

the great dissimilarity of the skulls of the several breeds of the domestic dogs. It seems, however, that remains have been found in the later tertiary deposits more like those of a large dog than of a wolf, which favours the belief of De Blainville that our dogs are the descendants of a single extinct species. On the other hand, some authors go so far as to assert that every chief domestic breed must have had its wild prototype. This latter view is extremely improbable; it allows nothing for variation; it passes over the almost monstrous character of some of the breeds; and it almost necessarily assumes that a large number of species have become extinct since man domesticated the dog; whereas we plainly see that wild members of the dog-family are extirpated by human agency with much difficulty; even so recently as 1710 the wolf existed in so small an island as Ireland.

The reasons which have led various authors to infer that our dogs have descended from more than one wild species are as follows.² Firstly, the great difference between the several breeds; but this will appear of comparatively little weight, after we shall have seen how great are the differences between the several races of various domesticated animals which certainly have descended from a single parent-form. Secondly, the more important fact, that, at the most anciently known historical periods, several breeds of the dog existed, very unlike each other, and closely resembling or identical with breeds still alive.

We will briefly run back through the historical records.

² Pallas, I believe, originated this doctrine in 'Act. Acad. St. Petersburg,' 1780, Part ii. Ehrenberg has advocated it, as may be seen in De Blainville's 'O-téographie,' p. 79. It has been carried to an extreme extent by Col. Hamilton Smith in the 'Naturalist Library,' vols. ix. and x. Mr. W. C. Martin adopts it in his excellent 'History of the Dog,' 1845; as does Dr. Morton, as well as Nott and Gliddon, in the United States. Prof. Low, in his 'Domesticated Animals,' 1845, p. 666, comes to this same conclusion. No one has argued on this side with more clearness and

force than the late James Wilson, of Edinburgh, in various papers read before the Highland Agricultural and Wernerian Societies. Isidore Geoffroy Saint-Hilaire ('Hist. Nat. Gén.,' 1860, tom. iii. p. 107), though he believes that most dogs have descended from the jackal, yet inclines to the belief that some are descended from the wolf. Prof. Gervais ('Hist. Nat. Mamm.' 1855, tom. ii. p. 69, referring to the view that all the domestic races are the modified descendants of a single species, after a long discussion, says, "Cette opinion est, suivant nous du moins, la moins probable."