

there are times in the depth of winter when the temperature is exceedingly mild; and the intense frosts are undoubtedly moderated by the caloric given out from the Aurora borealis, which in these regions affords not only an admirable compensation for the short absence of the moon, but imparts a considerable degree of warmth to the lower regions of the atmosphere, filling the whole circle of the horizon, and approaching so near the surface of the globe as to be distinctly *heard* in varying their colours and positions. 'I have frequently,' says Hearne, 'heard them making a rustling and crackling noise, like the waving of a large flag in a fresh gale of wind.' The electric *aura*, it is well known, will raise the mercury in the tube of the thermometer, but no experiments have been made to ascertain the degree of heat given out by these *henbanes* or *petty dancers*, as Foxe calls them, which must be very considerable; as Button says, 'the stream in the element is like the flame that cometh forth from the mouth of a hot oven.' Almost every voyager into Hudson's and Baffin's seas complains of the occasional hot weather, and the great annoyance of mosquitoes on the shores. Duncan, when surrounded with ice, had the thermometer in August at 56° in the shade, and 82° in the sun. Yet the cold in winter is more intense than they have yet been able to measure either by a mercurial or spirit thermometer. It is a well established fact, that on the eastern sides of great continents, the temperature is greatly below that in the same degree of latitude on the western sides: thus, while the whole of Hudson's Bay, the coast of Labrador and Newfoundland, down to 46° may be said to be, in winter, one mass of ice, not a particle of ice was ever seen in the sea on the western side of America, to the southward of 64° or 65° . The delicate humming-bird is not uncommon at Nootka, and was seen by Mackenzie at Peace River, in latitude $54^{\circ} 24'$. The cold of Halifax, in latitude $44^{\circ} 40'$, is much more intense than that of London in $51\frac{1}{2}^{\circ}$. Pekin, in less than latitude 40° , has generally a constant frost for three months every year; and ice, the thickness of a dollar, is not uncommon at Canton, under the tropics. On the coast of Jesso, in latitude $45^{\circ} 24'$, Captain Krusenstern found the ground covered with snow in the middle of May, and vegetation more backward than at Archangel, in latitude $64\frac{1}{2}^{\circ}$, in the middle of April.

Some of our old navigators ascribed the great variation and irregularity of the magnetic needle in Hudson and Baffin's Seas, to the effects of cold;* and others to the attraction of particular

* Foxe observed that the needle near Nottingham Island had lost its powers, which, among other things, he ascribed to the cold air interposed between the needle and the point of its attraction. Ellis conceived the cold to be the cause of the irregular action of the needle, and he says, that the compasses on being brought into a warm place recovered their action and proper direction.