

in temperate North and South Africa, and four or five come from extra-tropical South America.

We can only direct general attention to Mr. Justice Gillies' important paper giving the result of his experiments in 1882-83 on the production of sugar from Sorghum, which seem to have been most successful, and to give promise of a good future for sugar-making in the colony; and to Mr. W. Arthur's report on the brown trout introduced into Otago.

**Zoology.**—E. Meyrick, New Zealand Microlepidoptera and Geometrina; R. W. Fereday, new species of Cidaria; T. H. Potts, on a species of Mantis; W. M. Maskell, on new Coccidæ; Geo. M. Thomson, new Crustacea and Pycnogonida; C. Chilton, New Zealand sessile-eyed Crustacea; T. Jeffery Parker, on Palinurus; A. T. Urquhart, habits of earthworms; Capt. F. W. Hutton, revision of land Mollusca, of recent Rhachiglossate Mollusca, new species of Mollusca; H. B. Kirk, Anatomy of *Septoteuthis bilineata*; Dr. J. von Haast, occurrence of the Red Phalarope in New Zealand; Dr. W. Buller, notes on rare birds; Prof. T. J. Parker, on the occurrence of some rare fishes; Dr. Hector, notes on New Zealand ichthyology.

**Botany.**—W. Colenso, further contributions to New Zealand botany; J. D. Enys and T. Kirk, *Botrychium lunaria* in New Zealand; T. Kirk, botanical notes, descriptions of new species of plants; J. Adams, the botany of the Thames gold-fields; A. T. Urquhart, the spread of the Eucalyptus; J. Buchanan, notes of new and rare plants, Campbell Island and its flora; Charles Knight, Lichenographia of New Zealand; T. F. Cheesman, additions to New Zealand flora, revision of the genus *Carex* (New Zealand species).

**Chemistry.**—J. A. Pond, the pottery clays of Auckland district.

**Geology.**—R. M. Laing, thermal springs at Lyttelton; H. Cox, new minerals; Captain F. W. Hutton, the lower gorge of the Waimakariri; D. Sutherland, discoveries near Milford Sound.

**Miscellaneous.**—W. Arthur, brown trout introduced into Otago; Mr. Justice Gillies, Sorghum experiments, 1882-83; Coleman Phillips, the law of gavelkind, a reply to Messrs. George and Wallace.

## SOCIETIES AND ACADEMIES

### PARIS

**Academy of Sciences**, October 27.—M. Rolland, President, in the chair.—Remarks on the first volume of the late M. Dumas' "Discours et Éloges Académiques," presented to the Academy by M. J. Bertrand.—Note on contaminated waters in connection with the spread of cholera, by M. Marey. A careful study of this epidemic since its first appearance in Europe, together with some personal observations in Paris and other parts of France, have convinced the author that the disorder is propagated chiefly through the medium of water. All other influences are of secondary importance, so that to secure the purity of drinking-water in every affected locality should be the first care of the sanitary authorities.—On the formation of saltpetre in plants, by MM. Berthelot and André.—On the oxidation of copper, by MM. Debray and Joannis.—On the laws determining the penetration of the rolled plates of ironclads by projectiles, by M. Martin de Brettes.—On the employment of the aqueous solution of the sulphuret of carbon for the destruction of Phylloxera, by M. A. Rommier.—Account of an easy process for rapidly preparing solutions containing sulphuret of carbon in large quantities, by M. Ach. Livache.—Observations of the lunar eclipse of October 4, made at the Observatory of Lyons (Brunner 6-inch equatorial), by M. Gonnèsiat.—Observations of the comets of Barnard and of Wolf made at the Observatory of Lyons (Brunner 6-inch equatorial), by M. Gonnèsiat.—On a representation of the exponential function by an infinite product, by M. R. Lipschitz.—On the equilibrium of a homogeneous segment of a revolving paraboloid floating on a fluid, by M. Em. Barbier.—Measure of the horizontal component of terrestrial magnetism by the method of amortissement, by M. J. B. Baillie.—Note on the relation between temperatures and pressures of the protoxide of liquid carbon, by M. V. Olszewski.—On some reactions of chlorochromic acid, by M. Quantin. The oxide of carbon acting alone on chlorochromic acid changes it to a green sesquioxide of chromium and to a violet sesquichloride. The simultaneous action of the oxide of carbon and of an excess of chlorine changes integrally the oxychloride of chromium to a sesquichloride.—Chemical analysis of the apatite (phos-

phate of calcium) occurring at Logrozan in Spain, by M. A. Vivier.—On a graphic granite with large crystals of chlorophyllite from the banks of the Vizézy near Montbrison (Loire), by M. F. Gonnard.—Heat of combination of the compounds of hydrogen and oxygen, by M. A. Boillot.—On the phenomena accompanying the solar corona at present visible in the Alps, by M. Duclaux. These phenomena are regarded as purely atmospheric, the sun being merely the luminous source. The solar corona itself is attributed to normal although rare causes, and is considered as analogous to the halo so often observed round the moon, when the atmosphere is charged with moisture.—Observation of the solar coronas during the aërostatic ascents of October 23 and 24, by MM. A. and G. Tissandier.—Note on solar energy and the oscillations of the magnetic needle, by M. Duponchel. From the observations made from the middle of the sixteenth century down to the present time the author infers that the secular variations of the needle are due to the action of a new ultra-Neptunian planet which he names the *Ocean*, and which may have a revolution of about 467 years. This planet must have passed through the longitudes 80° and 260° about the years 1580 and 1813, and should now be in the longitude of 314° in the constellation of Capricorn.—Note on the employment of hydrosulphuric acid for discharging colours, by M. A. Gérardin. This acid, discovered by M. Schützenberger, and now extensively employed, produces remarkable effects, acting by reduction, contrary to chlorine and oxygen, which act by oxidation. This property seems capable of important industrial application.—Note on distilled water used for drinking-purposes, by M. A. Hureau de Villeneuve. The author argues that the price of distilled water might be greatly reduced by obtaining it from steam-engines at work in mills; that it is neither unpalatable nor difficult to digest; that it generally contains a sufficient quantity of air, and that the absence of calcareous salts is rather an advantage than a drawback.

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