

letter to Barrande, dated in 1860 but published March 1861, to the effect that certain fossiliferous strata included in the Hudson-River group at Quebec had long been maintained by Emmons to be older than the Trenton, adding "The fossils which have been obtained this year [1860] at Quebec pretty clearly demonstrate that he is right." Instead, however, of calling these Upper Taconic with Emmons, or First Graywacke with Eaton, Logan proposed in his letter to Barrande the name of Quebec group, of which the apparently overlying Sillery sandstones constituted the summit, the great underlying mass of shales and limestone being called the Levis, and an intermediate division being subsequently proposed with the name of Lauzon. With the exception of this change in horizon of the group rendered inevitable by the progress of paleontological study, and the corresponding change in name, no alteration was made in the views of Logan, which were still those of Mather. The Hudson-River group of the latter was found to be pre-Trenton and was named Quebec group, and their crystalline schists were henceforth called Altered Quebec group instead of Altered Hudson-River group.

But the way was slowly preparing for the overturning of the whole hypothesis of Mather, and the establishment of the older view of Eaton and Emmons with regard to those crystalline schists, as well as to the uncrystalline sediments. My studies of the crystalline rocks of the Ottawa and the great lakes had shown close resemblances between certain of these rocks and the crystalline schists of the Green Mountain range as seen alike in New England and in Quebec, and I was led to consider carefully the teaching of Eaton and of Emmons, that this range is itself a primitive or pre-Cambrian axis more ancient than the uncrystalline sediments along its western and northern base. I had found and described in 1857 in conglomerates interstratified with the fossiliferous beds of the Hudson-River group at Pointe Levis fragments of purplish and greenish lustrous schists, apparently chloritic, and had moreover described in 1861 the presence of pebbles of green and bluish slates in conglomerates of the Potsdam age near the outlet of lake Champlain; in both cases evidently derived from rocks of greater antiquity, apparently the primitive schists of Eaton.¹

¹See History of Cambrian and Silurian in *Chemical and Geological Essays*, page 400.