

However strenuously, geologists, a few years ago, contended for the perfect identity of the rock formations of different continents—this opinion, especially in the case of the secondary and tertiary rocks, is now abandoned. All we can hope for, in respect to two such rocks, in different countries, is, that there may be so much similarity between their lithological characters, mineral contents, and organic remains, as to show that they were the result of similar causes, and produced under similar circumstances as to temperature, climate, &c. In respect to the sandstone of the valley of the Connecticut, on which these Ornithichnities occur, there are peculiar difficulties in determining precisely its position on the geological scale. But having examined it with no small care for the last twenty years, with reference to this very point, I have come to the full conviction, as above expressed, that at least the higher beds of this sandstone belong to the new red sandstone of De la Beche and other geologists. The reasons of this opinion I have given in full in my report on the geology, &c. of Massachusetts, made to the government of that state. But it may be desirable to give a summary of these reasons in this place.

The sandstone in this valley extends nearly one hundred miles, from New Haven in Connecticut to the north line of Massachusetts, varying in width from eight to twenty four miles. It is divided by one or two ridges of greenstone, protruded through the sandstone, and running nearly north and south. The strata of the sandstone have a general easterly dip, varying from  $5^{\circ}$  to  $30^{\circ}$ ; so that the lowest or oldest portions of the sandstone lie along the western side of the valley. These lower strata consist, for the most part, of thick layers of red sandstone, not much diversified in appearance. But the upper strata, that is; those on the easterly side of the greenstone ranges, consist of slaty sandstones, red and grey conglomerated sandstones, very coarse conglomerates, shale, and perhaps red marl,\* with occasional beds of fetid limestone. These are interstratified in almost endless variety. Now as to the lower strata, some geologists have supposed that they belong to the old red sandstone; and perhaps they do: but as none of the Ornithichnites occur in these strata, we need not discuss this question. In endeavoring to show that they are the equivalent of the new red sandstone, I confine myself, therefore, entirely to the upper strata.

---

\* The red sandstone at Hartford, is decidedly marly—it effervesces with acids and even contains numerous veins of calc spar.—*Ed.*