

"breccias and agglomerates, diorites, dolerites, and amygdaloids," as well as serpentine, dolomite, and calcite. In short this formation is one of mixed igneous and aqueous origin, non-fossiliferous, except in the case of a few microscopic fragments, and mostly crystalline. As regarded by Sir W. E. Logan, these rocks, in consequence of their apparent conformity with the Levis series, and their apparent superposition in some sections, were held to be an upper member of the Quebec group, and were mapped as Sillery. They were thus placed in the same position with the serpentine and chloritic formation of Newfoundland, as described by Murray, with the Cobequid series as I have described it in Nova Scotia,* and with the Borrowdale igneous rocks resting on the English equivalents of the Levis beds as defined by Ward in Cumberland.

Mr. Selwyn, on the other hand, thinks that the main mass of these peculiar rocks either comes out unconformably from beneath the Levis series or is separated from it by a fault, and is in all probability older, though the obscure traces of fossils found in some of the beds would indicate that they are not older in any case than Lower Silurian or Upper Cambrian.

It is obvious that with reference to a formation so greatly disturbed, either of these theoretical views may be correct, or that there may be two crystalline series, one below and another above the Levis beds. Where I have had opportunity to observe the formation, at Melbourne, and in a few other places, I have seen no reason to dissent from Sir W. E. Logan's view; but at that time Mr. Selwyn's explanation was not before my mind, nor have I examined the sections on which he chiefly relies.

Had Sir W. E. Logan lived, it was his intention to have, at his own cost, bored through the crystalline rocks at some selected site, in order to obtain positive proof of the subterposition of the Levis beds. This expense is not now likely to be incurred, but the whole question will in course of time be settled by the careful re-examination and mapping, which now that these new views have been suggested by the head of the Geological Survey, the district is likely to receive.

Mr. Selwyn's third division, supposed to be still older, possibly Lower Cambrian, in some respects resembles the second, but is predominantly slaty and quartzose, though still with dolomites

* Acadian Geology, third edition.