

proportions, so as to form a syrup, and fuses at  $105^{\circ}$  into a colourless liquid, which, on cooling, crystallizes: by excessive heat it burns like sugar. It has been analyzed by Gay-Lussac and Thenard, Proust, de Saussure, Henry, and Liebig: the latter makes it consist of—

	At. comp.
Carbon .....	458.622 = 6
Hydrogen.....	87.357 = 14
Oxygen.....	600.000 = 6

*Medicinal employment of Mannite.*

It may be substituted for manna, as it possesses its laxative powers without having its disagreeable smell. The dose is 2 gros for children: occasionally I have carried it as far as half an ounce, but found the purgative effects too great. Such a dose, however, will suit adults.

*Syrup of Mannite.*

May be made as other syrups are, and will be found useful for gently relaxing the bowels of infants at the breast, and as an addition to pectoral infusions in pulmonary catarrhs that are passing into the chronic stage.

SOLANIA.

This alkali was discovered by M. Desfosses, of Besançon, in two plants of the family of Solanææ, the morel, (*solanum nigrum*,) and the bitter-sweet, (*solanum dulcamara*.) It exists in both these plants, but whilst the leaves of the last one contain it in some quantity, none is found in those of the morel.

Several able chemists have treated the plants in question according to M. Desfosses' directions, but have only obtained a small quantity of phosphate of lime and

vegetable matter, without any alkali whatever. It behoves M. Desfosses to offer some explanation of this anomaly.

*Preparation of Solania.*

Solania is found in greatest abundance in the berries of morel, where it exists in the form of a malate. In order to obtain it, the filtered juice of the berries is treated with ammonia, which causes a greyish precipitate. This deposit, collected on a filter, washed and treated with boiling alcohol, yields, on evaporation, the salifiable base in a pure condition, if the berries have been perfectly ripe; but if used when green, the solania remains combined with a quantity of chlorophylle that is not easily separated.

*Properties of Solania.*

When pure, it presents itself in the form of a white, opaque, and sometimes pearly powder. It has no smell, has a slightly bitter and nauseous taste, and this bitterness is developed by solution in acids, particularly the acetic. Its salts are uncrystallizable, and a solution of them is transformed by evaporation into a gummy, transparent, easily pulverizable mass.

Solania is insoluble in cold water; hot water only takes up 1-8000th part. Alcohol dissolves a small portion of it.

Its alkaline properties are but feebly manifested by its action on turmeric: it however restores turnsol that has been reddened by acids. With acids it unites in the cold; and if the combination is properly attended to, will form perfectly neutral solutions. Like all the vegetable alkalis, a very small quantity of acid suffices to saturate it.

*Action of Solania on Animals.*

Two or four grains swallowed by a dog or cat, excite

violent vomiting, soon followed by a drowsiness that persists for several hours.

A young cat supported 8 grains without fatal results; after violent retchings it fell into a deep sleep, which lasted nearly 36 hours. Solania, extracted from the *solanum ferox*, was sent to me by M. Pelletier, with which I made experiments on two puppy dogs: it produced profuse salivation in one of the animals, but no drowsiness.

#### *Action of Solania on Man.*

On swallowing a small quantity of solania, a strong feeling of irritation in the throat is experienced. In the mouth it imparts a nauseating, slightly bitter taste, which becomes exceedingly so if the substance be dissolved in a small quantity of acetic acid.

The acetate is the only salt of solania that has hitherto been tried on man. In the dose of a quarter of a grain it produces nausea, but no tendency to sleep ensues.

From what has been said, it would appear that solania, like opium, is capable of producing vomiting and sleep; but its emetic powers seem to be more prominent than those of opium, whilst its narcotic properties are much feebler.

#### *Cases for its administration.*

Solania has not yet been tried in disease, but it may be employed in all cases where the extract of the morel or the bitter-sweet is indicated.

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#### DELPHINIA.

This alkali was discovered in 1819, in the seeds of the stavesacre, (*delphinium staphisagria*), by MM. Fe-