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and these rocks are succeeded, further up the river, by disturbed sandstones and limestones, which I was unable to examine, but which I believe to correspond with those of the East River.

From these observations, in connection with those formerly made by Mr. Logan and Mr. Lyell, it is apparent that the lowest members of the Carboniferous series seen on the East River consist of limestones, gypsum, and soft sandstones, above which are hard reddish sandstones and shales, with limestone; and lastly, red and grey sandstone, shells, and conglomerate, with carboniferous plants, and probably these beds pass into the productive coal measures.

On the south side of the West River of Pictou, limestones, having the same fossils with those found on the East River, are seen in several places, and are associated with reddish sandstones, hard grey shales, and white and purple sandstones. Farther westward, near the Salmon River, there are sandstones, limestones, and gypsum, identical in fossils and mineral character with those of the East River, and like them connected with productive coal measures, which they appear to underlie. Still farther westward, the gypsiferous formations of Onslow and the De Bert River probably form a continuation of the Pictou lower carboniferous deposits, being, like them, succeeded to the northward by the middle and newer members of the coal formation.*

Merigonish.

SECTION III.

MERIGONISH TO MALIGNANT COVE, 20 miles.



e. Coloured sandstones and shales, with occasional bands of ironstone and concretionary limestone in the upper part—*Calamites* and other coal plants. Coal?

d. Limestone and conglomerate—*fossil shells*.

c. Amygdaloid and conglomerate overlying sandstones and containing *plants*.

b. Dark shales with thin beds of limestone, a little conglomerate, and reddish grits—*marine shells*, *Encrinites*, *Trilobites*, &c.

a. Altered red sandstone and conglomerate with dark shales, beds of amygdaloid, and intruding masses of greenstone.

Eastward of the East River, the band of carboniferous rocks included between the shores of the gulf and the hills to the southward, shows a series of beds, amounting to 10,000 or 12,000 feet in thickness, and dipping to the north-west at an angle of 20 degrees. The upper part of this section, beginning at the entrance of Meri-

* The salt springs of the West River rise from lower carboniferous rocks, those of Salmon River from the productive coal measures. In both instances they rise from vertical strata on lines of fault.