

communicated having been both numerous and important. Amongst the actual contributions by members to the progress of science during the session may be mentioned—A Method for ascertaining the Existence of Lunar Activity (Mr. W. R. Birt, F.R.A.S., vice-president), A new variable Star ϵ Herculis (Mr. H. T. Vivian), Experiments to ascertain the Absorption of Atmospheric Nitrogen by Plants (Mr. G. E. Davis), A Determination of the Dimensions of the System of Algal (Mr. A. P. Holden), A List of the Fossil Mammalian Remains in the Lea Valley (Mr. R. E. Olliver), A new Section Cutting Apparatus (Mr. W. West), A new classified Catalogue of variable Stars, &c. Numerous original papers had also been read. Good progress had been made with the library, which had been enriched by contributions from several gentlemen, societies, and members. The officers for the fifth session having been elected, the meeting was brought to a close.

PARIS

Académie des Sciences, August 21.—M. Faye in the chair.—M. Chabris has calculated the quantity of nitrate of ammonia yearly carried down to the soil for the nutrition of plants by means of the rain to be two pounds of nitric acid, and consequently, three pounds of nitrate of ammonia per acre.—M. Dumas contributed to the Academy a piece of bread, the provision for the army, which had been infected by *Oidium aurantiacum*. Such facts are not exceptional, principally in very hot weather, and may be detrimental to the public health, as the fungus spreads very rapidly, and it is very difficult to get rid of it. A special committee has been appointed to prevent the infection if possible. MM. Dumas, Baron Larey, Tulasne the botanist, and Pasteur, the celebrated author of so many works on spontaneous generation, are members.—M. Berthelot has examined most carefully a piece of carbon from the Cranbourne meteorite, an Australian stone, and shows by many scientific arguments that the Cranbourne carbon is quite unlike the Orgueil meteorite carbon (a French specimen). The Cranbourne carbon must have been acted upon by a high temperature in ultra-terrestrial space, and no trace of organic origin is to be found on it.—M. W. de Fonvielle sent through M. Leverrier a note establishing that meteoric phenomena analogous to the Marseilles phenomenon are not exceptional cases.—M. Bert, the former Prefect of Lille during the war, described some most interesting experiments on the effects of pressure in suffocating animals living in a confined space. The rapidity of death is not the same for every kind of animal. If the pressure is very high the death is not due to any mechanical effect or to the want of oxygen, but to the presence of carbonic acid, resulting from respiration. It is poisoned by the produce of its own lungs.—The Academy held a secret committee for the nomination of a free member. The list of candidates long delayed was at last published, and M. Belgrand is at the head. But the nomination will be contested.

August 28.—M. Faye in the chair.—M. Saint Venant, a member of the Academy, sent a rather long paper "On the Motion of the Waves," and tried to express through several groups of equations the several motions, which he calls *houles* and *clapots*, both of which become manifest when the sea is heavy. These new calculations are in some respects grounded on a work published by Gerstner in 1804, "Theorie der Wellen."—Dr. Wurtz, a member of the Academy, sent a paper "On the Action of Chlorine on Aldehyde."—M. Dumas presented, in the name of MM. Montefiore, Levy, and Kunzel, a work entitled "Experiments on Different Alloys, and principally on a Phosphoric Brass, which can be used for casting guns."—M. Jausen sent to the Academy a complete report "On the Aeronautical Expedition with the *Volta*." The paper is printed in full.—MM. Troost and Hautefeuille sent a very long paper "On Subchlorides and Oxichlorides of Silicon." These chemical researches were executed in the laboratory of the Normal School, and have induced the learned experimenters to explain a new chemical paradox, and to show how it may happen that silicon appears to be volatilised under very curious and peculiar circumstances.—M. Leverrier read an account of several papers sent from Florence by M. D. Muller, relating to several important questions of terrestrial magnetism. In one of these papers the learned physicist explained how a very large perturbation was observed at the very moment when the sun and the moon came into contact on December 22, 1870, and ceased just when the two discs were separated. M. Muller was one of the Italian eclipse party sent to Terra Nova (Sicily). The view of the eclipse was lost, but a most interesting fact was witnessed. The Italian Government

will very shortly issue a special publication on this unexpected phenomenon. It is to be noted, moreover, that the total amount of elliptic perturbation was diminished in proportion to the distance from the central line of total obscurity.—At the secret committee which followed M. Belgrand was elected a free member.

NEW ZEALAND

Wellington Philosophical Society, July 1.—The president, W. T. Locke Travers, F.L.S., in his address, dwelt on the rapid extinction of the interesting subalpine vegetation of New Zealand, and stated that in a few years many plants that were not rare when he first botanised the Nelson Mountains would soon only be found in herbaria. Mr. Buchanan described the following addition to the flora: *Haloraëis aggregata*, *Celmisia laterale*, *Acena glabra*, *Rosthovia Nova Zelandica*, *Danthonia monoica*, and subspecies of *Danthonia semi-annularis* and *Carex pyramis*. Dr. Knox gave the results of the dissection of the supposed Native Rat, and showed that it could not be distinguished from *Mus Rattus*. Mr. Skey announced the isolation of the bitter principle of the kernel of the Karaka berry (*Corynocarpus laevigata*) as a non-nitrogenous crystallisable resin similar to Digitaline. He proposed to name it Karakine. Dr. Hector exhibited the neck of a Moa with the skin, feathers, and tissues attached, and pointed out the similarity of the feathers to those of the Emu, while they differed from the Kivi; remarking that *Apteryx Mantelli* has the feather shafts prolonged, giving the skin a harsh bristly feel, which distinguishes it from *A. Australis*. He showed a fine series of models of Moa's eggs he had prepared for comparison with the cast of the *Epornis* egg recently received. By a series of specimens which he had obtained alive from the natives and afterwards dissected, Dr. Hector showed that the difference between *Glaucoptis Wilsoni* and *G. olivascens* are merely sexual. Captain Hutton described the following additions to the birds of New Zealand: *Hydrochelidon leucoptera*, Temm, *Procellaria fuliginosa*, *Thalassidroma marina*, *Strepsilas interpres*, and a Totanus and Laurus that have not yet been determined. He also showed evidence of the existence in New Zealand of a goose allied to the Bean goose of Europe, and stated that it had been surmised by Dr. Fusch in a paper published last year that two of the above—*Strepsilas* and Totanus—would probably be found in New Zealand, and also an Actitis, which has not yet, however, been obtained.

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ERRATUM—Vol. IV., p. 358, second column, line 20 from bottom, for "1870" read "1770."

NOTICE

We beg leave to state that we decline to return rejected communications, and to this rule we can make no exception.