

Numerous songs are given, many being songs of cannibals. The volume concludes with a *précis* of each tale. The authors are to be congratulated on the termination of what must have been a laborious piece of work.

The study of the religion and myths of the Koryak<sup>1</sup> is of particular interest, since these people are very little known, and they seem to have been successful in resisting the efforts of the Russians to convert them to Christianity, and to have preserved their primitive religion to a considerable extent.

The Supreme Being occupies an important position in the religious life of the Koryak, but the conception of him is vague. Nothing is known of his world-creating activity, except that he sent down Big Raven to our earth to establish order, and Big Raven is the founder of the world. The One-on-High plays no active part in the myths which occupy more than one-half of the volume; these deal almost exclusively with the life, travels, adventures, and tricks of Big Raven, his children, and other relatives. The value of this record is greatly increased by a comparison of the Koryak myths with Kamchadal, Chukchee, Yukaghir, Mongol-Turk, and American mythologies.

Descriptions are given of the festivals and sacrifices, and customs at birth, death, and funerals; many of the charms and sacred implements, and some of the ceremonies, are illustrated from photographs and drawings.

A. C. HADDON.

#### UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

CAMBRIDGE.—The electors to the Isaac Newton studentships give notice that in accordance with the regulations an election to a studentship will be held in the Lent term, 1907. These studentships are for the encouragement of study and research in astronomy (especially gravitational astronomy, but including other branches of astronomy and astronomical physics) and physical optics. The studentship will be tenable for the term of three years from April 15, 1907. The emolument of the student will be 200l. per annum, provided that the income of the fund is capable of bearing such charge. Candidates for the studentship are invited to send in their applications to the Vice-Chancellor between January 16 and 26, 1907, together with testimonials and such other evidence as to their qualifications and their proposed course of study or research as they may think fit.

The State medicine syndicate reports that it has held two examinations in tropical medicine and hygiene during the past year. At the January examination six candidates presented themselves, three of whom passed and received diplomas. At the August examination eleven candidates presented themselves, of whom ten passed and received diplomas. The syndicate proposes to contribute out of the funds in its hands the sum of 150l. annually as part of the stipend of the reader in hygiene.

Mr. Ernest Gardner, M.P., has been appointed a member of the board of electors to the professorship of agriculture, and Sir Walter Gilbey, Bart., an additional member of the board of agricultural studies.

The following have been appointed examiners for the natural sciences tripos:—physics, Mr. C. T. R. Wilson and Mr. J. A. McClelland; chemistry, Dr. Fenton and Mr. H. B. Baker (Oxford); mineralogy, Mr. A. Hutchinson and Mr. H. L. Bowman (Oxford); geology, Mr. P. Lake and Mr. E. J. Garwood; botany, Mr. F. F. Blackman and Mr. A. G. Tansley; zoology, Prof. E. W. MacBride and Mr. R. C. Punnett; physiology, Mr. F. G. Hopkins and Dr. T. G. Brodie (London); and human anatomy, Mr. T. Manners-Smith and Dr. A. Robinson (Victoria).

The Mark Quoted exhibition of 60l. a year for three years ending Christmas, 1909, has been awarded to F. A. Potts, of Trinity Hall, assistant to the superintendent of the museum of zoology.

THE honorary degree of LL.D. has been conferred upon Sir W. H. Perkin, F.R.S., by the Johns Hopkins University, Baltimore.

<sup>1</sup> "The Koryak, Religion and Myths." By Waldemar Jochelson. Jesup North Pacific Expedition, vol. vi. part i., 1905.

A NEW building for the engineering department of the University of Pennsylvania was formally dedicated on October 19, and is said to be the largest and best equipped structure devoted to engineering education in the United States. The cost, including equipment, was 200,000l.

THE council of University College, London, has received from the committee and subscribers of the Carey Foster Testimonial Fund the sum of 143l. to be applied in the award of an annual prize in physics, to be known as the Carey Foster research prize. This fund is the balance of that raised for the portrait of Dr. Carey Foster which was presented to the council in July last.

We learn from *Science* that the Georgia Legislature has appropriated 20,000l. to erect and equip a building for the Agricultural College, and that the New York State College of Agriculture at Cornell University has received a gift of 6000l. for the foundation of six agricultural scholarships. Our contemporary also states that the University of Florida has been removed during the summer from its former position at Lake City to new grounds and new buildings at Gainesville, Fla. The new grounds comprise a tract of five hundred acres just outside the city limits of Gainesville.

IN his report for 1906 on secondary education in Scotland, Dr. J. Struthers, the secretary to the Scotch Education Department, devotes a section to the teaching of science. After directing attention to the satisfactory progress made in the secondary schools of Scotland in developing a sound and well-considered course of experimental science, the secretary remarks on a common mistake in the practice of science teachers in allowing inadequate time for the discussion of experimental exercises. As one of the inspectors reported to the Department, "unless frequent occasions are afforded for conference on class results, divergences, and conclusions, the work is apt to degenerate into a series of more or less isolated operations in which the pupils are found, not only lacking in their grasp of the subjects of study, but deficient in their knowledge of the units they are using and in their understanding of the constants they have determined." This failing is not confined to Scottish schools, and teachers would do well to take every precaution that the experiments do not degenerate into mere recipes unintelligently worked through by the pupils. Unless the pupils acquire a comprehensive idea of the meaning of series of connected experiments, they are obtaining little help in learning how to employ scientific methods.

#### SOCIETIES AND ACADEMIES.

LONDON.

**Royal Society, June 21.**—"Experimental Evidence of Ionic Migration in the Natural Diffusion of Acids and of Salts.—Phenomena in the Diffusion of Electrolytes." By R. G. Durrant. Communicated by W. A. Shenstone, F.R.S.

**Conclusions.**—The results as given in the present paper appear to afford a considerable body of data tending to support the theory of Nernst and Planck.

So far as the author is aware, the method of studying band boundaries has been almost entirely confined to experiments in which batteries have been employed, as in the work of Orme Masson and of Steele.

The earlier experiments in jellies and the later experiments with silver nitrate and calcium chloride show that very fairly sharp bands are obtainable without batteries.

The evidence goes to show that hydrogen ions move in advance of the diffusion front, whereas other ions produce their various "effects" in the rear of the diffusion front.

**Entomological Society, October 3.**—Mr. F. Merrifield, president, in the chair.—*Exhibitions.*—Commander J. J. Walker: A specimen of *Calosoma sycophanta* taken in Denny Wood, New Forest, June 16; *Lygaeus equestris*, L., found in the Isle of Sheppey on September 22; *Sitaris muralis*, taken near Oxford in August by Mr. A. H. Hamm; varieties of *Vanessa urticae*, *Argynnis adippe*, *Lycaena icarus*, ♂, and of an almost black form of *Strenia clathrata* occurring at Streatley, Berks, in August—all



taken this year.—G. T. **Porritt**: A series of *Abraxas grossulariata*, var. *varleyata*, bred this year from a pairing of the variety, all the brood being of the variety: none showing the least tendency to revert to the ordinary form.—C. P. **Pickett**: A gynandromorphous specimen of *Angerona prunaria* bred by him, and a ♂ specimen of *Fidonia atomaria*, caught at Folkestone, with six wings.—F. W. and H. **Campion**: Specimens of the rare dragon-fly *Sympetrum flaveolum*, taken near Epping in August last. It was suggested that these were part of a migration of the species such as occasionally takes place.—Dr. F. A. **Dixey**: Specimens of *Nychitona medusa*, Cram., *Pseudopontia paradoxa*, Feld., *Terias senegalensis*, Boisd., *Leuceronia pharis*, Boisd., and *L. argia*, Fabr. Although there does not exist any direct evidence that the members of the genus *Nychitona* are distasteful, their habits are such as to suggest this mode of protection, and there is little doubt that they have served as models for other insects.—H. St. J. **Donisthorpe**: Examples of *Dinarda pygmaea*, Wasm., with our other three species, *D. hagensi*, Wasm., *D. dentata*, Gr., and *D. märkeli*, Kies., with their respective hosts.—Dr. N. **Joy**: Species of Coleoptera first recognised as British in 1906; a variety of *Lathrobium elongatum*, L., from South Devon, with entirely black elytra, and which he proposed to call var. *nigrum*; a curious dull aberration of *Apteropeda globosa*, Ill.; *Heterothops nigra*, Kr., taken in moles' nests; and a species of *Gnathoncus* differing in certain characters from *G. rotundatus*, Kugel, and which occurs almost exclusively in birds' nests.—G. B. **Oliver**: A melanice ♀ of *Acidalia marginepunctata*, Goeze, and a melanice ♂ of *A. subsericeata*, Haw., both taken in North Cornwall this summer, together with the typical forms for comparison; also a dark aberration of *Coenonympha pamphilus*, Linn., taken in the same district.—**President**: A series of *Selenia bilunaria*, illustrating the remarkable angulation of the wings in these examples.—**Papers**.—The formation of a new nest by *Lasius niger*, the common black ant: H. W. **Southcombe**.—Some notes on the dominant Müllerian group of butterflies from the Potaro River district of British Guiana: W. J. **Kaye**.—A contribution to the classification of the coleopterous family Passalidæ: G. J. **Arrow**.

October 17.—Mr. F. Merrifield, president, in the chair.—**Exhibitions**.—H. St. J. **Donisthorpe**: Living specimens of the beetle *Mononychus pseudacori* found in plants of *Iris foetidissima* found at Niton, Isle of Wight.—A. H. **Jones**: A collection of butterflies from Arosa, Switzerland, at 6000 feet, and varieties of *Melanargia galatæa* and *Argynnis niobe*, ♀, taken on the Splügen Pass in July; also specimens from other localities for comparison.—W. J. **Kaye**: A fine example of the remarkable moth *Dracenta rusina*, Druce, from Trinidad. The species bears a wonderful resemblance to a decayed dead leaf, the patches on the wings suggesting the work of some leaf-mining insect.—E. M. **Dadd** showed a number of Noctuids common to the British Isles and Germany, and directed attention to the constant differences between the prevalent forms occurring in England and the prevailing forms of the same species on the Continent.—Dr. F. A. **Dixey**: Specimens of *Ixias baliensis*, Frühst., and *Huphina nerissa*, Fabr., remarking that the association between the two species must necessarily be Müllerian, and not Batesian.—S. A. **Neave**: A number of Lepidoptera selected from the collection made by him in N.E. Rhodesia, in 1904 and 1905, comprising the following rare and remarkable species:—*Melanitis libya*, Distant; *Liptena homeyeri*, Dewitz; *Pentilia peucetia*, Hew.; *Catochrysops gigantea*, Trim.; *Crenis pechueli*, Dewitz, and *Crenis rosa*, Hew., which are evidently two distinct species; and *Crenidomimas concordia*, Hopff., the mimic of the last two species. Also two remarkable species of the genus *Aphnaeus*—including the female, so rarely taken in this genus—*Acraea natalica*, Boisd., and *Acraea anemosa*, Hew., with two remarkable moths showing a close mimetic resemblance to them. The exhibitor further stated that his collection should prove interesting as regards seasonal forms, especially in the *Acræinæ* and *Pierinæ*, of which he showed additional examples.

**Royal Microscopical Society**, October 17.—Mr. A. N. Disney, vice-president, in the chair.—*Cornuvia serpula*, a species of Mycetozoa new to Britain: J. M. **Coon**. For the first time a complete description was given of all the stages of this organism, previous descriptions being limited to the mature plasmodicarp and its contents.

**Physical Society**, October 26.—Prof. J. Perry, F.R.S., president, in the chair.—The strength and behaviour of ductile materials under combined stress: W. A. **Scoble**. In former tests of materials under combined stress either the ultimate strength or elastic limit stress has been considered, and the tensions have been applied either directly, or by internal pressure in the case of thin tubes, so that the distribution of stress was approximately uniform. The present experiments were made on bars  $\frac{3}{4}$ -inch diameter, subjected to bending and twisting to reproduce the irregular distribution of stress occurring in practice. The yield-point was selected as the criterion of strength, but it is open to more than one specification. Here the stress corresponding to the first sign of yield was not taken, but that given by the intersection of the two parts of the stress-strain diagram corresponding to perfect elasticity and complete yield, so that the intermediate state was neglected. The critical bending moment was found to be greater than the yield torque, 2660 and 2400 lbs ins., and plotting the corresponding bending and twisting moments the ellipse gave the closest approximation to the results.—The behaviour of iron under weak periodic magnetising forces: J. M. **Baldwin**. The behaviour of iron in strong alternating fields has been studied by many observers, and the induction in iron when placed in both strong and weak fields has been thoroughly examined by static methods, but up to the present no results have been published of the induction in weak alternating fields. The author has now, however, succeeded, by means of Lyle's wave-tracer (for description of which see *Phil. Mag.*, vol. vi., p. 549), in examining the induction in periodically varying fields down to extremely low amplitudes. The principal points brought out are as follows:—(1) the permeability satisfies a linear law through a considerable range for weak fields, diminishing to a minimum about 150 as the amplitude of the field diminishes; (2) as the field diminishes the difference in phase between the induction and the magnetising force tends to disappear, and (3) at the same time the hysteresis losses become very small; (4) frequency at these low values of the field has practically no influence on the results obtained.—Fluorescence and magnetic rotation spectra of sodium vapour and their analysis: Prof. R. W. **Wood**. After recapitulating the descriptions of the experimental arrangements given in previous papers, the author describes the work done during the present year in photographing magnetic rotation and fluorescent spectra. A 12-feet grating, a specially constructed three-prism spectrograph, and a monochromatic illuminator were used.

**Challenger Society**, October 31.—Prof. d'A. W. Thompson in the chair.—Preliminary note on a method of detecting successive moults of the same species among Crustacea: Dr. **Fowler**. The uncertainty of connecting together in series the successive stages of larvæ captured in tow-net hauls is great, especially if the general form and appendages differ at different moults. Brooks noticed, twenty years ago, a curious numerical relation between the lengths of four specimens of stomatopod larvæ, which appears to be capable of expansion into a regular law, and if the larvæ captured be sorted at first by general morphological similarity and by constant association in the same hauls, it seems probable that this law will give the key to their relationship. The author had measured and sexed more than 400 specimens of *Conchoecia subarcuata*, Claus=*macrocheira*, Müller. The males and females each fell into three groups when arranged by lengths; when the frequency of the lengths occurring in each group was plotted, each formed a small "curve of frequency," and the mean length of each group when multiplied by a certain factor (found experimentally) yielded the mean of the next highest group; the extremes, similarly multiplied, yielded, approximately, the extremes of the next highest curve. The factor is different for males and for females, and seems to be an expression of



the percentage of its total length by which the animal increases between two moults; this is apparently constant for every moult. This law is also very clearly observable when applied to the measurements of lobster larvæ recorded by Herrick.—Three graphic methods of recording temperature observations in use in the section of the International Investigations of the North Sea conducted by the Scottish Fishery Board: Prof. d'A. **Thompson**. One method recorded the surface temperatures at any date and any position along a given line, another the temperature at any date and depth at a given position; the third showed the daily sequence of temperatures for the year at any given position in the form of sine curves.

**Linnean Society, November 1.**—Prof. W. A. Herdman, F.R.S., president, in the chair.—The structure of bamboo leaves: Sir Dietrich **Brandis**. While the leaves of other grasses exhibit a great variety of structure, those of bamboos are exceedingly uniform. In bud they are always convolute; they all have in the upper epidermis, alternating with the longitudinal nerves, bands of large bulliform cells known as motor-cells. In most species these motor-cells are filled, entirely or partially, with solid bodies of silica. Between the bands of bulliform cells and the longitudinal nerves, bamboos (with one exception so far as known, *Chusquea pinifolia*, of south-east Brazil) have large apparent cavities, which are completely filled by large flat thin-walled cells, lying one over the other, like the leaves of a book. This tissue is entirely different from that which, in a young state, fills the cavities in the leaves of *Glyceria aquatica*, *G. fluitans*, and other aquatic grasses. The species placed by Dr. Stapf in "Flora Capensis" in the new tribe Phareæ have, so far as known, leaves with a structure similar to bamboo.—Crustacea from the Inland Sea of Japan: Dr. J. G. **De Man**. Thirty-nine species were fully described, and ambiguities in previous authors cleared up.—The systematic position of *Hectorella caespitosa*, Hook. f.: Prof. A. J. **Ewart**. This plant has been regarded as belonging to the Portulacæ, but the author suggested it might be transferred to the Caryophyllacæ.

**Mathematical Society, November 8.**—Annual general meeting.—Prof. A. R. Forsyth, president, in the chair.—Partial differential equations: some criticisms and some suggestions. Presidential address by Prof. **Forsyth**. The address dealt chiefly with the present state of the methods of practical integration; a number of exceptional cases, in regard either to method or classification, were pointed out, and various gaps in the theory were indicated. Some suggestions as to hopeful lines of advance were made.—Harmonic expansions of functions of two variables: Prof. A. C. **Dixon**. A function of two real variables, having a considerable degree of generality, is expanded in a double series each term of which is the product of two functions containing the two variables separately, and also containing parameters which differ from term to term of the series. The series is transformed into a multiple integral. The series that are founded on this expansion are found to be equally complete with double Fourier's series.—The inversion of a definite integral: H. **Bateman**. The paper contains a classification of integral equations of the first kind, two practical methods of proceeding to a solution, and a number of illustrative examples.—Partial differential coefficients and repeated limits in general: Dr. E. W. **Hobson**. Among the matters treated is the formulation of the most general conditions in which the equation

$$\frac{\partial}{\partial x} \left( \frac{\partial u}{\partial y} \right) = \frac{\partial}{\partial y} \left( \frac{\partial u}{\partial x} \right)$$

holds good.—Bäcklund's transformation and the partial differential equation  $s = F(x, y, z)$ : J. E. **Campbell**. The form of differential equation in the title includes the differential equation of all pseudospheres, or surfaces of constant negative curvature. In this case the equation admits of being transformed into itself by a transformation due to Bäcklund. The transformation succeeds also in one other case.—Subgroups of a finite Abelian group: H. **Hilton**.—The general solution of Laplace's equation in  $n$  dimensions: G. N. **Watson**.

## MANCHESTER.

**Literary and Philosophical Society, October 26.**—Sir William H. Bailey, president, in the chair.—A development of the atomic theory which correlates chemical and crystalline structure and leads to a demonstration of the nature of valency: Prof. W. J. **Pope** and W. **Barlow**.

October 30.—Mr. Charles Bailey in the chair.—(1) A journey to North-East Rhodesia during 1904 and 1905; (2) a collection of birds from North-East Rhodesia: S. A. **Neave**.

## PARIS.

**Academy of Sciences, November 5.**—M. H. Poincaré in the chair.—The alcoholysis of fatty bodies: A. **Haller**. The hydrolysis of fatty substances by an aqueous solution of various acids is well known. The author has found that if the acids are employed in alcoholic instead of aqueous solution the glycerol is split off as before, but the alkyl ester of the acid is formed, and hence the process may be fitly called alcoholysis. All fatty bodies, whatever their constitution or consistency, undergo this change with more or less facility. Full details are given of the methods used in carrying out this reaction, which has been applied to a large number of glycerides. Owing to the low temperature at which the reaction can be completed, the replacement of water by alcohol possesses certain advantages.—The transformation of volcanic rocks into phosphate of alumina under the influence of products of physiological origin: A. **Lacroix**. The change takes place under the influence of the excrement of sea birds.—The seeds and flowers of Callipteris: M. **Grand'Eury**. The frequent presence, along with Callipteris, in the neighbourhood of Autun, of seeds catalogued thirty years ago under the name of *Carpholithes variabilis*, found with an intimate mixture of the same seeds with *Call. conferta* in the coal deposits of Bert, formed exclusively of this fossil, led the author to the view that these belonged to the same plants. In the present paper an account is given of a study of the flora of the Autun boghead which confirms this view.—The perturbations of Vesta depending on the product of the masses of Jupiter and Mars: M. **Leveau**.—Certain linear groups: Léon **Autonne**.—The potentials of an attracting volume the density of which satisfies the equation of Laplace: A. **Korn**.—Certain cathode rays: P. **Villard**. Some remarks on the nature of the non-deviable rays observed in a Crookes's bulb by J. J. Thomson.—The establishment of an exclusive correspondence, independent of syntonisation, between a transmitting post and one of the receiving posts of a wireless telemechanical installation: Édouard **Branly**.—The conditions of precipitation and re-dissolution of metallic sulphides: H. **Baubigny**. Remarks on a paper by M. G. Bruni and Padoa, the author referring to papers by himself on the same subject published in 1882 and 1889.—The gases observed in the attack of tantalite by potash: C. **Chabrié** and F. **Levallois**. Experiments on tantalite and the corresponding ferrous titanate show that the hydrogen observed in the reaction with potash is not present in the mineral, but is due to a chemical reaction between ferrous oxide and the alkali.—Contribution to the study of selenium: Echsner **de Coninck**. By the reduction of selenious oxide by glucose, an amorphous, brick-red selenium is produced. This dissolves gradually in concentrated sulphuric acid, forming  $\text{SeSO}_3$ . This latter substance in contact with water deposits a new stable variety of selenium, the properties of which are detailed.—The chlorination of paraldehyde and on butyric chloral: P. **Freundler**.—Phenyl migration; the structure of the intermediate compounds: M. **Tiffeneau**.—Study of the constitutional formulæ of some dimethylanthracenes: James **Lavaux**.—The toxicity of some rare earths: their action on various fermentations: Alexandre **Hébert**. The sulphates of thorium, cerium, lanthanum, and zirconium possess certain toxic powers. Experiments on frogs, fish, the seeds of plants, Aspergillus, yeast, diastase, and emulsin are described.—An albumin extracted from the eggs of fish: comparison with the vitelline from hens' eggs: L. **Hugouenq**. By hydrolysis with dilute sulphuric acid the albumin from the egg of *Clupea harengus* (clupeovine) gave arginine, histidine, lysine, aminovaleric acid, tyrosine, leucine, alanine, serine, phenylalanine, and aspartic acid. These correspond closely



with the products of hydrolysis of egg-albumin, but the ratios in which the various substances are produced differ in the two cases.—The liquid crystals of ammonium oleate: Fred. **Wallerant**.—The indirect actions of electricity on germination: Pierre **Lesage**.—The histological structure and development of the osseous tissue in ectromelian monsters: J. **Salmon**.—Cytology and pathogeny of spermatid cysts: J. **Sabrazès**.—The development of polygenesis and the theory of concrescence: Jan **Tur**.—The dislocations of the edge of the Central Plateau between Voulte and Vans (Ardèche): Émile **Haug**.—The Jurassic strata in Greece: Carl **Renz**.—The archæan substratum of the globe and the mechanism of geodynamical actions: E. **Jourdy**.—The circumzenithal rainbow: Louis **Besson**.

NEW SOUTH WALES.

**Linnean Society**, September 26.—Mr. T. S. eel, president, in the chair.—The sound (and lake) basins of New Zealand and the cañons of Eastern Australia in their bearing on the theory of the peneplain: E. C. **Andrews**. An attempt, from an examination of Eastern Australian and New Zealand geographical types, to prove Prof. Davis's contention that the greater number of plateaus of erosion are elevated *peneplains* formed at or near sea-level. Streams speedily cut profound cañons, the bases of which, even prior to the passing away of the individuality of the central plateau, approximate closely to the level of the main water body into which they are discharging. Large floods determine these channel grades, the normal stream being functional in aggrading the holes formed *below* main or temporary base-level by the storm waters. The lake and sound basins of New Zealand represent holes ploughed out below base-level by swiftly converging glaciers, and are analogous to the deep flood holes found in river beds.—A correlation of contour, climate, and coal: a contribution to the physiography of New South Wales: T. Griffith **Taylor**. It is submitted that the rivers of the Murray-Darling system show evidence of the influence of Ferrel's law on their courses. The gap in the Great Divide situated near Cassilis is due to the shifting of the Divide by the Goulburn River. The cutting action of this river has been determined by the lower "coefficient of resistance" of the Permo-Carboniferous Coal-measures. The relation of the temperature lines and of the lines of rainfall is shown to be influenced by this Geocol.—The stinging property of the giant nettle-tree (*Laportea gigas*, Wedd.): Dr. J. M. **Petrie**. The physiological action is shown to be due to the free acid existing in a concentrated form in the hairs, which are hollow siliceous tubes, and it differs from the sting of the common nettle only in degree. *Laportea* contains ninety times more free acid than the common nettle.—A striking example of river-capture in the coastal districts of New South Wales: Dr. W. G. **Woolnough** and T. Griffith **Taylor**. The authors have examined the topographical relations of the bend in the Shoalhaven River near Marulan. Field evidence shows the existence of a fairly well-defined ancient river-channel connecting the Shoalhaven and Wollondilly watersheds. Along this line are well-defined coarse river-gravels derived from the southward. The structure of this former river-channel is described. It is pointed out that other instances of capture of Wollondilly water by branches of the Shoalhaven are imminent, for instance, in the neighbourhood of Bundanoon.—Supplement to the "Revision of the Cicindelidæ of Australia": Dr. T. G. **Stoane**.—Descriptions of new species of Lomaptera (Coleoptera: Scarabæidæ, subfamily Cetonidæ): A. M. **Lea**. Two species are described, from specimens obtained by Mr. H. Hacker at Coen, N.Q., a district which appears to be rich in showy beetles, especially in Cetonids and Longicornes.

DIARY OF SOCIETIES.

THURSDAY, NOVEMBER 15.

**ROYAL SOCIETY**, at 4.30.—Calcium as an Absorbent of Gases, and its Applications in the Production of High Vacua and for Spectroscopic Research: F. Soddy.—A Method of Gauging by Evaporation the Degree of High Vacua (Addendum to Mr. F. Soddy's Paper): A. J. Berry.—The Effect of Temperature on the Activity of Radium and its Transformation Products: Dr. H. L. Bronson.—On the Refractive Indices of Gaseous Potassium, Zinc, Cadmium, Mercury, Arsenic, Selenium and Tellurium:

C. Cuthbertson and E. P. Metcalfe.—The Photo-electric Fatigue of Zinc: H. S. Allen.  
**CHEMICAL SOCIETY**, at 8.30.—On the Determination of the Rate of Chemical Change by Measurement of Gases Evolved: F. E. E. Lamplough.—Xanthoxalanil and its Analogues: S. Rubemann.  
**LINNEAN SOCIETY**, at 8.—Recent Researches in Norway: Horace W. Monckton.

FRIDAY, NOVEMBER 16.

**INSTITUTION OF MECHANICAL ENGINEERS**, at 8.—Steam as a Motive Power for Public Service Vehicles: T. Clarkson.

MONDAY, NOVEMBER 19.

**LONDON INSTITUTION**, at 5.—Musical Sands: Cecil Carus-Wilson.  
**ROYAL GEOGRAPHICAL SOCIETY**, at 8.30.—The Seychelle Islands: J. Stanley Gardiner.  
**SOCIOLOGICAL SOCIETY**, at 8.—Japanese Character: Prof. Motora.  
**SOCIETY OF ARTS**, at 8.—The Nutrition of the Plant: A. D. Hall.

TUESDAY, NOVEMBER 20.

**INSTITUTION OF CIVIL ENGINEERS**, at 8.—Single-phase Electric Traction (Discussion): C. F. Jenkin  
**ROYAL STATISTICAL SOCIETY**, at 5.—Presidential Address: Sir Richard B. Martin, Bart.  
**ANTHROPOLOGICAL INSTITUTE**, at 8.15.—A Visit to the Hopi Indians of Oraibi: W. Crewdson.—On the Relative Statures of Men with Long Heads, Short Heads, and those with Intermediate Heads, in the Museum, Driffield: J. R. Mortimer.

WEDNESDAY, NOVEMBER 21.

**ENTOMOLOGICAL SOCIETY**, at 8.—Studies of the Blattidæ (ii.): R. Shelford.—Notes on the Life-history of *Trochilium andreæformæ*, Lasp.: Hon. N. Charles Rothschild.  
**ROYAL MICROSCOPICAL SOCIETY**, at 8.—The Use of a Top Stop for Developing Latent Powers of the Microscope: J. W. Gordon.  
**SOCIETY OF ARTS**, at 8.—Opening Address by Sir Steuart Colvin Bayley, K.C.S.I.  
**ROYAL METEOROLOGICAL SOCIETY**, at 7.30.—The International Congress on Polar Exploration at Brussels, September 1906: Dr. H. R. Mill.—The Abnormal Weather of the Past Summer, and some of its Effects: W. Marriott.  
**GEOLOGICAL SOCIETY**, at 8.—On the Skull and Greater Portion of the Skeleton of *Goniopholis crassidens*, from the Wealden Shales of Atterfield (Isle of Wight): Reginald W. Hooley.—The Kimeridge Clay and Corallian Rocks of the Neighbourhood of Brill (Buckinghamshire): A. Morley Davies.

THURSDAY, NOVEMBER 22.

**ROYAL SOCIETY**, at 4.30.—*Probable Papers*: Studies on the Development of Larval Nephridia; Part ii., Polygordius: Dr. Cresswell Shearer.—The Structure of Nerve Fibres: Prof. J. S. Macdonald.—On Opsonins in Relation to Red Blood Cells: Dr. J. O. Wakelin-Barratt.—On the Inheritance of Certain Invisible Characters in Peas: R. H. Lock.—The Influence of Increased Barometric Pressure on Man, No. 2: Leonard Hill, F.R.S., and M. G. Greenwood.  
**INSTITUTION OF ELECTRICAL ENGINEERS**, at 8.—Selection and Testing of Materials for Construction of Electric Machinery: Prof. J. Epstein.  
**PHYSICAL SOCIETY**, at 5.—On the Electrical Radiation from Bent Antennæ: Prof. J. A. Fleming.—Auroral and Sun-spot Frequencies contrasted: Dr. C. Chree.—The Electrical Resistance of Alloys: Dr. R. S. Willows.

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