

ART. XXI.—*Note on the action of peroxyd of manganese upon uric acid*; by C. GILBERT WHEELER.

THE oxydizing action of the peroxyds upon organic substances varying to some extent according to the peroxyd employed, I have investigated the action of peroxyd of manganese upon uric acid.

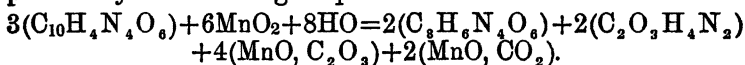
If uric acid and peroxyd of manganese are heated together with a like quantity of water and sulphuric acid is added in small portions at a time until no further action is to be observed, the black pasty mass then filtered, and the filtrate evaporated to about one-fourth of its original volume, there is obtained after considerable time, a quantity of large hexagonal crystals, which by analysis and characteristic reactions was found to be parabanic acid.

If uric acid is heated with a large quantity of water only, until the latter is brought to the boiling point and then peroxyd of manganese added as long as evolution of carbonic acid occurs and the mass filtered, there remains on the filter peroxyd of manganese and oxalate of manganese, while the filtrate on being somewhat concentrated yields crystals, which if again dissolved and treated with animal charcoal may be obtained colorless and quite pure. They were tasteless, rather difficultly soluble in cold but readily soluble in warm water; the solution gave with chlorid of mercury no precipitate, while a very voluminous one was obtained on adding the nitrate of the same base; nitrate of silver and ammonia gave a white glistening precipitate; on heating, cyanid of ammonium was evolved.

0.3595 grams yielded on combustion 0.133 water and 0.398 carbonic acid; which relation indicated the substance to be *allantoin*.

	Found.	Theory.
C	30.13	30.4
K	4.09	3.8

The mother-liquor contained much urea, also an amorphous substance; the quantity of which was too trifling to admit of an analysis. The action of the peroxyd of manganese may be explained by the following exquation.



If uric acid is heated with peroxyd of manganese in the presence of but a small quantity of water there is formed urea, oxalic and carbonic acid, and but a very small quantity of allantoin; the action of peroxyd of manganese upon uric acid resembles therefore very closely that of peroxyd of lead.