

with the atmosphere, and the consequent reaction or disengagement of oxygen.

It is probable that oxygen may be modified more readily by electric action than any other gas, and it has been shown by Becquerel, Faraday and others, that it may be rendered magnetic.

Ozone is colourless, possessing a peculiar odor, resembling chlorine, and when diluted, cannot be distinguished from the *electrical smell*. Its density, according to Andrew & Tate, is said to be four times that of oxygen. It is a most powerful oxydizing agent, converting most of the metals into peroxides, it is very slightly absorbed by water after long contact,—a very high temperature destroys its properties,—it possesses bleaching properties, hence its affinity to chlorine; it combines with chlorine, bromine, and iodine. It is rapidly absorbed by albumen, fibrine, blood, &c. It is a most powerful disinfectant, and when largely diffused in atmospheric air causes difficult respiration, acting powerfully on the mucous membrane, and in still larger quantities may become fatal.

During the past year, Schonbein has been actively engaged on the modifications of oxygen, and is of opinion that there are two kinds of (allotropic) modifications of active oxygen, standing to each other in the relation of positive and negative, and that there are a positive active and negative active oxygen—an ozone and an ant-ozone which in being brought together neutralize each other.

Clausius has endeavoured to account for the relation of volume existing between simple and compound gases, by the assumption that in simple gases several atoms are combined to form one molecule of oxygen, that for instance one molecule of oxygen consists of two atoms of oxygen, and is of opinion that under special circumstances it may happen that among the number of molecules in a given quantity of oxygen some may be decomposed into separate atoms. These would differ in their relations towards other substances, from those combined into molecules, and he considers these uncombined atoms are Ozone.

Fortunately its presence, both in the state produced artificially in the laboratory, and also in the atmosphere, is easily detected. Its rapid production, its peculiar smell and other properties, render it somewhat less difficult to investigate than many other substances. We purpose more especially to consider its nature and influence in reference to Meteorology and its influence on animals and plants.

(To be continued.)