

or gneissoid rocks. He does not think it to be Chistolite proper, but whatever it may be, it is in his opinion the same as that of Australia. *Eospongia* occurs in the same horizon in Canada, and thus we have a concurrence (of two facts) which seems to throw some light on the age of the rocks of your district."

THE GOLD-BEARING ROCKS—LOWER SILURIAN.

The known gold-bearing rocks of Nova Scotia consist of quartzites, sandstones, and grits, interstratified with argillaceous slates and thin conformable beds of auriferous quartz. This portion has an ascertained thickness exceeding 9000 feet, and between the base and a vertical distance of about 3000 feet from the summit, the thin quartz beds are found yielding gold, and are worked in the different Gold Districts in the Province, so that a mass of strata having a thickness of six thousand feet, or more than a mile, yields gold from quartz beds of contemporaneous age with the quartzites and slates with which they are interstratified. Another set of leads, which are true veins, cutting the strata, together with gasl veins, both of later age than the enclosing rock, also yield gold, and are worked in some Districts. Overlying the beds just described is a thick band of argillaceous slate, blue-black, and black in color, ferruginous, finely corrugated, and containing beds of quartz in which gold has been found near Sherbrooke and at Wine Harbor, but no mining is carried on at present in these deposits. The black ferruginous slates exist in New Brunswick, and are noticed in my report on the geology of that Province.

The thickness of the black slates in Nova Scotia exceeds three thousand feet, so that the gold-bearing rocks of the Province have a known thickness of 12000 feet.

THE GNEISSOID SERIES—LAURENTIAN.

Near the village of Sherbrooke, on the east side of the St. Mary's River, the quartzites are seen to rest unconformably upon a coarse and highly felspathic bed of gneiss.

Here the gneissoid strata are broken by faults, but a quarter of a mile from the English church the gneiss is seen to have a northwest strike, with a southeast dip, while the overlying quartzites have a nearly east and west strike, with a northerly dip.