announcements of the scientific work of the expedition. There is no attempt at fine writing, even in those chapters which refer to most thrilling incidents; but throughout the volume may be traced the hand of a calm, observing, fair-minded, and unostentatious lover of the truth.

In thinking of the results of the Lady Franklin Bay expedition, the popular applause will commonly be given to the bravery of Lockwood and Brainard, who in May, 1882, attained the highest latitude yet reached by man (83° 23.8′ north [1]). Lockwood, unfortunately, died before the rescue of the expedition. Brainard came home, and, after eight years' service in the ranks, remains a sergeant, when his record would have gained him a commission at once in any other service in the world.

Another important reconnaissance was accomplished by Lockwood in a prolonged tour across Grinnell Land, where a remarkable series of fertile valleys was found, in which herds of musk-oxen pasture. Over a hundred of these animals were killed, and two hundred others were seen. The glaciers of Grinnell Land are extraordinary. On the shores of Lake Hazen, Greely discovered what he believes to have been the most northerly permanent habitation of man that is known, though the inhabitants thereof have vanished.

The physical observations proposed by the Hamburg polar conference were maintained from July 1, 1881, until June 21, 1884, — forty hours before the rescue of the survivors. Observations as to atmospheric pressure, temperature, and dew-point; direction and force of the wind; quantity, kind, and movement of clouds; the aurora, and the state of the weather, — were made hourly after Fort Conger was reached. Of the magnetometer (by which the declination of the magnetic needle was noted) there were ten hourly readings, except on the 1st and 15th of every month, when the readings were much more frequent. The magnetic inclination or dip was also observed, but the instrument was so poor that the value of the record is seriously impaired. Tidal observations, which promise to be of much value, were likewise made. Great pains were taken to secure accurate observations of the pendulum as a contribution to geodesy. Air samples were secured, but abandoned on the retreat. The velocity of sound at low temperatures was noted. Each day there were 526 recorded observations, — 264 magnetic, 234 meteorological, and 28 tidal. Careful memoranda were made upon the diet of the members of the party, and upon all the circumstances which tended to keep up their health; and the chapter on hygiene and routine is by no means the least important in the volumes. Geological, paleontological, zoölogical, botanical, and ethnological facts were noted whenever there was opportunity to collect such information. On all these points the appendixes are very full.

[1] Markham's highest point in 1876 was 83° 20′ 26″.

It only remains for us to add that these volumes are printed in a most attractive manner, and that the illustrations and maps are abundant and satisfactory. In all respects the book is a credit to the author and the publishers. We purposely avoid here all comment on the cause of the sad failure to relieve at the appointed time the party, and all questions in respect to the imperfections of the outfit. There was a sad lack of thorough attention to some details, — a lack which has greatly impaired the satisfaction with which the expedition would otherwise have been regarded. But Greely and his brave comrades have borne their part nobly, and we trust that a grateful republic will ponder the words with which these volumes close, and act, through congress, before it is too late.

"No man of the party has received promotion, except such temporary advancement as my personal urging could secure. Two men, with broken health, have adventured their private fortunes; and one, a most self-sacrificing, soldierly, temperate, and loyal man, lies, as these lines are penned, helpless in a city hospital, aided by private charity, his pension not even awarded. Even the meagre allowances originally promised for arctic service have not been fully paid, and the widows of the dead are generally as yet unrecognized.

"Our great country in these days asks not in vain for its sons to venture their lives for any idea which may subserve its interests or enhance its greatness. I trust that posterity may never mourn the decadence of that indomitable American spirit which in this generation fought out to the bitter end its great civil war, and made it seem an easy thing in time of peace to penetrate the heart of Africa, to perish in the Lena Delta, to die at Sabine, or to attain the farthest north."

LONDON LETTER.

ALL friends of scientific education, as well as a wider circle, hail with the greatest satisfaction the appointment of Sir Lyon Playfair, the present president of the British association for the advancement of science, to the post which is practically minister of education under Mr. Gladstone's government, which has just been constituted. For many years Sir Lyon Playfair was chairman of committees of the house of commons, and at one time he held the position of postmaster-general in a former government. It is often re-

marked, with some justice, that in the formation of an English government, from political and party considerations, the round men get put into the square holes, and *vice versa*. In the present appointment it is pre-eminently a case of the round man being fitted into the round hole. Probably no man in the house, with the possible exception of Sir John Lubbock, M.P. for the University of London, is listened to with more respect on educational questions than Sir Lyon Playfair.

Mr. D. Morris has been appointed to the post of assistant director of the Royal gardens, Kew, as successor to Prof. W. T. Thistleton Dyer, who became director on the resignation of Sir Joseph Hooker. Mr. Morris has spent some years in Jamaica as director of the public gardens and plantations, and has brought both the gardens at Kingston, and the cinchona plantations, to a very high state of efficiency.

Two new lectureships in biology have been lately established at the University of Edinburgh. The present occupant of the natural history chair is Prof. J. Corsar Ewart, whose work in connection with the fishery board for Scotland is well known; and Mr. George Brook, who has for some time past been making investigations upon fish ova for the same board, has been appointed as lecturer upon comparative embryology. Still more recently another lectureship has been endowed by Lord Rosebery. Mr. E. J. Romanes, F.R.S., has accepted the post, and in the course of the next five years will deliver thirty lectures on the philosophy of natural history. The University of Aberdeen is losing its professor of physiology, Dr. William Sterling having been called to Owens college, Manchester, as the successor of Dr. Gamgee, who is about to devote himself to professional work in a more southern climate than that of Manchester. Mr. Gilbert C. Bourne has just returned from the Chagos Archipelago, where he has been spending the last six months in zoölogical work. He has made extensive collections of the terrestrial fauna and flora, and also of the corals, some of which are probably new, while he has also devoted some time to embryological research.

At the last meeting of the Society of telegraph engineers and electricians, a very remarkable paper was read by the president, Prof. D. E. Hughes, F.R.S., as his inaugural address, on "Self-induction of an electric current in relation to the nature and form of its conductor." The researches were made with a combination of the author's induction-balance, with a Wheatstone bridge, called an 'induction bridge.' Among the practical points resulting from these researches may be mentioned a very decided verdict in favor of the ribbon form of lightning conductor, a solid rod of iron being regarded by the author as the worst possible form. Another point hitherto little understood, but first pointed out by Mr. W. H. Preece at the Aberdeen (1885) meeting of the British association, was cleared up; viz., why, when an iron and a copper wire of equal resistance and static capacity were used for telegraphing between London and Newcastle, 278 miles, there was an increase of speed in the copper line of 12.9 per cent as compared with the iron. The discussion on this paper tomorrow evening is looked forward to with great interest. W.

London, Feb. 10.

NOTES AND NEWS.

IN order to give an opportunity for definite and systematic effort by all those who believe that our birds ought to be protected, the *Forest and stream* has recently founded the Audubon society. Membership in this society is to be free to everyone who is willing to assist in forwarding any one of the three objects for which it is established. These objects are to prevent so far as possible (1) the killing of any wild bird not used for food, (2) the destruction of the nests or eggs of any wild bird, and (3) the wearing of feathers as ornaments. The work to be done by the Audubon society is auxiliary to that which is being done by the American ornithologists' union committee, and will consist largely of matters of detail, to which this committee could not attend. The management of the society for the present will be in the hands of a member of this committee. Branches of this association will be established all over the country. The work of the *Forest and stream* is only preliminary. As soon as the society shall have attained a respectable membership, and be on a firm footing, it will be turned over to its members for final organization. In order that this may take place as speedily as possible, it is hoped that all interested in bird-protection will send in for membership their own names, as well as those of any others whom they think likely to assist. To all such, free circulars containing information will be sent for distribution. Names should be sent without delay to *Forest and stream*, 40 Park Row, New York, N.Y.

— The commission appointed to consider the question of consolidating several of the scientific bureaus of the government are progressing slowly with their work, and a report is not looked for within several months. It is authoritatively learned that the signal office is the chief obstacle in the way of any proposed change, and of an early settlement of this important question. A