acid. In fact, by distilling a spiritous liquor incompletely changed to vinegar, a colorless fluid is obtained, in which aldehyde may be detected.

We may be certified of the presence of this substance in two ways: 1st. By heating the liquor with a solution of caustic potash, when it becomes of a wine color, yellow, brownish yellow, brown, and deep brown, according to the proportion of aldehyde. 2d. In heating it with nitrate of silver with the addition of a little ammonia;—the sides of the vessel become coated as with a polished surface of pure metallic silver. The first test is certain, and preferable to the second.

Ibid.

Observations on Cane Sugar, and on a new Acid formed by the action of Alkalies on the Sugar of Starch. By M. PELIGOT.

It is well known that there are two distinct varieties of sugar, namely, common sugar extracted from the cane, from beets and from the maple;—and the sugar of grapes, which is also found in diabetic urine, and is likewise produced when starch, woody fibre, or sugar of milk is placed in contact with dilute sulphuric acid.

Common sugar combines with bases without undergoing any modification; for in decomposing the saccharates by weak acids, the sugar is reproduced with all its characteristic properties. It is quite otherwise with starch sugar. The alkalies and alkaline earths transform it even in the cold, into a powerful acid, which completely neutralizes bases, and which can be extracted from the insoluble combination which it forms with the oxide of lead, and into another non-volatile substance, which possesses the property of reducing immediately the salts of mercury and silver without heat. Ibid.

Elementary Composition of the Starch of various Plants; of its most concrete portions, of those most easily disintegrated, of the products of its dissolution, and the atomic weight of Starch and Dextrine. By M. PAYEN.

It is known that under the influence of acids, of diastase, and even by the application of heat alone, starch is converted into a gummy product called *dextrine*. Dextrine may be obtained in combination with the oxide of lead in two proportions. The basic dextrinate is procured by pouring a solution of dextrine into acetate of lead mixed with ammonia, and the neutral dextrinate by pouring acetate of lead into a boiling hot solution of ammoniacal dextrine. The two salts dried, at 100° C., contain an atom of water, which they lose at 180°. The dextrine of the dried salts is anhydrous. Its formula is $C^{24} H^{18} O^9$. Dextrine, in a free state, dried at 120° contains one atom of water, and dried at the common temperature it contains two atoms.

Starch has exactly the same composition and the same atomic weight as dextrine. Dried at the temperature of 130°, its formula is $C^{24} H^{18} O^9$, $H^2 O$. Exposed to the air, dry or moist, it re-combines with different portions of water, and in its combination with the oxide of lead, heated to 100° it becomes $C^{24} H^{18} O^9$.

Dextrine differs from starch only in not forming a blue compound with iodine, as starch does. It appears to be nothing more than starch brought to a state of extreme division. Starch is an organic substance organized. Whatever its origin, it has always the same composition. Rubbed with