura ammoniaci be ordered.*

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* The fixed alkalies and their carbonates precipitate from it magnesia and the carbonate of magnesia. The volatile alkali forms with it a triple compound, precipitating at the same time a portion of magnesia.

Mistura Amygdalæ	Oxymuriate of mercury; acids and acidulous salts; spirits; tinctures; spirit of nitric æther; undistilled water*.
——— *Camphoræ.*	Camphor; sulphate of magnesia[21], and several other saline bodies, separate the camphor from the water.

[21] *We have prescriptions from high authority, ordering solutions of Epsom salts in camphor julep.*

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* It is disturbed by oxymel, syrup of squills, tartaric acid, super-tartrate of potass, and super-sulphate of potass. Goulard's lotion is a solution of oxymuriate of mercury in this mixture, and of course is unchemical.

Mistura Moschi.	Mineral acids; oxymuriate of mercury; sulphate of iron; nitrate of silver; infusion of yellow cinchona.
Mucilago Acaciæ[22].	Strong acids and alcohol (except considerably diluted); sulphuric æther; compound spirit of sulphuric æther; tincture of muriated iron; sub-acetate of lead (super-acetate of lead, if an alkaline salt be present); volatile alkali; nitrate of silver; and some other metallic salts.
Opium	The solution of opium in

[22] *The same remarks apply to this mucilage as to the others.*

	water is precipitated by pure ammonia; fixed alkaline carbonates; solutions of oxymuriate of mercury; nitrate of silver; acetate and super-acetate of lead; sulphates of copper, zinc, and iron; infusions of galls and of cinchona*.
Plumbi super-acetatis	Alkalies; alkaline earths and their carbonates; most of the acids; alum; borax;

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* The narcotic principle of opium resides in a compound produced by an alkaline and an acid. The former has been denominated morphia, and the latter meconic acid, their union producing a meconiate of morphia, though it appears by chemical tests not to be a perfect neutral, and is therefore, probably, a super-meconiate; hence acids, by forming soluble salts with morphia, increase the narcotic powers of opium, as the black drop.

	sulphates and muriates; soaps; sulphurets; ammoniated and tartarised iron; tartarised antimony; undistilled water; liquor ammonia acetatis, in consequence of its carbonic acid.
Potassæ acetas .	Almost every acid; tamarinds and other sub-acid fruits; all neutral salts, whether alkaline, acid or metallic.
——— *carbonas and sub-carbonas*	Acids and acidulous salts; borax; muriate of ammonia; acetate of ammonia; alum; sulphate of magnesia; lime water; nitrate of silver; ammoniated copper; muriate of iron; sub-muriate of mercury; oxymuriate of mercury; super-acetate of lead; tartarised antimony;

tartarised iron; sulphates of zinc, copper, iron, &c.

Potassæ nitras . Alum; sulphate[23] of magnesia; sulphuric acid; sulphates of zinc, copper, iron, and of soda.

[23] *Sulphate of magnesia and nitrate of potass are frequently given as an aperient refrigerant in gonorrhœal cases.*

——— *sulphas* . Nitric and muriatic acids partially decompose it; salts of mercury; lime[24] and its compounds when in solution; nitrate of silver; sub and super-acetate of lead.

[24] *Sulphate of potass and muriate of lime are favourite combined remedies with many*

practitioners, in cases of scrofula.

Potassæ sulphuretum . . . . . } Acids; acidulous salts; earthy and metallic salts; water.

——— *supertartras* . . . . . } Alkalies and alkaline earths; mineral acids.

——— *tartras.* Magnesia; lime; sub-acetate and super-acetate of lead; nitrate of silver; sulphates of soda, potass, and magnesia; muriate of ammonia; acids and acidulous salts; tamarinds and other sub-acid fruits neutralize a portion of the base, and favour the formation of a super-tartrate.

Quassiæ Lignum. Vide infusum quassiæ.

Salix	Solution of isinglass; alkaline carbonates; lime water; sulphate of iron.
Sapo	Acids and acidulous salts; earthy salts (*i. e.* alum, muriate of lime, sulphate of magnesia); metallic salts (*i. e.* nitrate of silver, ammoniated copper, tincture of muriated iron, acetite, submuriate and oxymuriate of mercury, super-acetate of lead, tartarised iron, tartarised antimony, sulphates of zinc, copper, and iron); astringent vegetables; hard water.
Scillæ Radix . . .	Lime water; alkaline carbonates; nitrate of silver; acetate of lead.

Sodæ carbonas et subcarbonas . .	The same as potassæ carbonas.
—— *sub-boras* . .	Potass; sulphates and muriates of ammonia and of earths; acids[25].
—— *sulphas* . .	The same as sulphate of magnesia, with the exception of the spirit of ammonia*.
Spiritus Ætheris nitrici	Sulphate of iron; tincture of guaiacum[26].

[25] *Gargles and tinctures are in common use prepared with borax and muriatic acid.*

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* Whenever it is desirable to combine the spiritus ammonia with a purging salt, the sulphate of soda should be selected for the purpose.

[26] *A popular remedy for rheumatism is sweet spirit of nitre with tincture of guaiacum; if it be really efficacious, it is at least unchemical.*

Spiritus Camphoræ	Water precipitates the camphor.
Sulphuretum Antimonii præcipitatum	All acids[27] and acidulous salts.

[27] *They increase its emetic properties. When this substance, therefore, is exhibited, and acid prevails in the primæ viæ, it should be combined with soap, magnesia, or aromatic confection, avoiding confectio rosæ and other vehicles containing acids.*

Tamarinda Pulpa.	Tartrites and acetates of potass and of soda; the resinous cathartics; infusion of senna.
Taraxaci Radix.	Oxymuriate of mercury; sulphate of iron[28]; nitrate of silver; super-acetate of lead; infusion of galls.

[28] *In chronical liver affections I have often known sulphate of iron given with the extract of dandelion.*

Tinctura Ferri muriatis	Alkalies and their carbonates; infusion of astringent vegetables; mucilage of gum Arabic.
——— *Guaiaci et Tinct. Guaiac. ammon.*	Oxymuriatic acid; nitrous acid; spirit of nitrous æther.

Tormentillæ Radix	Solution of isinglass; salts of iron; alkalies and alkaline earths.
Tragacantha ...	Sulphates of iron and of copper, super-acetate of lead, precipitate the mucilage.
Valerianæ Radix.	The salts of iron.
Zinci Sulphas ...	Alkalies and alkaline salts; earths; hydro-sulphurets; cinchona; cochineal; super-acetate of lead [29]; milk; astringent vegetable infusions.

[29] *Acetate of lead and sulphate of zinc are frequently combined. The practitioner should of course be aware that an acetate of zinc is formed.*

TABLES,

EXPLANATORY OF TERMS OCCURRING IN THE FOREGOING WORK.

ACIDS.	ALKALIES.	EARTHS.	METALS.
Mineral. Acidum Sulphuricum. ———- Muriaticum. -——— Nitricum. *Vegetable* Acidum Aceticum. ———- Benzoicum. -——— Citricum. ———- Tartaricum.	Ammonia—*Volatile.* Potass—*Vegetable* } FIXED. Soda—*Mineral* ... }	Alumine. Lime ..... } *Alkaline.* Magnesia .... }	Antimony. Arsenic. Copper. Iron. Lead. Mercury. Zinc.

ACIDULOUS SALTS.

Alumine Super-sulphas,	*or* Alum.	Acidum Benzoicum,	*or* Flowers of Benjamin.
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