

le bord des routes pour déposer leurs excréments, dont on trouve des monceaux dans ces endroits." Does this not partly explain the circumstance? We thus have lines of richly-manured land serving as channels of communication across wide districts.

Near the Guardia we find the southern limit of two European plants, now become extraordinarily common. The fennel in great profusion covers the ditch-banks in the neighborhood of Buenos Ayres, Monte Video, and other towns. But the cardoon (*Cynara cardunculus*)¹ has a far wider range: it occurs in these latitudes on both sides of the Cordillera, across the continent. I saw it in unfrequented spots in Chile, Entre Rios, and Banda Oriental. In the latter country alone very many (probably several hundred) square miles are covered by one mass of these prickly plants, and are impenetrable by man or beast. Over the undulating plains, where these great beds occur, nothing else can now live. Before their introduction, however, the surface must have supported, as in other parts, a rank herbage. I doubt whether any case is on record of an invasion on so grand a scale of one plant over the aborigines. As I have already said, I nowhere saw the cardoon south of the Salado; but it is probable that, in proportion as that country becomes inhabited, the cardoon will extend its limits. The case is different with the giant thistle (with variegated leaves) of the Pampas, for I met with it in the valley of the Sauce. According to the principles so well laid down by Mr. Lyell, few countries have undergone more remarkable changes since

¹ M. A. d'Orbigny (vol. i. p. 474) says that the cardoon and artichoke are both found wild. Dr. Hooker (Botanical Magazine, vol. lv. p. 2862) has described a variety of the *Cynara* from this part of South America under the name of *inermis*. He states that botanists are now generally agreed that the cardoon and the artichoke are varieties of one plant. I may add that an intelligent farmer assured me that he had observed in a deserted garden some artichokes changing into the common cardoon. Dr. Hooker believes that Head's vivid description of the thistle of the Pampas applies to the cardoon; but this is a mistake. Captain Head referred to the plant which I have mentioned a few lines lower down under the title of giant thistle. Whether it is a true thistle I do not know; but it is quite different from the cardoon; and more like a thistle properly so called.