

## GEOLOGICAL SOCIETY OF LONDON.

March 25th, 1874.—John Evans, Esq., F.R.S., President, in the chair. The following communication was read :

1. "On the Upper Coal-Formation of Eastern Nova Scotia and Prince Edward Island, in its relation to the Permian." By Principal Dawson, LL.D., F.R.S., F.G.S.

The author described the Carboniferous district of Pictou county as showing the whole thickness of the Carboniferous system arranged in three synclinals, the easternmost consisting of the Lower series up to the Middle Coal formation, and including all the known workable Coal-measures in the district, the second towards the west of the middle and the lower part of the Upper Coal-formation, and the third showing in its centre the newest beds of the latter. On the north the bounding anticlinal of the first depression brings up the New-Glasgow Conglomerate, which contains boulders 3 feet in diameter, often belonging to Lower Carboniferous rocks, and represents the upper part of the Millstone-grit or the lower part of the Middle Coal-formation. The author regards this as representing an immense bar or beach, which protected the swamps in which the Pictou main coal was formed.

The succession of the deposits above the Conglomerate was described in some detail as seen in natural sections. The Upper Coal-formation, as shown in the section west of Caribou Harbour, consists of, 1. Red and grey shales, and grey, red and brown sandstones; and 2. Shales, generally of a deep red colour, alternating with grey, red and brown sandstones, the red beds becoming more prevalent in the upper part of the section. In Prince Edward Island beds apparently corresponding to these are found, and also gradually become more red in ascending. These are overlain, apparently conformably, by the Trias.

The author gave a tabular list of 47 species of plants found in the Upper Coal-formation of Nova Scotia and Prince Edward Island, and stated that all but about ten of these occur also in the Middle Coal-formation. The number of species decreases rapidly towards the upper part of the formation; and this is especially the case in Prince Edward Island, some of the beds in which are considered by the author to be newer than any of