

in the movement of the land during the earthquakes of 1848 and 1855, which amounted to 9 ft. elevation at Palliser Bay and was not perceptible at Porirua, while there is good reason to believe that in Blad Bay there was a marked depression. The elevation of the Billy Rock in this harbour, and the depression of the Hapuku Rock at the Astrolabe since the publication of the Admiralty Charts, was also advanced as evidence that unequal movements have taken place on a small scale, and of course such may be cumulative throughout long periods.

Sept. 25.—Referring to the skeletons of the huia which were exhibited, Dr. Hector pointed out that the great difference in the length of the beaks in the male and female huia is due only to the prolongation of the horny mandible of the latter, the jaw bones being the same size in both sexes. This is not like the kiwi, in which the apparent excess in the length of the beak in the female is really produced by the lengthened bones of the face. Anatomically, the kiwi has the shortest beak of any known bird of its size. The strong muscular crest on the skull of the male huia at once distinguishes it, however, and supports the view that the male beak is used as an adze, and the female as a probe.

PARIS

Academy of Sciences, Dec. 9.—M. Faye, president, in the chair.—MM. Littré and C. Robin presented their Medical Dictionary to the Academy together with a short descriptive note.—M. de Saint-Venant read the second portion of his paper on the division of the force of a vibratory movement into those due to simple oscillatory movements of various periods and amplitudes.—M. Jamin read a note on the distribution of Magnetism. This was a criticism on M. Treve's paper on this subject, read at the last meeting. The author disagrees with his statement that the poles of a magnet are displaced when an armature is applied.—M. Pasteur promised on a future occasion to reply to the observations of MM. Béchamp and Estor, made at the last sitting.—M. Claude Bernard then answered M. Bouillaud's criticism on his late paper on animal heat: he defends the generally received theory that animal heat is produced in the capillaries; he denied that he stated it to be produced in the liver; and argued against Lavoisier's old theory that it arose solely in the lungs. M. Bouillaud replied, and defended Lavoisier's theory, which he considers to be proved beyond doubt. M. Milne-Edwards then spoke on the subject: he alluded to the experiments of his brother, William M. Edwards, which proved that carbonic anhydride continued to be evolved from the lungs of an animal when it was deprived of oxygen, thus showing that the former gas was brought by the blood into the lungs, and not formed in them by the act of inspiration. A letter from Father Secchi, dated Rome, November 22, was then read. It related to the solar spots and diameter: he has observed the diameter on the lines *B* and *C*, and finds that each gives different results; this he explains thus:—*B* gives the solar diameter without the chromosphere, *C* the diameter plus the chromosphere.—M. E. Belgrand read a paper on the floods of the Seine and its affluents; after which MM. Is. Pierre and Ed. Puchot read some observations on several groups of isomeric substances derived from the alcohols of fermentation. The author draws attention to the remarkable resemblances and differences in certain isomeric bodies, e.g. many isomers differing immensely in boiling-point, odour, and density at the boiling-point, have the same density exactly at 0°.—M. Burdin read a paper entitled "Glance at the immense part played by ether in Nature," a paper relating to the luminiferous ether.—The following gentlemen were then appointed judges of the Montoyon Prize for Medicine and Surgery for 1873:—MM. Cloquet, Nelaton, Cl. Bernard, Bouillaud, Robin, Sédillot, Andral, Larry, Milne-Edwards. The following were appointed to award the Montoyon Statistical Prize:—MM. Ch. Dupin, Mathieu, Boussingault, Moria.—A Report on M. Alph. Milne-Edwards' researches on the anatomy of the semules was then read, and it was decided that the memoir should be inserted among those of foreign savants.—Memoirs were received from M. Rosmann on analytical researches on rocks as regards their constituents which are absorbable by vegetables: it was sent to the section of Rural Economy.—On the destruction of the *Phylloxera* from M. Erb, and M. Balissut: sent to the *Phylloxera* Commission.—A note from M. Berrelly giving an account of the discovery and observations of planetoid 123 at Marseilles was then read, and followed by a paper on Geometry of *N* dimensions by M. Jordan; and by a note from M. Quet on the force of a vibrating system.—M. Sainte-Claire Deville presented a note

on the thermic effects of Magnetisation by M. J. Moutier, which was followed by the conclusion of M. Th. du Moncel's paper on the accidental currents which are produced in a telegraphic wire, one end of which remains insulated in the air.—A very short note on electro-magnetism was then received from M. Trèves, and M. Wurtz presented a paper on dibenzylidicarbonic acid by M. Franchimont.—M. H. Byasson's paper on the splitting up of the molecule of chloral-hydrate under the influence of heat and glycerine was then read. At 110° the chloral-hydrate begins to split up into chloroform, hydrochloric acid, and allylic formate.—M. A. Commaille read a paper on parathionic and thio-allylic acids. These acids, the last of which is isomeric with sulphamyllic acid, are found in the mother liquors of coralline.—M. de Quatrefages presented a paper on a new species of chondrostome found in the waters of Rouergue by M. de la Blanchère. The systematic name of the new species is *Chondrostoma Persci*.—A note on the eye of the Germon, by M. Em. Morceau, was then read, and followed by a note on the immediate cause of the variations of the magnetic elements of the earth, by Father Sanna Solaro, who suggests that the ordinary diurnal variations are due to the movement of the sun acting on the statical electricity of the whole mass of the earth and its atmosphere. This movement continually displaces the resultant of the electric actions, and the instruments follow this movement. The perturbations are produced in the same manner.—A note on a Turonian colony in the Senonian stage of Saint Martory (Petites Pyrénées), by M. Leymerie, was then read.—A note on the origin of the planetary week and on Plato's spiral, by M. Sédillot, followed.

BOOKS RECEIVED

ENGLISH.—The Eruption of Vesuvius, 1872; R. Mallet (Asher and Co.).—The Natural History of Plants, vol. 2: H. Bailton (L. Reeve and Co.).—Report of the Meteorological Observations in the North-western Provinces of India, 1871: M. Thomson.—Travels in India-China and the Chinese Empire: L. de Carné (Chapman and Hall).

FOREIGN.—Memorandum des Travaux de Botanique, 1771-1871: E. Morren (F. Hævez).—Histoire des Sciences et des savants depuis deux siècles: A. de Candolle (H. George).—Zeitschrift für Biologie Band 8, Heft. 3.—(Through Williams and Norgate).—Das Leben der Erde: Hummel.—Grundriss der Physik u. Meteorologie: Dr. J. Müller.—Untersuchungen über das Wesen des Lichts und der Farben: D. Warmann.—Physikalische u. chemische Untersuchungen Ul: u. Hummel.

DIARY

THURSDAY, DECEMBER 19.

ROYAL SOCIETY, at 8.30.—Magnetical Observations in the Britannia and Conway Tubular Iron Bridges: Sir G. B. Airy, Pres. R.S.—On the Organisation of the Fossil Plants of the Coal Measures, Part iv.: Prof. W. C. Williamson, F.R.S.—Observations on the Temperature of the Arctic Sea in the Neighbourhood of Spitzbergen: Capt. Wells, R.N.

LINNEAN SOCIETY, at 8.—On the General Principles of Plant-construction: Dr. M. T. Masters, F.R.S.

CHEMICAL SOCIETY, at 8.—On the Polymerides of Morphine and their Derivatives: E. Ludwig Major and Dr. C.R.A. Wright.—Analysis of Water of the River Manawaddy: E. Nicholson.—Communications from the Laboratory of the London Institution: Dr. H. E. Armstrong.—On the Formation of Crystallised Copper Sulphide, &c.: J. L. Davies.

SATURDAY, DECEMBER 28.

ROYAL INSTITUTION, at 3.—On Air and Water: Prof. Odling, F.R.S.

CONTENTS

	PAGE
ARCTIC EXPLORATION	117
FORESTRY IN ITS ECONOMICAL BEARINGS	118
DANA ON CORALS	119
OUR BOOK SHELF	121
LETTERS TO THE EDITOR:—	
The late Meteoric Shower.—Prof. H. A. NEWTON; Father DANZA; Prof. ASAPH HALL; Prof. D. KIRKWOOD; S. BARBER; J. F. ANDERSON	122
The De Novo Production of Living Things.—Dr. H. CHARLTON BASTIAN, F.R.S.	123
The Ocean Rainfall.—S. H. MILLER	123
Ocean Meteorological Observations	123
Rainfall at Barbadoes.—Hon. RAWSON W. RAWSON	124
Treatise on Probability.—T. T. WILKINSON	124
ON THE SPECTROSCOPE AND ITS APPLICATIONS. By J. NORMAN LOCKYER, F.R.S. (With Illustrations)	125
THE GEOLOGICAL EXHIBITION IN GLASGOW. By JOHN MAYER, F.C.S.	128
THE RISING OF AUSTRALIA. By S. H. WINTLE	129
THE COLOURED STARS ABOUT KAPPA CRUCIS	130
NOTES	131
SCIENTIFIC SERIALS	133
SOCIETIES AND ACADEMIES	133
BOOKS RECEIVED	136
DIARY	136