

peroxide up to fourteen per cent. of its total constituents. Some encrusting fibres are manganite, and part of the manganese is present under the form of wad, of which Mr. Ti Louis gives the following analysis:—

Manganese peroxide.....	67.10
Manganese protoxide.....	10.67
Water.....	9.37
Copper protoxide.....	.88
Iron protoxide.....	4.09
Alumina.....	.67
Nickel and cobalt oxide.....	.65
Lime.....	2.49
Magnesia.....	trace
Silica.....	4.08
	100.00

The occurrence of this ore in the pre-carboniferous rocks is interesting, as showing its original wide distribution, and as possibly indicating the sources of part of the more recent ores of economic value. Pyrolusite is the only ore of manganese which has hitherto been mined to any extent in Nova Scotia, and it is known to occur in pre-carboniferous strata at several points. Between Halifax and Windsor, near Mount Uniacke, pyrolusite is found in small pockets and veins penetrating granite, and in quartzites of the auriferous Lower Cambrian of the Nova Scotia Atlantic coast. It occurs in veinlets in the granite of Musquodoboit, and as small irregular seams in the granite of Ship Harbour. In the hills south of Wolfville, in King's County, the same ore is found in quartzites and slates, presumably of Upper Silurian age. In the trias of the same county, the ore is met in a bedded form near Cornwallis and Wolfville, and in the triassic trap it is said to occur lining cavities, in association with zeolites, etc.

We, however, find these ores most abundantly in the Lower Carboniferous marine limestone formation. This horizon forms one of the widest spread, and most strongly marked of the divisions of the Carboniferous period. It is met in King's County, in Hants, Cumberland, Colchester, Pictou, and Antigonishe, and in the four counties of the Island of Cape Breton. The measures of this division, comprising sandstones, shales, grits, and limestones, with beds of gypsum and marl, sometimes rest directly on the pre-carboniferous strata, and at many points are separated from them by the lower, or false coal-measures, or by beds of conglomerate, according to the conditions of the period of accumulation. The limestones and gypsums occur, apparently, at no fixed horizon in this division. Dr. Dawson, in his "Acadian Geology", has divided the limestones into five groups, characterized respectively, so far as the subject has received attention, by a predominance of certain fossil forms. In his supplement to the second edition, he proposes to subdivide the lowest group by distinguishing a certain manganiferous limestone, which appears at many points to form the basis of the limestone formation, strictly so called. This limestone at Salmon River, Cape Breton County, Springville and New Laing, Pictou County, Chester, Maitland, Tenny Cape, Windsor and Onslow, seems to underlie the gypsum beds, and generally to be associated with manganese. The following analyses by the writer show the character of some of these limestones:—