

I have finally to express my great obligations to Messrs. Fowler, Taylor, and Richards, who have helped me in various ways in the researches embodied in this paper. Mr. Fowler, the assistant to the Solar Physics Committee, has made most of the observations on meteorites, and low-temperature spectra generally, which have been recorded on the maps, and he has carried out this work with a care, skill, and patience beyond all praise. The observations have in nearly every case been checked also by myself. Mr. Taylor, the Demonstrator of Astronomy, has been chiefly responsible for looking up the literature and mapping the results, in which he has been aided by Mr. Richards.

J. NORMAN LOCKYER.

SIR JULIUS VON HAAST, F.R.S.

SCIENCE in Australasia, and especially in New Zealand, has recently sustained a great loss by the death, on August 16 last, of Sir Julius von Haast. He was born on May 1, 1824, at Bonn, where his father was a wealthy merchant. After passing through the grammar-schools of Bonn and Cologne, he entered the University of Bonn, and devoted a considerable portion of his time to geological and mineralogical studies. He then spent some years in France, and made journeys for the purpose of scientific exploration in Russia, Austria, and Italy. Being invited by an English firm of ship-owners to visit New Zealand on their behalf in order to report upon its fitness as a field for German emigration, he went to London, and accepted their offer after some negotiation; and on December 21, 1858, he arrived at Auckland. The next day, by a lucky chance, the Austrian ship *Novara*—then on its voyage of scientific research—put into Auckland; and when Dr. von Hochstetter was left behind, at the request of the New Zealand Government, he took Mr. Haast as his lieutenant and companion in all his journeys in these islands. After the departure of Hochstetter, Mr. Haast was engaged by the Provincial Government of Nelson to explore the west coast of the province, and in the journey undertaken in the pursuit of these duties he commenced his examination of the physical geography and geology of the Southern Alps. The results of the exploration were published in a report printed by the Nelson Government and dated January 1, 1861.

Immediately after the conclusion of the Nelson journey—namely, in December 1860—he undertook to report to the Government of the Province of Canterbury as to the possibility of constructing a tunnel through the hills which separate Christchurch from its port of Lyttelton; and in the following year he was appointed to the command of the Geological Survey of Canterbury, being thus the first Government geologist in New Zealand. It was in this capacity that he accomplished the most valuable part of his scientific work. The most striking of his achievements were the examination of the Mount Cook district; the sketching and mapping out of the great glaciers of the Southern Alps, named by him the Tasman, Franz Joseph, Hochstetter, Hooker, and Müller glaciers, and many others; and the forecast and subsequent examination made of the auriferous districts of Westland. All this, with the geographical, zoological, botanical, and meteorological researches carried on side by side with the more exclusively geological work, was in continuation of what had been done in the Nelson or northern portion of the same mountain system. The results of his investigations were set forth in the chief book published by him—namely, "The Geology of Canterbury and Westland." He was also the author of many papers in scientific periodicals.

Last year he acted as New Zealand Commissioner at the Indian and Colonial Exhibition. Afterwards he visited Paris, Brussels, Berlin, Dresden, Vienna, Halle, Venice, Florence, and other centres, obtaining a vast number of things for the Canterbury Museum, the flourishing condition of which is mainly due to his energy and

zeal. His labour in connection with the Exhibition, and the subsequent wear and tear of travelling while in weak health, appear to have overtaxed his strength, and he died of heart-disease a month after his return to New Zealand.

NOTES.

THE fourth session of the International Geological Congress will be held next year in London. The Congress was founded at a meeting of the American Association for the Advancement of Science at Buffalo in 1876, the first session being held at Paris in 1878, the second at Bologna in 1881, the third at Berlin in 1885. The following is a list of the Organizing Committee appointed to carry out the arrangements:—H. Bauerman, W. T. Blanford, F.R.S., Rev. Prof. T. G. Bonney, F.R.S., Prof. W. Boyd Dawkins, F.R.S., John Evans, F.R.S., Prof. W. H. Flower, F.R.S., Arch. Geikie, F.R.S., Prof. James Geikie, F.R.S., Sir Douglas Galton, F.R.S., Prof. A. H. Green, F.R.S., Rev. Prof. S. Haughton, F.R.S., Prof. T. H. Huxley, F.R.S., W. H. Hudleston, F.R.S., Prof. T. McK. Hughes, J. W. Hulke, F.R.S., Prof. E. Hull, F.R.S., Prof. J. W. Judd, F.R.S., Prof. J. Prestwich, F.R.S., F. W. Rudler, H. C. Sorby, F.R.S., Sir W. W. Smyth, F.R.S., W. Topley, Rev. Prof. Wiltshire, Henry Woodward, F.R.S. The duty of this Committee will be to nominate the officers, to appoint Executive Committees, and to fix the exact date of meeting. The Congress at Berlin requested that the meeting should be held in London between August 15 and September 15.

DR. DAWSON, Assistant-Director of the Canadian Geological Survey, who headed the party sent by the Dominion Government to explore the country adjacent to the Ala-ka boundary, has returned to Victoria. Two of his party, Messrs. Ogilvie and McConnell, will winter in the district, preparing the way for the establishment of the international boundary. The Expedition so far has secured a great deal of geological, geographical, and general information about the country, which is far from being the Arctic region it is sometimes represented to be. The point from which Dr. Dawson turned back was at the junction of the Lewis and Pelly Rivers. It is 1000 miles north of Victoria. There the flora was found to differ but little from that on the banks of the Fraser. A great deal of open grassy country exists along the stream's tributary to the Yukon. No areas of tundra or frozen swamps, such as are to be met with in the interior of Alaska, were discovered by the Expedition. Dr. Dawson's conclusion is that the whole country, from Cassiar to the vicinity of Forty-mile Creek on the Yukon River (which must be near the eastern boundary of Alaska), yields more or less gold in placer deposits. This would constitute a gold-bearing region fully 500 miles in length, and of indefinite width.

AT a meeting of the Council of University College, Bristol, held on Wednesday, November 16, it was decided, at the suggestion of the staff of the College, to suspend for a year the office of Principal. Prof. Lloyd Morgan was in the meantime appointed academical head of the College, and Chairman of the Educational Board, with the title of Dean.

AT the Royal Institution, Sir Robert Stawell Ball, the Astronomer-Royal of Ireland, will give a course of six lectures (adapted to a juvenile auditory) on Astronomy: the Sun, Moon, Planets, Comets, and Stars. The course will begin on December 27. Courses of lectures will also probably be given by Lord Rayleigh (Professor of Natural Philosophy at the Royal Institution), Dr. G. J. Romanes, Mr. Hubert Herkomer, Prof. C. Hubert H. Parry, the Rev. W. H. Dallinger, and Mr. William Archer.