

CHAPTER III

OXYGEN — OZONE

When making a special study of a chemical element, it is customary to consider, among other things, the history of its discovery, how it occurs in nature (*i.e.*, where we can get it), how it may be prepared (if it does not already occur pure), what its properties are (both physical and chemical), finally, what compounds it produces.

1. History
2. Occurrence
3. Preparation
4. Properties
5. Compounds

Of course, it is not necessary to go into all these details in the case of every element, but it is well to keep the outline in mind.

History.—Oxygen was discovered in 1774 by Dr. Joseph Priestley, as has already been described.

Occurrence.—A careful study of the various substances that surround us in nature shows that oxygen is very widely distributed. It forms eight, about one-fifth of the air, eight-ninths of water, and half of the solid crust of the earth. It also occurs in most animal and vegetable substances.

F. W. Clarke has calculated that the composition of the earth's crust, as far as it is known, is about as follows:

Oxygen 49.98%	Calcium 3.51%	Hydrogen 0.94%
Silicon 25.30	Magnesium 2.50	Titanium 0.30
Aluminium 7.26	Sodium 2.28	Carbon 0.21
Iron 5.08	Potassium 2.25	Other elements . 0.41