

day so marvellously has this early land-surface been preserved under its mantle of sediment during the long course of geological time, that even yet we may trace its successive shore-lines as it gradually settled down beneath the waters in which its detritus gathered. We may follow its promontories and bays and mark how one by one they were finally submerged and entombed beneath their own waste.⁹

But these ancient stratified formations do not consist merely of clastic sediments. They include important masses of limestone and dolomite, sometimes highly crystalline, but elsewhere assuming much of the aspect of ordinary gray compact Palæozoic limestone. Sometimes they contain a considerable amount of graphite, and some of the shales are highly carbonaceous. In other places they are banded with layers and seams or nodules of chert, in a manner closely similar to that in which the Carboniferous Limestone of Western Europe contains its siliceous material. Sometimes the chert bands are as much as forty-five feet thick. The general character of these mingled carbonaceous, calcareous and siliceous masses at once reminds the observer of rocks which have undoubtedly been formed by the agency of organic life. Moreover there occur extensive deposits of iron-carbonate associated like the limestone with chert, and again recalling the results of the co-operation of plant and animal life. The large amount of carbon in some of the shales points likewise in the same direction.

It must be confessed, however, that actual traces of recognizable organic forms have only been found in a few places. Various more or less determinable patelloid or

⁹ These features are admirably displayed in Ross-shire, N.W. Scotland, where the Lewisian gneiss, carved into hills and valleys, has been buried under the Torridon Sandstone (postea, p. 1177).