

November 17, 1859.

Sir BENJAMIN C. BRODIE, Bart., President, in the Chair.

In accordance with the Statutes, the President gave notice of the ensuing Anniversary Meeting for the election of Council and Officers.

Captain Douglas Galton, John Denis Macdonald, Esq., George Murray Humphry, Esq., and William Odling, Esq., were admitted into the Society.

Mr. C. C. Babington, Sir Henry Holland, Mr. Thomas Webster, the Rev. R. Willis, and Col. Yorke, having been nominated by the President, were elected Auditors of the Treasurer's Accounts on the part of the Society.

The following communications were read :—

- I. "On the frequent occurrence of Vegetable Parasites in the Hard Structures of Animals." By Professor A. KÖLLIKER, of Würzburg. (See p. 95.)
- II. "Researches on the Phosphorus-Bases."—No. VI. Phosphammonium-Compounds." By A. W. HOFMANN, LL.D., F.R.S. (See p. 100.)
- III. "Notes of Researches on the Poly-Ammonias."—No. VI. New Derivatives of Phenylamine and Ethylamine. By A. W. HOFMANN, F.R.S. (See p. 104.)
- IV. "On the Behaviour of the Aldehydes with Acids." By A. GEUTHER, Esq., and R. CARTMELL, Esq. (For Abstract, see p. 108.)
- V. "On the Action of Acids on Glycol" (Second Notice). By Dr. MAXWELL SIMPSON. (See p. 114.)
- VI. "Experiments on some of the Various Circumstances influencing Cutaneous Absorption." By AUGUSTUS WALLER, M.D., F.R.S. (See p. 122.)

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VII. "On the Application of the Calculus of Probabilities to the results of measures of the Position and Distance of Double Stars." By The LORD WROTTESLEY, V.P.R.S. (See p. 133.)

VIII. "Report of Scientific Researches made during the late Arctic Voyage of the Yacht 'Fox,' in search of the Franklin Expedition." By Captain M'CLINTOCK, R.N. Communicated by General SABINE, R.A., Treas. & V.P.R.S. Received September 23, 1859.

SIR,—I have the honour to acquaint you for the information of the President and Council of the Royal Society, that my voyage has happily terminated, and that our exertions have met with as great a measure of success as the most sanguine amongst us could expect. But as the general result of Lady Franklin's "Final Search" will doubtless be made public before this letter reaches you, my object is simply to acquaint you with the nature and extent of such observations of scientific interest as we have been enabled to make.

My last communication, dated 5th May, 1858, informed you of the unfortunate circumstances which led to our first Arctic winter being spent in an ice-drift out of Baffin's Bay. During the winter of 1858-59 we were frozen up in a secure anchorage in Brentford Bay, which I have named "Port Kennedy;" it is in Latitude $72^{\circ} 01'$ N. and Longitude $94^{\circ} 15'$ W.

Here a magnetic observatory was built, the instruments supplied to us set up, and hourly observations continued during the interval between autumn and spring travelling. Fortunately I was able to carry with me a $9\frac{1}{2}$ -inch dip-circle upon my journey to the Great Fish River this spring, and embraced every opportunity of making observations with it, many of them in the immediate vicinity of the point of maximum inclination. Indeed it gives me much satisfaction to state that I believe our entire series of magnetical observations will be found complete—in as far as we were provided with the necessary instruments and favoured with the opportunities of using them.

Meteorological records have been carefully kept throughout the voyage, and the "Weather Books" supplied by Admiral FitzRoy

filled up ; also, comparisons of temperatures shown by a black-bulb thermometer in the sun's rays, and by others suspended against black and white surfaces, with those of a thermometer in the shade, were frequently made during two years.

Dr. Joseph Hooker having suggested that some observations should be made on the temperature of the soil at different depths, such were registered at short intervals throughout the winter and spring of 1858-59.

Observations upon the amount of ozone present in the atmosphere were made during the winter and spring of 1857-58, and also for eleven months at Port Kennedy, 1858-59.

Whenever opportunity offered, the polariscope, supplied at the instance of Professor Stokes, was applied to halos, &c., and the amount and plane of polarization noticed.

The direction of the Aurora and its influence on an electroscope, together with the periods of maximum and minimum intensity of atmospheric electricity, were observed.

The periods of maximum and minimum barometric pressure were recorded, as deduced from hourly and two-hourly observations.

A series of experiments was made on the change produced in seawater by congelation at different temperatures.

Deep-sea temperatures and specific gravities were taken when opportunity offered ; also of the surface of the sea constantly.

The great comet was seen at Port Kennedy, and a few angular measurements taken for determining its change of position, at intervals between 13th September and 8th October.

Selections of native plants, from Port Kennedy and from Disco, have been brought home in Wardian cases, for the Royal Botanic Gardens at Kew. Considerable collections have also been made in the various branches of Natural History ; and Geological specimens from the lands visited have been brought home for scientific friends of the Expedition, who will speedily make public any interesting results : for these collections, and also for many of the observations made during the voyage, I am chiefly indebted to the Surgeon, David Walker, M.D.

A series of Tidal observations was taken at Port Kennedy ; these will be discussed by the Rev. Professor Haughton, F.R.S., of Trinity College, Dublin.

Our geographical discoveries amount to nearly 800 miles of coast-line; they are interesting not only in consequence of their extent and the important position they occupy, but also from the great difficulty of access, whether by sea or land, to this newly explored area. With the exception of a comparatively small and unimportant part of the shore of Victoria Land, the whole of the coasts of Arctic America are now accurately delineated,

My sledge journey to the Magnetic Pole in February completed the discovery of the coastline of the American Continent. The insularity of Prince of Wales Land was ascertained, and the discovery of its coastline completed, by a sledge party under the direction of the Sailing-master, Captain Allen Young, as also the west coast of North Somerset between Bellot Strait and Four River Bay. Lieutenant Hobson, R.N. and his sledge party completed the discovery of the west coast of King William's Island, picking up the Franklin records; whilst with my own I explored its eastern and southern shores, returning northward by its west shore from the Great Fish River.

Repeated attempts were made last year before the close of the navigable season, to reach open water visible in the broad channel westward of North Somerset; but a narrow barrier of ice across the western outlet of Bellot Strait, and there hemmed in so firmly by numerous islets as to continue unbroken throughout the autumn gales, foiled my sanguine hope of carrying the 'Fox,' according to my original plan, southward to the Great Fish River, passing east of King William's Island and from thence to some wintering position upon Victoria Land. From a very careful scrutiny of the ice during my journeys over it in February, March, April, May, and June, it was evident that in this western sea it was all broken up; whilst eastward and southward of King William's Island there was hardly any ice last autumn; and therefore in all probability we *saw*, in that barrier of ice some three or four miles wide, the only obstruction to our complete success.

The wide channel between Prince of Wales Land and Victoria Land, upon which I have conferred the name of Lady Franklin, admits a vast and continuous stream of very heavy ocean-formed ice from the north-west, which presses upon the western face of King William's Island and chokes up Victoria Strait.

I cannot divest myself of the belief that had Sir John Franklin been aware of the existence of a channel eastward of King William's *Land* (so named until 1854), and sheltered from this impenetrable ice-stream, his ships would safely and speedily have passed through it in 1846, and from thence with comparative ease to Behring Strait.

Having enumerated the different subjects which have engaged the attention of the officers and myself and have employed much of our time, it only remains for me to express a hope that these will be found to be in some measure a justification of any moderate expectations which the President and Council of the Royal Society may have formed at the time of my departure from England in 1857, or at least to afford proof that my desire to be rendered useful in the advancement of science has in no degree abated since then.

I am, Sir, your obedient Servant,

F. L. McCLINTOCK,

To the Secretary of the Royal Society.

Captain R.N.

November 24, 1859.

Major-General SABINE, R.A., Treasurer and V.P., in the
Chair.

In accordance with the Statutes, notice was given from the Chair of the ensuing Anniversary Meeting, and the list of Officers and Council proposed for election was read as follows :—

President.—Sir Benjamin Collins Brodie, Bart., D.C.L.

Treasurer.—Major-General Edward Sabine, R.A., D.C.L.

Secretaries.— { William Sharpey, M.D.
 { George Gabriel Stokes, Esq., M.A., D.C.L.

Foreign Secretary.—William Hallows Miller, Esq., M.A.

Other Members of the Council.—C. Cardale Babington, Esq., M.A. ; Rear-Admiral Sir George Back, D.C.L. ; Rev. John Barlow, M.A. ; Thomas Bell, Esq. ; Arthur Cayley, Esq. ; William Farr, M.D., D.C.L. ; Sir H. Holland, Bart., M.D., D.C.L. ; Thomas Henry Huxley, Esq. ; Sir Roderick I. Murchison, M.A., D.C.L. ; Thomas