

remarkably characteristic, at least as pertains to the deposits along our Atlantic coast region. Dawson in his *Acadian Geology* maps the rocks exposed on Quaco Head as carboniferous, although a small exposure of Trassie sandstone occurs on both north and south sides lying unconformably on the Carboniferous. We are only concerned with the lower horizon. In this, ascending geologically occurs first, a homogeneous melaphyre which though brecciated still remains as a non-schistose rock. Over this, and including in it near its base large angular to sub-angular areas of melaphyre lies a sub-crystalline limestone carrying scattered through it minute veins and round areas of psilomelane and pyrolusite. At its upper portion it is somewhat shaley and carries manganese nodules in great abundance. There are three principal varieties: the first and most common is a porous, cavernous nodule composed largely of wad with scattered areas of bright pyrolusite crystals and showing remains of a concentric structure; the second is a compact mass composed mainly of psilomelane, in structure concentrically arranged about either one or several nuclei. The third and least common variety is in the form of stalactites. Sections of these cut and polished show a central tube more or less irregular as in common stalactites of calcic carbonate with many ramifying cracks now filled with manganese oxide in a purer state than that making the outer portions of the stalactites. When polished the oxide filling these cracks stands salient showing its greater hardness. Over the ore-carrying strata are beds of a bright, somewhat incoherent brick-red slate revealing little evidence of bedding for several feet in vertical thickness. This originally may have been comparable with the deposits of clay that occur at a depth of about 2600 fathoms on the present sea floor. The second variety, or "kidney ore" is very uniform at this locality as regards the presence of phosphorus and iron,—these two elements existing in much less quantity than in the previous variety. Many of the nodules occur as mammillary masses simulating the bunches of grapes, potatoes, etc.

Traversing the strata generally in a north and south direction are several veins of pyrolusite mixed with manganite. It is from these that the purest oxide of manganese free from iron and phosphorus is obtained suitable for decoloring glass. The veins occupy narrow fissures and characteristically vary in width giving a maximum thickness of two inches and thinning down to