gradual one, the conglomerate or the sandstone (Oswego) being transitional into the Medina. The lower portion of the Medina throughout the central portion of the State contains pebbles abundantly and is also characterized by an oblique laminated structure which is well shown in the exposures of the Medina in Herkimer county. On the other hand the base of the red shales (=High Falls shales) above the Shawangunk grit in Ulster county and farther southwestward do not possess the transitional features ascribed to the Medina of central New York. In the eastern section these shales are entirely devoid of pebbles, generally of a bright red color and uniform in character, specially near their base. On exposure to the atmosphere they break into small angular fragments which are easily washed away leaving the sloping surface of the conglomerate beneath clean and white. In small protected areas on the western face of Shawangunk mountain, where the agencies of weathering and erosion have been less severe and the shale, perhaps, of a firmer texture, a number of isolated patches of these red shales occur. They are, however, easily removed and the underlying conglomerate brought to view. On the farm of Patrick Winn at High Falls the contact of these red shales with the conglomerate is favorably shown. At this place the shales formerly were quarried and used for making paint. They here retain their characteristic features down to the conglomerate. It is evident then that there is a very marked change in the character of the sedimentation following the conglomerate, suggestive of a hiatus at this point. Nowhere in central New York has the base of the Medina the features presented by the red shales of this section. In lithologic features they are more like the Vernon red shales of the Salina than any bed of the Medina, though in the upper portion of the Medina there are beds of red shales of a somewhat similar character but more arenaceous. Such beds can be favorably examined at Lewiston on the Niagara river.

A study of the overlaps on the west side of the Helderberg shows that the Salina shales extend farther east than does the Medina, and since the period was one of increasing submergence,