

illumination. Observing more closely, I saw about 5° above the horizon, and about 12°-15° north of Hartland Point, the appearance of the sun in a fog, but only about one-third the apparent diameter when in the same place. I watched it for about five minutes, when it was gradually obscured by the rising mist.

T. MANN JONES.

Northam, Devon, January 17.

#### Our Latest Glacial Period.

I AM informed that near the Wash, and I suppose at other parts of the coast, the sea at low water is frozen into masses which with the rising tide become floes, and are urged backwards and forwards on the beach. This is, I believe, not a frequent occurrence on our shores, and it would be interesting if any observers could note whether the shingle or the stones embedded beneath the floes, when such are found, have become polished or scratched as by glacial action.

W. ATKINSON.

17 Trafalgar Square, Chelsea, S. W., January 5.

P. S.—My anticipation has proved correct as far as the small bergs in the Thames are concerned, for after a little search I have found in Chelsea Reach chalk blocks with grooves and striations that would be no discredit to a boulder clay specimen. I should be glad to hear of any similar markings on flint, chert, or other hard rocks, or even on limestone or sandstone, and also to learn whether there are, as I think there must be, other recorded instances of the formation of glacial rocks in the British Isles or the coasts of Europe since Pleistocene times.

January 17.

#### THE GREAT FROST OF THE WINTER OF 1890-91.

TO find a parallel to this frost for intensity and endurance, we must go back, as regards London and the south of England generally, to the severe winter of 1814, when the great fair was held on the Thames, which for long presented from bank to bank a uniform stretch of hummocky ice and snow. In that year the severity of the winter was more equably felt over the whole of Great Britain than during the present winter. Thus in 1814, the mean temperature of Gordon Castle, near the Moray Firth, for January was 27°0, whereas during last December it was 36°5; and, so far as records go, all parts of the United Kingdom suffered nearly alike during that memorable winter.

But during this winter of 1890-91, the contrasts of temperature in the different parts of the country from Shetland to the Channel are altogether unprecedented. In Shetland and Orkney, the mean temperature of December was about half a degree above the mean of the month for the past thirty-five years. In Caithness it was about the average, but on advancing southward the cold was the more intense, till its maximum intensity was unquestionably at Oxford, where the mean of the month was 11° below the mean of the past 35 years. The following short scheme shows generally the geographical distribution of this great frost, the first column giving the depression below the mean at places on the west coast; the second, at places in the interior of the island; and the third, at places on the east coast:—

West Coast.	Inland.	East Coast.
Barrahead ... -0°	Inverness - 1°4	Fraserburgh -0°3
Skye ... -1°2	Braemar ... - 1°8	Aberdeen ... -0°6
Islay ... -2°0	Glasgow ... - 3°8	St. Abbs ... -2°8
Douglas (Isle of Man) -4°4	York ... - 5°6	Spurn Head -4°7
Holyhead ... -6°0	Loughboro' - 8°8	Yarmouth ... -5°9
Pembroke ... -6°7	Oxford ... -11°0	
Scilly ... -4°4	Southampton - 8°8	Dungeness... -8°1

As occurs in all low winter temperatures, the intensity of the cold is most pronounced in situations farthest

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removed from the ocean. Thus, from Oxford, the intensity of the frost was in all directions less felt. In Ireland, the intensity was pretty evenly distributed, ranging below the average from -2°5 at Dublin to 4°6 at Foynes and Killarney.

A very cursory examination of the weather maps of the Meteorological Office shows at once the cause of this singular difference in the degree to which different parts of Great Britain have been subjected to this frost. During the whole of this period atmospheric pressure to the east and north-east of the British Islands, notably over Russia and Scandinavia, has been unusually and persistently high, rising on occasions above 31°000 inches; thus, so to speak, stopping the way to the usual easterly course of the cyclones from the Atlantic over North Western Europe. Thus, in the extreme north of the British Islands, pressure has been lowered below what prevailed to the south, and consequently the preponderance of south-westerly winds has been greater. On the other hand, farther south, barometers have been almost constantly higher than they have been away still farther to southward; and be it particularly noted, low-pressure areas, or cyclones, have been almost constantly present over the Mediterranean, or even on occasions farther south, either formed over this region or drafted in from the Atlantic, with the inevitable result that the whole of Western Europe has been overspread with polar winds from north, north-east, and east, bringing with them a degree of cold which the newspaper press has been chronicling for us at our breakfast-tables day by day.

#### INDIAN ETHNOGRAPHY.

OUR Indian dependencies form a vast field for ethnological inquiry which we have not as yet sufficiently cultivated; in fact, its importance is realized by but very few. What is really required is a systematic study of the various races of India, carried out according to a definite plan. Independent observers may do, and many have done, much; but by co-ordination more and better work can be accomplished. The Bureau of Ethnology in Washington has for its especial object the investigation and recording of all that relates to the North American Indians, and the splendid series of Reports issued by that Bureau form an invaluable mine of information on American anthropology. Is it too much to ask from our Government that we should have an analogous Bureau of Indian Ethnography? It would not suffice merely to have a department for researches on Indian ethnology, and for the publication of the results; something more than this is wanted. It would be necessary to have a library of works relating to Southern Asia, and to have an elaborately classified catalogue of books, memoirs, articles, and so forth, on every branch of Indian anthropology. Were this done, anyone who wished for information about a particular district would be able to find references to all that was known about the people, their customs, arts, and crafts. The catalogue should be a systematic bibliography, irrespective of the actual contents of the library of the institution, though every endeavour should be made to make this as complete as possible.

Such a Bureau, if properly directed, would serve as a great stimulus to those who are interested in the native races of India, but who require encouragement and direction. There can be little doubt that an immense number of isolated observations are lost for the lack of a suitable depository, the recorders of such observations being fully aware that these are too casual to be of much value; when accumulated, however, the case is very different. Were it known that a record of any obscure or rarely observed custom would be duly filed and so classified as to be readily available to anyone who was studying Indian folk-lore, the probability is that many memoranda would find their way to the Bureau which otherwise would be lost.