

and consumption, it is clear, from the facts above cited, that the quantity of food required by the larger herbivora is much less than we have usually imagined. Mr. Darwin conceives that the amount of vegetation supported at any one time by Great Britain may exceed, in a ten-fold ratio, the quantity existing on an equal area in the interior parts of Southern Africa. * It is remarked, moreover, in illustration of the small connexion discoverable between abundance of food and the magnitude of indigenous mammalia, that while in the desert part of Southern Africa there are so many huge animals; in Brazil, where the splendour and exuberance of the vegetation are unrivalled, there is not a single wild quadruped of large size. †

It would doubtless be impossible for herds of mammoths and rhinoceroses to subsist, at present, throughout the year, even in the southern part of Siberia, covered as it is with snow during winter; but there is no difficulty in supposing a vegetation capable of nourishing these great quadrupeds to have once flourished between the latitudes 40° and 60° N.

Dr. Fleming has hinted, that "the kind of food which the existing species of elephant prefers, will not enable us to determine, or even to offer a probable conjecture, concerning that of the extinct species. No one acquainted with the gramineous character of the food of our fallow-deer, stag, or roe, would have assigned a lichen to the reindeer."

Travellers mention that, even now, when the climate of eastern Asia is so much colder than the same parallels of latitude farther west, there are woods not only of fir, but of birch, poplar, and alder, on the banks of the Lena, as far north as latitude 60°.

It has, moreover, been suggested, that as, in our own times, the northern animals migrate, so the Siberian elephant and rhinoceros may have wandered towards the north in summer. The musk oxen annually desert their winter quarters in the south, and cross the sea upon the ice, to graze for four months, from May to September, on the rich pasturage of Melville Island, in lat 75°. The mammoths, without passing so far beyond the arctic circle, may nevertheless have made excursions, during the heat of a brief northern summer, from the central or temperate parts of Asia to the sixtieth parallel of latitude.

Now, in this case, the preservation of their bones, or even occasionally of their entire carcasses, in ice or frozen soil, may be accounted for, without resorting to speculations concerning sudden revolutions in the former state and climate of the earth's surface. We are entitled to assume, that, in the time of the extinct elephant and rhinoceros, the Lowland of Siberia was less extensive towards the north than now; for we have seen (p. 83.) that the strata of this Lowland, in which the fossil bones lie buried, were originally deposited beneath the sea; and we know, from the facts brought to light in Wrangle's Voyage, in the years 1821, 1822, and 1823, that a

* Darwin, Journal of Travels in S. America, &c., p. 99. 2d Ed. p. 85.

† Burchell, cited by Darwin, *ibid.*, p. 101. 2d Ed. p. 87.