

in 1871-1872, that this fault was imaginary, and that the Quebec group really occupies a position *unconformably* beneath the Trenton; moreover that the series near Quebec is inverted, being probably the northwest side of an overturned anticlinal, so that the Sillery is in fact the oldest member of the series⁴ and was followed by the Lauzon and the fossiliferous Levis limestone, to which succeeded the graptolitic shales, the newest portion of the Quebec group." He then referred again to the testimony of Billings as to the greater antiquity of the few organic forms (*Obolella* and *Lingula*) found in the Sillery. After discussing at some length, by the help of numerous sections and by comparisons, the relations of the Cambrian rocks of Great Britain and of Scandinavia to the so-called Quebec group, "it was urged that the name given by Logan to this group should be rejected as misleading, although that of Levis, as designating a horizon of fossiliferous strata of Tremadoc age, might be advantageously retained in American geology, care being taken to distinguish it from the Quebec graptolitic zone."

The faunal relations of this group of strata I have discussed more at length in Report E of the second geological survey of Pennsylvania, where it is said: (p. 112.) "The great continental belt of rocks originally designated Hudson River group, and subsequently called Upper Taconic and Quebec group, has already afforded us at least three distinct faunas: 1. That of the Red Sandrock or so-called Lower Potsdam; 2. that of the Levis limestone, and 3: that of the *Phyllograptus* shale of Quebec." Still another fauna is found in certain black slates at Farnham, Quebec, at first referred by Logan, from their apparent infraposition, to the Potsdam, being "at one time conceived to underlie the whole Levis or Orleans section, and were still placed near its base. From their fossils however, these slates belong to a horizon above that assigned to the Quebec group, and correspond to the Trenton or the still higher members of the Champlain division." [*loc. cit.*, pp., 116, 119.] Further south, in the Hudson valley, within the apparent limits of the so-called Hudson-River group, are other areas of similar strata of Ordovician age, carrying the fauna of the Loraine shales and thus affording a certain justification for the frequent use in times past of the name of Hudson River group as synonymous with Loraine shales. The area of Silurian rocks at Be-