

There are two or three other points it may be well to state in this place: One is in regard to the condition of the country along the line of junction of these and of almost all other rocks: there is, for example, a concealment of the strata by rocks and earth for quite a wide space, covering the termination of the masses on either side; added to this difficulty is the confusion created by the great sameness in the direction of dip, and as both are lithologically slates or shales and both liable to certain changes in their planes of stratification and of deposition, a wide door is opened, through which we may run into mistakes and create confusion. In fact, it often happens that where either of these difficulties exists alone special care has to be taken to avoid error; but where they all appear, as in the instance under consideration, we can scarcely expect to escape falling into some gross mistake, that especially which concerns the designation of the rock.

§ 150. Dr. Emmons, after mentioning the question of the relations of the Taconic and Champlain Groups and deciding that they are made up of strata belonging to two distinct geologic systems, proceeds to discuss the lithologic characters of the series (pages 138, 139, 140), and says in conclusion (p. 140):

If the preceding views are admissible, there is sufficient reason for regarding the rocks which lie between the upper members of the Champlain Group and the Hoosic Mountain as a distinct series at least; but I would remark that by the expression "lying between" I have reference to geographical position, for, considered geologically, they can be regarded in no other light than as inferior to the Potsdam sandstone or as having been deposited at an era earlier than the lowest member of the New York Transition System. We have in no instance, however, been able to trace a connection in these masses, and we have never found the Potsdam sandstone resting upon any of the members of the Taconic System. To attempt to explain this remarkable feature or fact would be premature. The bare fact that the Potsdam sandstone rests on gneiss or granite, without the interposition of any other rock, we early pointed out, and, commencing our series with it, we find it to be unbroken and uninterrupted up to the Old Red Sandstone. But if we commence an examination at the foot of the Hoosic Mountain, which is gneiss, we pass over a series totally different from those of which we have just been speaking, and among which the Potsdam sandstone does not appear, neither a limestone which can be referred to those of the Champlain Group, or slate or shale which can be recognized as belonging to the New York System. If we are correct in this conclusion, if the Taconic rocks differ as much as has been represented from the Primary and also from the Transition series, then it appears necessary that we should adopt views at least somewhat analogous to those expressed in the preceding pages.

§ 151. On page 142 he again calls attention to the "liability to mistake the limestones of this system for those which lie adjacent" and the "difficulties in distinguishing the slate of the Taconic System."

§ 152. The first section given, illustrating the Taconic System, is on page 145, and extends from Petersburg, Rensselaer County, New York, to Adams, Massachusetts; and on plate xi of the volume five sections are given "explanatory of the Taconic System." In all of them we find on the east the Hudson River Group, represented as resting unconformably on the "Taconic slate," then the "Sparry limestone" next east, and in sections 2, 3, and 4 followed by the "Magnesian slate" of the Taconic Mountains, which is overlaid by the "Stockbridge limestone," &c.