

The Asiatic origin of the Esquimaux seems to me to be a very problematical solution of the difficulty. There are Esquimaux in Asia undoubtedly. The so-called Tchuktchi of Tchuktchi Ness are Esquimaux, but they are a very small fragment, and are apparently emigrants from the opposite shores of Behring Straits. Between them and the American Esquimaux there is a considerable intercourse, which has led to the products of Russian manufacture being found along the shores of the Arctic Ocean; and the American Esquimaux constantly pass the Straits for purposes of barter. Beyond the fragment of this people found at the extreme north-eastern part of Asia, and a few of the Kamtskatkans, I know of no Asiatic race whose language, or custom, or physique, favours the opinion that they are connected with the Esquimaux. The course of migration has rather been westerly and easterly. The Tchuktchi proper and the Koriaks, who are a very different race from the Tchuktchi of Tchuktchi Ness, have been pressing to the west, and have uprooted numerous tribes, such as the Omoki, &c. These latter were portions of a widely-spread race now represented by the fast-diminishing Jukagiri, whose language, so far as I have examined it, is very different from the Esquimaux (a copious vocabulary may be seen in Billing's travels). Again, between the travels of Cooke and those of Whymper, the language of the inhabitants of Kotzebue Sound has changed considerably, and become more Esquimaux, which seems to show that the Esquimaux have quite recently been pressing in this direction also.

All these facts point to apparently only one conclusion, that the original home of the Esquimaux was in the regions near the Pole, from which they have migrated to a more temperate climate; and I can see no good cause for such migration, except the increasing rigour of the climate. The question is one of great interest, both to ethnology and physical geography, and I hope Dr. Rae will favour your readers with some more facts on the other side.

While the evidence seems to be overpowering that the climate has been gradually growing more severe in the highest latitudes, there is a good deal of evidence which points to a corresponding decrease of severity elsewhere. We cannot read the descriptions of Gaul and Germany in Roman times and reconcile them to the state of things that at present exists there, without believing that the climate has very much improved. It is rash to take isolated seasons, but we may compare with profit the accounts of the terrible winters of Roman days, during which the Rhine and Danube were frequently frozen over, with the comparative mildness of modern times. The reindeer and the elk then ranged far to south of their present habitat. Ovid's lamentations over the fearful severity of his place of exile on the coast of Thrace are matched by the accounts of white foxes, &c., which then lived there, and by the proverbial rigour of the winters on the coasts of the Black Sea; while the diminution in the energy and vigour of the races that inhabit the Mediterranean borderland can best be accounted for by the theory which makes them to have in some measure succumbed to a more enervating climate. If this be true, we have a very remarkable fact hitherto ignored, so far as I know, by scientific men, namely, that it is possible that circumpolar climate may have been very temperate when the climate of more southern latitudes was very severe. This paradox, upon which I should very much like to have the opinion of some of your correspondents, is favoured by the following fact:—"It is a common remark of those who frequent the Polar seas, that they find always the least obstruction from ice when the preceding winter has been very severe in more southern latitudes. In the year 1766, though the frost had proved most intense through the rest of Europe, the whalers reached a high latitude; and not to multiply instances, the three last seasons (*i.e.* 1815, 16, and 17), which have been reckoned very open, have succeeded to winters notoriously cold and protracted," *Edinburgh Review*, 30, 34). We have only to extend the analogy of a season to a number of seasons, and we at once get a similar result to the one above named, *i.e.*, that an increase of severity of climate in low latitudes is balanced by a diminution of severity in high ones. I need hardly point the moral in the present letter of the value of such a result in speculations on the existence of the mammoth in Siberia and Northern Russia during the Glacial epoch, &c.

Derby House, Eccles, June 4 HENRY H. HOWORTH

Origin of Cyclones

IN NATURE of August 17, 1871, Mr. J. J. Murphy calls attention to a paper by Mr. Meldrum on the origin of

storms in the Bay of Bengal, &c. This paper advocates the theory of their origin "in the meeting of the trade-winds in the northern and southern hemispheres, at some distance north or south of the equator."

Mr. Murphy says:—"Over the greater part of the Pacific cyclones do not appear to be found. The reason of this probably is that, in consequence of the temperature of the sea changing but little with the seasons, the two trade-winds over the Pacific meet each other nearly on the equator all the year round; though I do not know how far this is confirmed by observations on the winds of that ocean."

Very little is known about the meteorology of this part of the Pacific, and my object in writing is to communicate to Mr. Murphy and others who may be interested in the subject the following facts:—

1. There is rarely a year without at least one cyclone passing through, or in the neighbourhood of, one of the following groups of islands, viz., Fiji, Samoa, or Hervey.

2. The cyclone season extends over a greater part of the period during which the sun is south of the equator; consequently, when the trade-winds from the north reach farthest south. Cyclones are most prevalent about the middle of the season, or rather later than the middle. They rarely visit us earlier than December or January.

3. They are usually preceded for a few days by strong northerly winds. During such winds we watch the barometer very carefully, as a sudden fall is a sure indication of a cyclone near at hand.

I may add that a strong northerly wind is blowing in this group at the present time. It was indicated by the barometer thirty-six hours before it reached us, and was preceded by a day's calm. It then burst upon us suddenly with fury, but after a few hours moderated to about the force of the S.E. trade-wind.

S. J. WHITMEE

Leulumoega, Samoa, South Pacific, Jan. 8

P.S.—Since the date of my last note we have had two earthquakes—Nov. 13, at 5.5 P.M., vertical, with a great rumbling preceding and accompanying it; Dec. 15, at 12 noon: double shock, with an interval of thirty seconds: slight.

Rain after Fire

SOME old settlers believe that great bush fires cause rain. During this summer exceptionally dry weather has prevailed over the greater part of New Zealand, more especially along the eastern coast; in several of the towns prayers for rain have been offered up in the churches. I beg to send some notes of recent date extracted from our home diary. It should be stated that this district, adjoining Banks' Peninsula, has been suffering from extensive bush fires since the 18th of last month.

"Feb. 1. Strong N.-Wester; very hot; 92° in the shade under the back verandah. Heavy bush fire on the hill still burning; showers in the evening."

On the coast here it is very unusual to have rain with a N.W. wind, which is dry and parching.

"Feb. 3. Strong N.-Easter; showers in the evening."

The bush fire was still burning, and continued to do so till the 7th. On the 5th most of the neighbours turned out to save some property in great danger of being destroyed by the fire. N.E. is a cool dry wind from the sea.

"Feb. 16. Strong N.E. Heavy bush fire under Omauhate and about Cass Peak. Slight showers from the S.W. in the morning; wind veered round to N.E."

Our rainy quarter is S.W. with a low temperature; less frequently we experience thick weather from S.E., accompanied by fine rain. These fires have been traversing a range of hills (more or less timbered in the gullies), their heights from eleven to about four hundred feet above the level of the sea. I believe the showers noted to have been as local as the fires; the direction of the wind is given as prevalent on the dates mentioned, with some indication as to its strength, but we have no memoranda as to its force during the actual fall of rain. Opportunities of watching the gradual formation of cumulus cloud above dense volumes of smoke are by no means rare in this part of New Zealand, where the occupiers of Crown land have periodical burnings of their run, or great portions thereof, in early spring. These notes are forwarded in the hope of helping to illustrate the question of whether fires cause rain, no opinion is ventured on the subject, but this curious phenomenon should be further investigated.

THOMAS H. POTTS

Ohinitahi, New Zealand, Feb. 19]