

tion with the sandstones of Corncocklemuir. Buckland, by means of his Bridgewater Treatise, gave wide circulation to Duncan's discoveries, showing that these impressions were found through a depth of forty-five feet of rock, not on a single stratum only, but on many successive strata, thus demonstrating that they had been made at successive intervals. The sandstones of Dumfriesshire are supposed to have been wide-spread expanses of sand of a littoral character, visited and covered by the ancient tides, some of these surfaces recording atmospheric conditions. Their faces are sometimes pitted with hollows, the results of a pelting shower, and these pittings have occasionally such a well-defined and distinct direction, that one can ascertain the direction of the wind, which bore along with it the rain clouds. The sandstones of Cheshire, again, exhibit sufficient evidences of solar influence. We find here the sun-dried surfaces of the clayey strata associated with the sandstone, over which animals formerly crawled, cracked and shrunk by the solar beams. Again, they present beautiful sand ripples, the result of a gentle breeze breaking the stiff surface of a shallow pool of sea water on these sandy shores. There may also be found instances of the evaporation of salt water, and the crystallization of sea salt, from the natural salt pans of the ancient beaches. Another noticeable fact is the almost constant and uniform direction of the impressions. They nearly all indicate that the animals, which Sir William Jardine shows must have belonged to some forms of tortoise, walked from the west towards the east. Further discoveries of fossil foot-steps were made in the United States in 1835, the impressions again resembling the feet of birds, and found in the sandstone rocks near Greenfield. Dr. Hitchcock, President of Amherst College, showed that they were actually produced by the feet of living birds, and that one of the kinds of tracks had been made by a pair of feet, each leaving a print 20 inches in length. Says the eminent Owen: "Under the term *Ornithichnites giganteus*, Dr. Hitchcock did not shrink from announcing to the geological world the fact of the existence, during the period of the deposition of the red sandstone of the valley of the Connecticut, of a bird which must have been at least four times larger than the