

order, which has no singular solution, cannot have an algebraic integral." He showed that Cayley's proof that every algebraic family has a proper envelope, on which this conclusion regarding differential equations depends, fails to take account of the fact that the residual points of intersection, $m + n$ in number, may be concentrated in isolated points, usually tac-points; and produced examples of cubic and quartic families which, in point of fact, have no proper envelope.—Prof. Ewart gave a summary of a paper by Mr. Frank J. Cole, on the cranial nerves of *Chimera monstrosa*, with a discussion of the lateral line system, and of the comparative anatomy of the chorda tympani nerve.

PARIS.

Academy of Sciences, June 15.—M. A. Cornu in the chair.—Formula for the mean local pressures in a fluid moving irregularly or in vortices, by M. J. Boussinesq.—On the variations observed in the composition of apatites, by M. Adolphe Carnot. In Canadian apatites some of the calcium fluoride would appear to be replaced by calcium carbonate without change of crystalline form. In some apatites from the Tyrol, which presented the crystalline properties of normal apatite, the amount of calcium fluoride is reduced to about one-tenth of that usually present.—On the presence of *Campodea staphylinus* (Westwood) and *Sabacon paradoxus* in the cave of Dargilan (Lozère), by M. Lannelongue.—Remarks on the preceding communication, by M. E. Blanchard.—On the value as food of bread from different specimens of screened flour, by M. A. Girard. From a comparative study of the amounts of phosphorus in various samples of bread, the conclusion is drawn that there is no real justification for the use of brown bread in preference to white, when the digestive organs are in a healthy state.—Observations and remarks on the bactericidal power of blood serum, and on the bactericidal substance contained in it, by M. S. Arloing. The experimental results obtained do not appear to sustain the idea of a specific substance in the serum of bactericidal properties. It was found that solutions of many salts could replace the solution of common salt as a diluent of the serum without appreciably affecting its action upon bacteria.—Measurement of the work expended in driving a bicycle, by M. Bouny. The work done was measured by a pedal of special construction containing two dynamometers, arranged so as to register the force exerted in two directions at right angles to each other, and also so as to take into account the effect produced by the deviations of the pedal from the horizontal plane. The work done by the pressure on the pedal is given as a function of the speed. To double the velocity (17 to 33 kilometres per hour) more than trebled the work required to be done.—Remarks on the preceding communication, by M. Marey.—On apsidal surfaces, by M. A. Mannheim.—On the theorem stated by M. P. H. Schoute in the *Comptes rendus* of May 18, by M. D. J. Korteweg. A simplification of one part of the demonstration of this theorem.—On the note of M. P. H. Schoute, entitled "The area of parabolas of higher order," by M. G. Mannoury.—On the method of least squares, by M. Jules Andrade.—On multiple resonance of electric oscillations, by M. Nils Strindberg. An experimental study of the theory of MM. Poincaré and V. Bjerknes on the phenomena of multiple resonance, discovered by MM. Sarasin and De la Rive. By the use of a new form of electro-dynamometer based upon the Joule effect, it has been found possible to determine completely the form of the curves of interference. Qualitatively, the results obtained verify the above theory.—Non-isotropic magnetisation of crystallised magnetite, by M. Pierre Weiss. From the fact that magnetite crystallises in the cubic system, complete symmetry of magnetic properties in all directions might be expected. The experiments detailed, however, show that this is not the case.—On the surfusion of water, by M. J. Passy. It is possible to produce a precipitate in surfused solutions without causing crystallisation to begin.—On the diurnal variation in rain, by M. A. Angot. In summer the maximum amount of rain at Paris falls between 3 p.m. and 6 p.m. In winter the maximum, which is not so well marked, appears to be between 6 a.m. and 9 a.m. In March, April, October, and November there is no appreciable daily variation.—Dissociation spectra of fused salts. Alkali metals: sodium, potassium, lithium, by M. A. de Gramont.—On the reproduction of colours in chromatography, and on a simple system of colour notation, by M. Steinheil.—On a reaction of cuprous compounds serving as a characteristic test for nitrites, by M. Paul Sabatier. A solution containing a nitrite, treated with concentrated sulphuric acid

and a little cuprous oxide, gives a characteristic violet colouration.—On the zirconotungstic compounds, by M. L. A. Hallopeau.—Synthesis of natural methylheptenone, by MM. Ph. Barbier and L. Bouveault.—Contribution to the study of the anterior region of the digestive apparatus of the higher Stenoglossia, by M. A. Amaudrut.—Artificial reproduction of a chlorocarbonate of sodium and magnesium, and a double carbonate of the same bases. Artificial reproduction of darapskite and hydrargylite, by M. A. de Schulten.—On the rare minerals of the glacier of Meije, by M. A. Lacroix. The minerals include anatase, brookite and turnerite.—Chalk containing hippurites of the eastern province, by M. H. Douville.—On the presence of a genus allied to *Caprina* in the limestone at Chateaufeu-du-Rhône (Drôme), by M. V. Paquier.—On the relations between thermal sensibility and temperature, by M. C. Henry.—Action of the porcelain filter upon snake venom; separation of the toxic substances and vaccinal substances, by M. C. Phisalix.—On some derivatives of diphenylethylene diamine, by M. C. Gassmann.—Studies on peridinitronaphthalene, by the same.—On a method of observing sun-spots, by M. Bougon.

BOOKS AND SERIALS RECEIVED.

BOOKS.—Report of the Sixth International Geographical Congress held in London, 1895 (Murray).—Statistical Atlas of India, 2nd edition (Stanford).—Rivers and Canals: L. F. Vernon-Harcourt, 2 Vols., 2nd edition (Clarendon Press).—Domestic Science Readers: V. T. Murché, Book 3 (Macmillan).—The Story of Electricity: J. Munro (Newnes).—Hegel's Philosophy of Right: translated by Dr. S. W. Dyde (Bell).—Das Süßwasserplankton: Dr. C. Apstein (Kiel, Lipsius).—Voxometric Revelation: J. Abner for A. A. North (Authors' and Printers' Joint Interest Publishing Company).—Text-Book of Zoology: Dr. J. E. Boas, translated by J. W. Kirkaldy and E. C. Pollard (Low).

SERIALS.—Economic Journal, June (Macmillan).—Royal Natural History, Part 32 (Warne).—Madras Government Museum, Bulletin No. 4 (Madras).—Journal of the Institution of Electrical Engineers, June (Spon).—Lloyd's Natural History. British Birds. Part 2 (Lloyd).—Himmel und Erde, June (Berlin).

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