

viously been given to the Cambrian rocks in the Quaco Hills, led to the discovery of an important part of this series not previously recognized as sedimentary; it consists of shales, grits, and conglomerates, usually highly metamorphic, so much so, as in general to have lost all traces of stratification. In this condition they appear to be syenites, granulites and felsites, all highly coloured by the bright red felspar of which they are chiefly composed. Masses of these rocks were observed by our party, in 1864, on the Hammond River, and in the adjacent hills, but their sedimentary character was not at that time recognized.

With this addition the grand lithological features of the older supra-Laurentian rocks in the Southern Hills of New Brunswick appear to be:—

LOWER SILURIAN.—The lingula bearing flags and shales of St. John, etc., at the base of which the primordial fauna occurs.

HURONIAN.—Red sediments of comparatively small volume, perhaps not recognizable in other parts of Acadia. (No. 5, in article on Azoic Rocks.)

Dark coloured trap-slate rocks (Nos. 2 and 4, art. cit.) of great thickness; parted about midway by a rusty-colored calcareo-arenaceous zone charged with iron and manganese. (No. 3, art. cit.).

Red sediment, usually converted into red felspar rocks, also of great thickness, resting upon the Laurentian series (No. 1 of article on Azoic Rocks is here included). The felsites referred to (No. 3, in my article,) may be of this lower horizon, but I have not been able to verify this point. The succession throughout this immense series of beds is greatly obscured by faults. An instance is given at page 28, of Mr. Bailey's Report.

It is noteworthy that the core of the Northern Highlands of New Brunswick consists, in a great degree, of red felspathic rocks (*vide* Bailey's Notes on Geology and Botany of N. B., *Can. Nat.*), and that these are flanked by metalliferous slates, frequently of a dark brown colour, which may be of the same age as the main portion, of the Huronian in the south (Nos. 2—4) above noticed.

The resemblance of the Lower Silurian of Saint John to the gold and antimony bearing slates of the central part of the Province has been already noticed in the article cited above. Thus the Northern metamorphic region may present a full