

Quinine Hydrobromate,	73.5
" Hydrochlorate,	81.7
" and Urea, Hydrochlorate,	81.7
" Lactate,	78.2
" Salicylate,	68.8
" Sulphate,	74.3
" Tannate, about	20.0
" Valerianate,	72.9
Strychnine Acetate,	84.7
" and Iron, Citrate,	1.0
" Sulphate,	74.4

1) Compare note to No. 181.

2) Hydrochlorate of cocaine, when crystallized from a watery solution, contains two molecules of water. The salt which is now usually supplied by manufacturers, is anhydrous.

3) This is quoted here only for the purpose of attaching some remarks of practical interest. Digitalis contains a number of different principles, which it is quite difficult to separate, and many of which have at one time or another been designated by their discoverers as "digitaline." Different processes, even with only slight modifications of solvents, produce varying mixtures of principles. In prescribing *digitaline*, therefore, the physician should specify the particular kind wanted, either by mentioning the manufacture (Merck, etc.), or other authority, according to which it is prepared. (For instance: Digitaline, amorphous, *Coder*; or Digitaline, crystallized, *Coder*.) Merck's Digitaline (*Digitalinum purum pulveratum*, so-called "German Digitaline") consists principally of digitalein, is soluble in water (and, therefore, has no cumulative effect) and alcohol, but insoluble in ether and chloroform. Its average dose is 1-60th to 1-30th of a grain. The crystallized Digitaline of the French Pharmacopœia is that prepared after Homolle's process, but the additional purification by chloroform makes it about twice as strong. It is almost insoluble in water (and therefore acts cumulatively) and in ether, but soluble in chloroform, and less so in alcohol. Its dose is about 1-120th to 1-60th of a grain.—*The Prescription*.

New Hypnotics.

The following compilation of brief definitions is taken from *Notes on New Pharm. Products*, Feb. 1893, and is interesting as bringing together in terse comparison the whole list of analogous new remedies of the hypnotic class.

AMYLENHYDRATE.—(Syn., *Dimethyl-ethyl-carbinol*). A colorless, heavy liquid, soluble in 10 parts of water, and readily in alcohol. It is better thought of and more used in Europe than in this country; it is said to rank between chloral and paraldehyde in hypnotic effect, being less dangerous than chloral, and less offensive to take than paraldehyde. Dose, 30 to 60 minims; best administered in capsules, or in wine or beer. It is also used for whooping cough, the dose for children being 3 to 5 drops in water with a little raspberry syrup.

BROMAL HYDRATE.—(Syn., *Tribromo-acetic-ortho-aldehyde*). Analogous to chloral hydrate; occurs in colorless crystals, very deliquescent; odor like chloral; soluble in water. It is more active than chloral, but causes nausea and diarrhoea. Dose, 2 to 5 grains. Not much used; in fact, it is hardly known, and stands little show with so many excellent hypnotics to keep it in the background.

CHLORALAMIDE.—(Syn., *Chloral-Formamide*). Occurs in small crystals, colorless and odorless; soluble in 20 parts water and in 1½ parts alcohol; tastes mildly bitter or salty. Produces sleep in 20 to 40 minutes, lasting 6 to 9 hours; is free from evil side or after-effects, and does not have cumulative effect or cause a habit. Dose, 20 to 60 grains; best administered in solution (30 grains dissolved in 2 drs. Tr. cardamom comp., and 1 dr. each syrups orange and raspberry added); must not be heated, or will decompose.

CHLORAL-AMMONIUM.—(*Trichlor-anti-ethyl alcohol*). Occurs as a white crystalline salt; soluble in water, but not stable; the product is often split up even in the dry state. Is said to combine the effects of urethane and chloral, and to be less dangerous than the latter; it does not disturb the stomach. Dose, 10 to 30 grains. Not much used, and easily dispensed with so long as better hypnotics are available.

CHLORALIMIDE.—Prepared through the action of heat on chloral-ammonium; occurs in colorless and tasteless needles; very stable—not affected by moisture, light, or heat; is slightly soluble in water, more in alcohol, readily in ether. Was introduced as a substitute for chloral, and has been urged as a substitute for chloral-amide; but has not justified either claim, and is practically discarded now. Also acts as an antipyretic in small doses, 4 to 6 grains; as a hypnotic was recommended in 5 to 30 grain doses.

CROTON-CHLORAL.—(Syn., *Butyl-Chloral*). Occurs in white, lustrous scales; soluble in about 50 parts of water, but readily in alcohol. Recommended as especially useful in neuralgias. Dose, 2 to 15 grains; best given in divided doses of 2 or 3 grains in pills or capsules, or made into a syrup, 15 grains to the ounce.

HYPNAL.—A compound of chloral and antipyrine, in the proportion of 47 parts of the former to 53 of the latter. Can be prepared readily without chemical process, by mechanical mixture. Occurs in rhombic crystals, is readily soluble in water, and exerts good hypnotic effect—although it is not free from harmful side and after-manifestations. Dose, 15 grains average, in aqueous mixture, with some tincture and a flavoring syrup. Very little is used.

HYPRONE.—(Syn., *Acetophenone Phenyl-methylketone*). Occurs as a colorless, oily liquid, with a bitter almond odor and strong taste. Introduced principally on the recommendation of Dujardin-Beaumont; has done good service, but has so many untoward characteristics, and is of

ten so unreliable, that it is very little used. The dose is variously stated as from 1 to 8 minims; it has a caustic effect in the mouth, and must therefore be administered in capsules with oil; in divided doses of 1 minim it may be taken in mixture with syrup or oil, flavored with peppermint. It is practically insoluble in water.

METALDEHYDE.—This product is chemically apparently identical with paraldehyde; but it occurs in crystal form, and the difference in its chemical composition, however slight, has not made it superior to paraldehyde as a hypnotic. It is insoluble in water, and only slightly in alcohol. It has been used to some extent, in doses of 2 to 8 grains, but with so little advantage that it has fallen from notice.

METHYLAL.—(Syn., *Methyldimethyl-ether*). A colorless, volatile liquid, freely soluble in water and alcohol. Has been used with some success as a hypnotic in violent conditions of insanity and in delirium tremens. Dose, 15 to 60 minims in aqueous solution with syrup; also subcutaneously applied, 1 to 2 drops diluted in 10 parts of water. Methylal is a "back number," having outlived its term of usefulness since so many new and superior hypnotics have been introduced in late years.

PARALDEHYDE.—(Syn., *Elaldehyde*). A clear, colorless liquid, with an unpleasant odor, and a burning taste; soluble in about 10 parts of water, and more readily in alcohol or ether. It forms a good hypnotic, without depressing the action of the heart, and is consequently indicated where chloral is included. Dose, 20 to 60 minims; best given with some bitter tincture, or in a mucilaginous emulsion. Elixirs of paraldehyde are a very popular form in this country; the following is a good formula: Chloroform, 24 minims; oil cinnamon, 10 minims; Paraldehyde, 4 drams; oil sweet almond, sufficient to make two ounces. This forms a clear solution and is of agreeable taste.

RUMIDIUM-AMMONIUM BROMIDE.—Occurs as a whitish crystalline powder or granular crystals, readily soluble in water; recommended as a substitute for potassium bromide. Dose, 60 to 90 grains per day in divided doses; best administered in mixture of syrup of orange or lemon. Has not come into much use, although enthusiastically recommended from good sources in Europe and in this country.

SOMNAL.—An alcoholic solution of chloral and urethane; occurs as a clear liquid, and gives a burning taste in the mouth. Dose, 15 to 30 minims, in alcoholic solution, wine or beer. It produces sleep in about 30 minutes, and has been extensively used and praised for its good effect.

SULPHALDEHYDE.—(Syn., *Thialdehyde*). Occurs as an oily liquid, with an offensive odor. Is related to paraldehyde, and through experiments on frogs has proved to exert much stronger hypnotic effect than that product. So far as known no regular clinical trials have been made