Cambrian Period.

The researches of geologists have discovered but scanty traces of organic remains in the rocks which form the base of this system in England. *Arenicolites*, or worm-tracks and burrows, have been found in Shropshire, by Mr. Salter, to occur in countless numbers through a mile of thickness in the Longmynd rocks; and others were discovered by the late Dr. Kinahan in Wicklow. In Ireland, in the picturesque tract of Bray Head, on the south and east coasts of Dublin, we find, in slaty beds of the same age as the Longmynd rocks, a peculiar zoophyte, which has been named by Edward Forbes *Oldhamia*, after its discoverer, Dr. Oldham, Superintendent of the Geological Survey of India. This fossil represents one of the earliest inhabitants of the ocean, which then covered the greater part of the British Isles. "In the hard, purplish, and schistose rocks of Bray Head," says Dr. Kinahan,* "as well as other parts of Ireland which are recognised as Cambrian rocks, markings of a very peculiar character are found. They occur in masses, and are recognised as hydrozoic animal assemblages. They have regularity of form, abundant, but not universal, occurrence in beds, and permanence of character even when the beds are at a distance from each other, and dissimilar in chemical and physical character." In the course of his investigations, Dr. Kinahan discovered at least four species of Oldhamia, which he has described and figured.

The Cambrian rocks consist of the Llanberis slates of Llanberis and Penrhyn in North Wales, which, with their associated sandy strata, attain a thickness of about 3,000 feet, and the Barmouth and Harlech Sandstones. In the Longmynd hills of Shropshire these last beds attain a thickness of 6,000 feet; and in some parts of Merionethshire they are of still greater thickness.

Neither in North Wales, nor in the Longmynd, do the Cambrian rocks afford any indications of life, except annelide-tracks and burrows. From this circumstance, together with general absence of Mollusca in these strata, and the sudden appearance of numerous shells and trilobites in the succeeding Lingula Flags, a change of conditions seems to have ensued at the close of the Cambrian period.

Believing that the red colour of rocks is frequently connected with their deposition in inland waters, Professor Ramsay conceives it to be possible, that the absence of marine mollusca in the Cambrian rocks may be due to the same cause that produced their absence in

* Trans. Roy. Irish Acad., vol. xxiii., p. 556.