

like a bamboo in 40° , and another closely allied kind, of great length, but not erect, even as far south as 45° ."*

It has long been supposed that the general temperature of the southern hemisphere was considerably lower than that of the northern, and that the difference amounted to at least 10° Fahrenheit. Baron Humboldt, after collecting and comparing a great number of observations, came to the conclusion that even a much larger difference existed, but that none was to be observed within the tropics, and only a small difference as far as the thirty-fifth and fortieth parallel. Captain Cook was of opinion that the ice of the antarctic predominated greatly over that of the arctic region, that encircling the southern pole coming nearer to the equator by 10° than the ice around the north pole. All the recent voyages of discovery have tended to confirm this opinion, although Capt. Weddel penetrated, in 1823, three degrees farther south than Capt. Cook, reaching lat. $74^{\circ} 15'$ South, long. $34^{\circ} 17'$ West, and Sir James Ross, in 1842, arrived at lat. $78^{\circ} 10'$ S., as high a latitude, within three degrees, as the farthest point attained by Captain Parry in the arctic circle, or lat. $81^{\circ} 12'$ North.

The description given both by ancient and modern navigators of the sea and land in high southern latitudes, clearly attests the greater severity of the climate as compared to arctic regions. In Sandwich Land, in lat. 59° S., or in nearly the same parallel as the north of Scotland, Capt. Cook found the whole country, from the summits of the mountains down to the very brink of the sea-cliffs, "covered many fathoms thick with everlasting snow," and this on the 1st of February, the hottest time of the year; and what is still more astonishing, in the island of Georgia, which is in the 54° south latitude, or the same parallel as Yorkshire, the line of perpetual snow descends to the level of the ocean. When we consider this fact, and then recollect that the highest mountains in Scotland, which ascend to an elevation of nearly 5000 feet, and are four degrees farther to the north, do not attain the limit of perpetual snow on our side of the equator, we learn that latitude is one only of many powerful causes, which determine the climate of particular regions of the globe. Capt. Sir James Ross, in his exploring expedition in 1841-3, found that the temperature south of the 60th degree of latitude seldom rose above 32° Fahr. During the two summer months of the year 1841 (January and February) the range of the thermometer was between 11° and 32° Fahr., and scarcely once rose above the freezing point. The permanence of snow in the southern hemisphere, is in this instance partly due to the floating ice, which chills the atmosphere and condenses the vapour, so that in summer the sun cannot pierce through the foggy air. But besides the abundance of ice which covers the sea to the south of Georgia and Sandwich Land, we may also, as Humboldt suggests, ascribe the cold of those countries in part to the absence of land between them and the tropics.

* Darwin's Travels in S. America, p. 271.