

## GEOGRAPHICAL NOTES.

NORWEGIAN enterprise has led to the fitting-out of a steamer, renamed the *Antarctic*, for a whaling voyage to the Antarctic Sea south of New Zealand, where Ross attained his highest south latitude in 1842. The *Antarctic* has already sailed, but will touch at an Australian port to complete preparations. It is understood that those on board will endeavour to make as complete meteorological observations as possible throughout the voyage.

A TELEGRAM from San Francisco, dated October 3, states that the American steam-whaler *Newport*, one of the fleet working north of the Arctic coast of America, which passed last winter at Herschell Island (long. 139° W. near the mouth of the Mackenzie), succeeded this summer in steaming through an almost open sea to 84° N. No details are given, and until the observations for latitude have been critically examined it is necessary to reserve an opinion as to the latitude really attained. The farthest north points, reached through Smith Sound, are 83° 20' by Markham, and 83° 24' by Lockwood. If the report is correct, the *Newport* got nearly fifty miles farther north than any previous expedition.

MR. F. G. JACKSON, who is travelling in the Yalmal peninsula, reports that Dr. Nansen did not finally leave Yugor Strait until August 20, the ice in the Kara Sea turning out to be much worse than was expected. The conditions must have improved shortly afterwards, however, as a telegram from St. Petersburg announces the safe arrival in the Yenesei of the Russian vessels which left Dumbarton with railway material on July 29. The date of arrival is not mentioned, but the fact proves that the *Fram* would have no difficulty in getting east as far as the Yenesei, at any rate, and as she is not reported by the Russian vessels, she was probably far beyond that river before they arrived.

PROF. KOTO publishes in the *Journal of the College of Science*, Imperial University, Japan, a detailed description of the surface changes accompanying the great earthquake of 1891, illustrated by sketch maps and photographic views of the great fault, forty miles long, which was formed in the valley of Neo. On one side of this fault the ground has subsided in places for nearly twenty feet, and has also been displaced horizontally. The result, apart from the destruction of towns and buildings, has been to considerably modify the physical geography of an extensive area, changing the course of streams and their rate of flow, forming swamps, and in many ways accelerating the gentler processes of surface change by erosion.

MR. CLEMENTS R. MARKHAM, President of the Royal Geographical Society, has this year been invited to deliver the opening lecture at the three provincial Geographical Societies. He opened the session of the Tyneside Geographical Society at Newcastle, by a lecture on Peru, on the 6th; that of the Liverpool Geographical Society, by an address on the Polar Regions, on the 10th; and that of the Manchester Geographical Society on the 11th, when his subject was Central Asia with special reference to trade routes. The interest taken in the younger societies by the Royal Geographical Society is sure to increase their popularity and usefulness in their own localities.

## BIOLOGY AT THE BRITISH ASSOCIATION.

ON Thursday the address of the President was for several reasons postponed till 12.30, and the work of the section was opened by the Chairman (Sir William Flower) with a sympathetic reference to the recent sudden death of Mr. George Brook, who was to have been one of the secretaries at this meeting. A paper was then read by Dr. David Sharp, on the zoology of the Sandwich Islands. This was followed by the report of Prof. Newton's committee on the present state of our knowledge of the zoology of the Sandwich Islands. The committee have obtained valuable results in several departments of zoology, and more especially in entomology. The consignments received during the year from their collector may be roughly estimated at nearly 150 birds'-skins, 3000 insects, 1000 shells, a collection of spiders in spirit, together with some crustaceans, worms and myriapods. The importance and urgency of the work carried on was testified to by Sir William Flower, Prof. Newton, Dr. Hickson, and others. The report of the committee dealing with

observations on the migrations of birds at lighthouses was then read by Prof. Newton. This committee have made progress with the systematic tabulation of their statistics, and are now commencing to fill up the schedules for their final report. The sixth report of the committee investigating the zoology and botany of the West India Islands shows that the Committee have been chiefly engaged during the past year in working out the great series of specimens secured from the West Indian region by means of the collectors. Papers on the birds, on the myriapods, scorpions, pedipalpi, peripatus, and the parasitic hymenoptera, have been published, and investigations on other groups of insects are now proceeding. Collections of various groups of cryptogams have also been made, are now being worked out, and are proving to comprise many new species. The committee propose to examine next the island of Margarita, the natural history of which is wholly unexplored. An important note on the discovery of *Diprotodon* remains in Australia, by Prof. Stirling, was read by Prof. Newton. The new material now found has added to our knowledge of the structure of this remarkable gigantic marsupial, especially in regard to its limbs and feet.

The presidential address (*see* NATURE, p. 490), in the absence of Canon Tristram from illness, was read in the afternoon by Sir William Flower; and the vote of thanks was proposed by Prof. Newton and Prof. Burdon Sanderson.

The section opened on Friday with a physiological discussion on the physico-chemical and vitalistic theories of life. The discussion was opened by Dr. J. S. Haldane, of Oxford, who, starting from the fact that about the middle of the century physical and chemical theories to explain the peculiar properties of living organisms were completely substituted for the traditional vitalistic theories, proceeded to inquire how far this substitution has been justified by the results of subsequent investigation. He argued that as evidence has accumulated the failure has become more and more manifest of the attempts to specify physical and chemical factors from which vital properties may be deduced. This argument he based on the facts relating to cell-formation, nutrition, heat-production, the secretion and absorption of solids, liquids, and gases, and to other physiological processes. He then endeavoured to show that the old vitalistic theories were not mere expressions of the negative fact that physiologists are face to face with a large residuum of unexplained facts, but constituted real working hypotheses, which summarised the peculiarities of living organisms, and indicated fruitful lines of inquiry. In conclusion he maintained that the former crude beliefs as to the existence of a material or immaterial "vital principle," formed no essential part of a vitalistic theory of life.

The Chairman (Mr. Langley), in inviting discussion, said that the problems of life had been thought to be physical and chemical questions, and the mistake had been that they had been thought to be easy questions. Possibly the fact was that the unexplained residue appertained to more complex chemistry and physics than we know at present.

Prof. Cleland said that the old vitalism was dead, but that there was a new vitalism which must be supported. To him there appeared to be something in life in addition to the mere laws of dead matter.

Prof. Burdon Sanderson said that the real change that took place about 1840 was not a change of doctrine but a change of method. It was then seen that the only way to investigate the phenomena of life was by processes which they understood, such as those of chemistry and physics. A great number of easy questions had since been settled, and the difficult ones appeared now all the greater because we had come nearer to them. Profs. Schäfer, Allen, Heger, Hartog, Bohr, and Dr. Waller also took part in the discussion. In his reply Dr. Haldane maintained that physiologists had always employed methods of observation based on physics and chemistry. The change at the middle of the century seemed to him to be a change in working hypotheses rather than in methods.

The Chairman, in closing the discussion, said that during the first half of the century there had been a lamentable absence of results, mainly owing to the fact that the whole process of research was governed by the vitalistic theory.

A paper by Dr. A. R. Wallace, on malformation from prenatal influence on the mother, was illustrated by photographs of a remarkable case of a child born with an imperfect arm some months after the mother had been engaged in dressing the wound of a gamekeeper who had had his arm amputated.