

When, then, in 1847, Logan began the examination of the belts of crystalline and uncrystalline rocks from the frontier of Vermont to the vicinity of the city of Quebec, he framed no new hypothesis, but adopted without question, the views of Mather, Hall, Adams and Rogers as to the post-Trenton age of the uncrystalline sediments. In like manner he accepted unhesitatingly Mather's hypothesis of their stratigraphical equivalence with these of the crystalline schists of the Green Mountain range, sustained as it was by the approval of the Messrs. Rogers and of C. T. Jackson. Logan, constitutionally diffident, and venturing in a new field, was disposed to defer to those whom he, like myself, his young assistant in the campaigns of 1847-49, had been taught to regard as authorities not to be questioned. Hence it was that the limestones and argillites of Pointe Levis were described as Hudson-River group, supposed to be younger than the Trenton limestone of Beaufort, while the great mass of 2000 feet of Sillery sandstone, apparently overlying these, was regarded as the equivalent of the Oneida or Shawangunk sandstone and conglomerate of New York; as may be seen in the little colored map in the *Esquisse Géologique du Canada* published in Paris in 1855. The crystalline rocks adjacent to the south and east were in like manner designated as Altered Hudson-River group. The doctrine of regional metamorphism being then taken for granted, and at the time scarcely questioned, I sought for proof of it alike in the field and in the laboratory, and found in the composition of certain detrital beds near the crystalline schists, then regarded as beds of passage, evidence apparently confirming the metamorphic hypothesis.

In the views of his masters, then implicitly accepted, Logan made in his life-time only a single change, one forced upon him by the results of the paleontological studies of Billings, which showed that the so-called Hudson-River group at Pointe Levis was really, as Eaton and, in his later view, Emmons had maintained, not post-Trenton in age, but pre-Trenton, and belonged to the First Graywacke of Eaton. It is unnecessary to remind the reader that subsequent researches have shown the same to be true of the greater part of the sedimentary rocks in question from the valley of the St. Lawrence to that of the Hudson.

Logan's first acknowledgement of this conclusion was in a