

of man had probably been made by the mylodon. He stated that bones and teeth of an elephant and of a horse had been found in the sandstone overlying the tracks.

In 1920, Dr. Chester Stock (Science, n. s., vol. LI, p. 514) published an article on the footprints. In a collection of fossils at the prison he found a skull of *Mylodon* (p. 3), certainly proof that this animal had lived there. Stock also compared the tracks with a reconstructed hind foot of *Mylodon* which he had previously prepared, and he found great resemblances both in size and outline. In 1925, Stock again wrote on the subject (Carnegie Inst. Wash., Pub. No. 331, p. 197, pls. xxvi, xxvii), and his plates present views of the footprints.

The animals that have been found at Carson appear to be these: *Elephas boreus*, *Elephas columbi* (p. 25), *Elephas* sp. indet. (p. 46), *Equus pacificus*?, *E. giganteus*? (pp. 61, 62), *E. occidentalis*? (p. 61), *Odocoileus* sp. indet. (p. 107), *Bison* sp. indet., *Mylodon harlani* (p. 3). Besides these, there were tracks supposed to belong to a wolf. Three species of fresh-water shells and matted masses of vegetation were observed. Evidently the deposits and the remains belong to an early time in the Pleistocene, the first or middle third.

On page 138 of his work on Lake Lahontan (Monogr. xi, U. S. Geol. Surv., 1885, p. 138), Russell made reference to the footprints found at Carson and expressed the opinion that the sediments in which these had been impressed are older than Lake Lahontan and probably belong to early Quaternary or late Tertiary times.

In 1907 (Sunset Mag., San Francisco, vol. xix, pp. 205-216, with illustrations), Dr. George D. Louderback, of the department of geology in the University of California, published a popular, but important, article on the situation, topography, history and geology of the fossil-bearing locality at Carson. In reading this paper one should have before him the Carson sheet of the U. S. Geological Survey. As shown also by other writers, the footprints occur on thin layers of clayey shale which separate layers of sandstone. In the prison yard these have only a gentle slope and, as Louderback says, it has been supposed that when the animals trod that ground the valley and the mountains had about the same appearance as today, but noteworthy changes have occurred. The north end of Prison Hill is composed of volcanic rocks laid down long before the fossil beds, and the latter overlie the volcanic materials. After the deposit of the shales and sandstones the valley just east of the prison was uplifted so that both the sedimentary and the volcanic materials were tipped and now dip westward as much as 20°. This change of position forms only a small part of the movements which occurred in the Sierra Nevada range during the late Tertiary and the early Quaternary.

The silty materials in which the footprints are impressed were evidently brought down from the Sierra Nevada, probably by ancient Carson River. As regards the geological age of the muds, sands and tracks, Louderback refers them to the Upper Pliocene, but incidentally grants that they may be of Quaternary time. It is the opinion of the present writer that these events belong to an early stage of the Quaternary, or the Pleistocene, as he prefers to call it.