

by Logan, and by the present writer. The belt of micaceous, chloritic, talcose and epidotic schists, with greenstones and serpentines, the extension of a part of the Azoic of Rogers, which, through western New England, is traced into Canada, (where it has been known as the Green Mountain range), was previous to 1862 called by the geological survey of Canada, Altered Hudson-River group. It was subsequently referred to the Upper Taconic of Emmons, to which Logan, at that date, gave the name of the Quebec group, assigning it, as had long before been done by Emmons (in 1846) to a horizon between the Potsdam and the Trenton of the New York system.

In 1862 and 1863 appeared, independently, two important papers bearing on the question before us as to the age of these rocks. The first of these was by Thomas Macfarlane, who, after a personal examination of the three regions, compared the Huronian of Lake Huron and the Green Mountain range of Canada, with portions of the *Urschiefer* or Primitive schists which, in Norway, intervene between the ancient gneisses and the oldest Paleozoic (Lower Cambrian) strata. The second paper was by Bigsby, who was, as we have seen, the earliest student of the Huronian in the northwest, pointing out that these rocks could not in any sense be called Cambrian, but were the equivalents of the Norwegian *Urschiefer*. The conclusions of Macfarlane were noticed in connection with the views of Keilhau on these rocks of Norway in "The Geology of Canada" in 1863, with farther comparisons between the New England crystalline schists and the Huronian, but official reasons then, and for some years after, prevented the writer from expressing any dissent from the views of the director of the geological survey of Canada.

Meanwhile, the existence of an equivalent series of crystalline schists was being made known in southern New Brunswick, where they were described by G. F. Matthews in 1863, under the name Coldbrook group, which included a lower and an upper division. In a joint report of Matthews and Bailey in 1865, these rocks were declared to be overlaid unconformably by the slates in which Hartt had made known a Lower Cambrian (Menevian) fauna, and were compared with the Huronian of Canada. The lower division of the Coldbrook was then described as including a large amount of pink feldspathic quartzite and of bluish and reddish porphyritic slates. In the same report was described, under the name of the Bloomsbury group, a series lithologically