

LETTERS TO THE EDITOR.

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Volcanic Dust Phenomena.

THE phenomena connected with the volcanic dust are undergoing distinct changes. In common with observers in the south of England, I noted the fresh appearance of the dust phenomena in the end of June, especially on June 26, but they were not very striking until August 1. At first the most decidedly volcanic feature was the great corona round the sun, known in the case of the Krakatoa effects as "Bishop's Ring." Whether this name should be applied to the corona this year is doubtful, as its radius has been fully double that of the Krakatoa corona, having until recently averaged about 70°, measured from the sun to the middle of the reddest part. Yesterday and this morning, however, it averaged only about 40°, and its reddest part was a yellowish-brown rather than a red. The colour of the corona this year has always been much less decidedly pink than was the case with Bishop's ring; indeed, it has sometimes been an absence of blueness in that part of the sky rather than any positive redness.

The pink glows after sunset were very strong in the end of June, but stronger still in November, and on November 1, 17 and 18 there was also a faint second glow, a phenomenon I had not previously seen since the Krakatoa sunsets.

It was not until October 30 that the colouring became very magnificent, and it reached its height about November 1, when the chief feature was an intense fiery orange sky near the west horizon. This was of an unmistakably volcanic character, different from anything that has appeared here since the Krakatoa sunsets, though not equal to those in splendour. Since that maximum, the colouring has been gradually lessening. Yesterday and to-day it was remarkably weak, the chief feature being the dust-wisps, which were more conspicuous than I have previously seen them during this apparition; indeed, I should have at first taken them for clouds had I not previously seen them in feebler form. They were plainest a little after sunrise and before sunset, when they were very bright and of a steely white.

The above descriptions apply to Sunderland; but in visits to Torquay from November 6 to 10 and to Dundee about December 1, the sky effects were not very different, only at Torquay I did not see the fiery orange.

Sunderland, December 16. T. W. BACKHOUSE.

P.S.—December 22. The fiery orange has reappeared.

The Methods of Investigating the North Sea Fisheries.

MANY of the readers of NATURE are interested in the international scheme of scientific investigation of the North Sea; but some at least are not convinced that the methods which are being employed are capable of yielding results of value as regards the condition of our fisheries.

The essential part of the scheme formulated at the conference at Christiania, at which the British delegates were Sir Colin Scott Moncrieff, Prof. D'Arcy Thomson, Mr. Garstang and Dr. Mill, is that each nation should fit out one or two specially equipped steamers, which should work along definite lines, and by means of which investigations as to the state of the fisheries, as well as hydrographical and biological investigations, should be conducted. The British Government agreed to participate in the prosecution of this scheme.

But it has been repeatedly pointed out that, if conclusions as to the fisheries are to be drawn from the work of these steamers, two assumptions have to be made.

(1) That the take per steamer or per capturing unit is a measure of the abundance of fish, and

(2) That samples taken from small areas are representative of adjacent districts.

Both these assumptions have been severely criticised, and we had hoped that before now Mr. Garstang would have fulfilled the promise made by him in his letter to the *Times* of April 14 of this year; when he said, in reply to certain criticisms made

by others and myself, that he "could see no reason for anticipating the reply which in due course and in the proper place will be made to the real authors of the criticism he (*i.e.* the present writer) adopts."

It will be remembered, (1) that the criticism referred to is that made by the Inspectors of Fisheries in their Report for 1900 upon the method of estimating variations in the density or abundance of fish by variations in the take per capturing unit, which was employed by Mr. Garstang in his "Impoverishment of the Sea." (2) That that criticism was published at least eighteen months ago, and that it is still unanswered by Mr. Garstang.

It was expected that at the meeting of the British Association at Belfast he would have taken the opportunity of meeting these criticisms. But he does not seem to have done so. For in reply to a letter asking him if he could refer me to any published refutation of these criticisms, he writes under date December 8, 1902, "I am unable to refer you to any published replies by me to the 'criticism' you quote, other than the *Times* reports of the Belfast meeting of the British Association and the Grimsby Conference of the National Sea Fisheries Protection Association (September 30 and October 1)."

The summaries of his communication at Belfast in the *Times* of September 13 and that in the *Times* of October 1 of his remarks at Grimsby give no indication that he dealt with the criticism, a criticism which, if it is valid, renders the results of the investigations recorded in his "Impoverishment of the Sea" of no value and—what is of greater importance—throws grave doubts on the results to be expected from the international investigations at present in progress.

The publication of the Report of the Departmental Committee on Ichthyological Research, which has just been presented to Parliament, must be looked forward to with interest, since the Committee must necessarily have given some expression of opinion upon the questions touched upon in this letter.

D. NOËL PATON.

22 Lynedoch Place, Edinburgh, December 14.

Carved and Perforated Antlers.

IN NATURE for November 20, p. 55, there is a reference to the probable use of the carved and sometimes perforated antlers, by some called "batons de commandement." By Mr. A. W. Franks and others, in the "Reliquiæ Aquitanicæ," the simpler forms are recognised as the "Pogamagan" (*striker*) of the North American Indian (pp. 40, 50, 189, 200, and pp. 30, 102, 159 and 180, of description of the plates iii. and iv., xv. and xvi., xxx. and xxxi.). It seems to me important to mention that in Westminster Abbey a Pogamagan is sculptured as being held in the right hand of a North American warrior on Colonel Townshend's mural tombstone (dated near the end of the eighteenth century), on the south side of the nave.

December 13.

T. RUPERT JONES.

St. Elmo's Fire during Snow Storm.

[MR. W. N. SHAW, secretary to the Meteorological Council, has kindly forwarded to us the following letter received at the Meteorological Office.—EDITOR.]

It may be interesting to your Society to know that we find in a report received from our local committee at Margate relative to the launch of one of our lifeboats there, *viz.* *Eliza Harriet*, on December 3 and 4, that it is stated that about 2 a.m. a bright light was observed on the top of each of the lifeboat's masts, also one on the lee foreyard, which remained quite three-quarters of an hour and lit up all the wire pennants, making them perfectly clear. The lights in question appeared to be of the size of a small lantern. At the time it was blowing very hard and a heavy sea was running, and during the whole time it snowed so hard that it was impossible to see a yard in front of the boat. These lights continued until nearly 4 a.m. and finally disappeared on the snow lifting. It could not possibly have been a reflection from any light on the lifeboat, as they had none showing. It seems to us that this was probably a case of St. Elmo's fire, occasionally seen in a highly electrified state of atmosphere.

CHARLES DIBDIN, Secretary.

Royal National Lifeboat Institution,
Adelphi, London, W.C., December 12.