structure of the Green Mts. to admit not merely an upthrow with Nichol, but a complete overturn of the whole palæozoic series in question. As to the geological age of this series, Dr. Emmons maintains that his Taconic system occupies a position inferior to the Champlain division of the New York system, and is consequently beneath the Lower Silurian system of Murchison. As we have before shown however, the fossils of the Quebec group prove it to be the palæontological equivalent of the Calciferous sandrock. The Stockbridge and sparry limestones, with their accompanying slates (excepting only 7 and 8,) we conceive to be no other than the Quebec group, of which they have both the stratigraphical position and the lithological characters. Dr. Emmons has maintained that limestones of the age of the Calciferous are found overlying the black slates, and has appealed to this in proof of the antiquity of the whole series, of which he imagined these slates to form the summit, but inasmuch as these slates are really older than the Quebec or Calciferous strata, his argument falls to the ground. Mr. Billings has lately found *Conocephalites* in the red sandrock of Highgate, Vermont, which is supposed to overlie the black slates in question. As this primordial genus occurs also in the Potsdam sandstone of Lake Champlain, the question arises whether these slates are palæontologically distinct from the Potsdam, or are only its deep sea equivalent, sustaining to the littoral formation of quartzose sandstone on Lake Champlain, the same relation as the great Quebec group does to the Calciferous sandrock of the New York geologists. Dr. Emmons claims that the whole of his Taconic system is inferior to the Potsdam sandstone, which is the admitted base of the Champlain division, but we have already shown that the whole of his system, with the probable exception of these slates, is of the age of the Calciferous sandrock, the second member of that division. Unless then these lower black slates contain a fauna distinct from and older than that of the Potsdam sandstone, there remains absolutely nothing of the Taconic system which Dr. Emmons placed below the base of the Champlain division, that is to say, below the Potsdam sandstone. If, however, as is probable, these slates contain a fauna distinct from the Potsdam, they might be retained under the name of the Taconic formation, as a lower member of the Primordial Zone, to which the Potsdam sandstone unquestionably belongs.

These lower slates in Georgia, Vermont, have as already remarked