ver, copper, tin, lead, and the other useful metals, iron excepted. By far the most abundant and important element is Oxygen. It forms about 23 per cent by weight of air, 88·87 per cent of water, and about a half of all the rocks which compose the visible portion or crust of the globe. Another metalloid, Silicon, always united with oxygen, ranks next in abundance as a constituent of the crust. Of the remaining metalloids, Carbon and Sulphur sometimes occur in the free state, but more usually in combination. Chlorine (save perhaps at volcanic vents) does not occur in a free state, but is abundant in combination with the alkalies, especially with sodium. Fluorine is always found in combination, and has only recently been isolated by artificial chemical processes. It is the only element which has not been combined with oxygen. It chiefly occurs in union with Calcium as the mineral fluor-spar, and constitutes more than half of the mineral cryolite; but traces of its presence have been detected in other minerals, in sea-water, and in the bones, teeth, blood and milk of mammalia. Hydrogen occurs chiefly in combination with oxygen as the oxide, water, of which it forms 11·13 per cent by weight; also in combination with carbon as the hydrocarbons (mineral oils and gases), produced by the slow decomposition of organic matter. Phosphorus occurs with oxygen principally in calcic phosphate. Of the metals, a few are found in the native state (gold, silver, copper, etc), but those of importance in the framework of the earth's crust have entered into combination with metalloids or with each other. Putting the more important metals and metalloids together, we may compute that oxygen, silicon, aluminium, magnesium, calcium, potassium, sodium, iron and carbon, form together more than 97 per cent of the whole known crust.