

Fig. 14.



Hildburg-
hausen,
Saxony.

therium, so called by Professor Kaup, because the marks both of the fore and hind feet resemble the shape of a human hand. Now in these European hand-shaped foot-marks, both the hind and fore feet have each five toes, and the size of the hind foot is about five times as large as the fore foot; but in the American fossil (fig. 13), the posterior foot-print is not nearly twice as large as the anterior, and the number of toes is unequal, being five in the hinder and four in the anterior foot. In the Greensburg animal, as in the European Cheirotherium, the fifth toe stands out nearly at a right angle with the foot, and somewhat resembles the human thumb. On the external side of all the Pennsylvanian tracks, both the larger and smaller, there is a protuberance like the rudiment of another toe. The average length of the hind foot is five and a half inches, and of the fore foot four and a half. The fore and hind feet being in pairs, follow each other very closely, there being an interval of about one inch only between them. Between each pair the distance is six to eight inches, and between the two parallel lines of tracks there is about the same distance.

In the case of the European Cheirotherium, whether English or German, the hind and fore feet occur in pairs, but they form only one row, as in fig. 14, in consequence of the animal having put its feet to the ground nearly under the middle of its body, and the thumb-like toes are seen to turn to the right and to the left in the alternate pairs. But in the American tracks, which form two parallel rows, all the thumb-like toes in one set turn to the right, and in the other set to the left. We may infer, therefore, that the American Cheirotherium belongs to a new genus of reptilian quadrupeds, wholly distinct from that which characterizes the triassic strata of Europe, and such a generic diversity might have been expected in reptilian fossils of such different ages.

The geological position of the sandstone of Greensburg is perfectly clear, being situated in the midst of the Appalachian coal-