

Bos trochoceros.—This form is not included in the three species above mentioned, for it is now considered by Rüttimeyer to be the female of an early domesticated form of *B. primigenius*, and as the progenitor of his *frontosus* race. I may add that specific names have been given to four other fossil oxen, now believed to be identical with *B. primigenius*.³⁹

Bos longifrons (or *brachyceros*) of Owen.—This very distinct species was of small size, and had a short body with fine legs. According to Boyd Dawkins⁴⁰ it was introduced as a domesticated animal into Britain at a very early period, and supplied food to the Roman legionaries.⁴¹ Some remains have been found in Ireland in certain crannoges, of which the dates are believed to be from 843–933 A.D.⁴² It was also the commonest form in a domesticated condition in Switzerland during the earliest part of the Neolithic period. Professor Owen⁴³ thinks it probable that the Welsh and Highland cattle are descended from this form; as likewise is the case, according to Rüttimeyer, with some of the existing Swiss breeds. These latter are of different shades of colour from light-grey to blackish-brown, with a lighter stripe along the spine, but they have no pure white marks. The cattle of North Wales and the Highlands, on the other hand, are generally black or dark-coloured.

Bos frontosus of Nilsson.—This species is allied to *B. longifrons*, and, according to the high authority of Mr. Boyd Dawkins, is identical with it, but in the opinion of some judges is distinct. Both co-existed in Scania during the same late geological period,⁴⁴ and both have been found in the Irish crannoges.⁴⁵ Nilsson believes that his *B. frontosus* may be the parent of the mountain cattle of Norway, which have a high protuberance on the skull between the base of the horns. As Professor Owen and others believe that the Scotch Highland cattle are descended from his *B. longifrons*, it is worth notice that a capable judge⁴⁶ has remarked that he saw no cattle in Norway like the Highland breed, but that they more nearly resembled the Devonshire breed.

On the whole we may conclude, more especially from the researches of Boyd Dawkins, that European cattle are

³⁹ Pictet's 'Paléontologie,' tom i. p. 365 (2nd edit.). With respect to *B. trochoceros*, see Rüttimeyer's 'Zahmen Europ. Rindes,' 1866, s. 26.

⁴⁰ W. Boyd Dawkins on the British Fossil Oxen,' 'Journal of the Geolog. Soc.,' Aug. 1867, p. 182. Also 'Proc. Phil. Soc. of Manchester,' Nov. 14, 1871, and 'Cave Hunting,' 1875, p. 27, 138.

⁴¹ 'British Pleistocene Mammalia,' by W. B. Dawkins and W. A. Sandford, 1866, p. xv.

⁴² W. R. Wilde, 'An Essay on the

Animal Remains, &c. Royal Irish Academy,' 1860, p. 29. Also 'Proc. of R. Irish Academy,' 1858, p. 48.

⁴³ 'Lecture: Royal Institution of G. Britain,' May 2nd, 1856, p. 4. 'British Fossil Mammals,' p. 513.

⁴⁴ Nilsson, in 'Annals and Mag. of Nat. Hist.,' 1849, vol. iv. p. 354.

⁴⁵ See W. R. Wilde, ut supra; and Mr. Blythe, in 'Proc. Irish Academy,' March 5th, 1864.

⁴⁶ Laing's 'Tour in Norway,' p 110.