subject; of these thirty-two received the University's diploma in Public Health.

Mr. H. Yule Oldham, University Lecturer in Geography, has been admitted by incorporation to the degree of M.A.

The *University Reporter* of December 3 contains a full report of the speeches delivered at a meeting in King's College for the purpose of promoting the foundation of a memorial library of Oriental literature in honour of the late Prof. Robertson Smith, editor of the *Encyclopædia Britannica*.

SCIENTIFIC SERIAL.

American Meteorological Journal, November.—Cyclonic precipitation in New England, by Prof. W. Upton. A list of cyclones was made out, including nearly all in which the precipitation had been general over New England, and the amounts and distribution noted on maps, with regard to the track of the minimum pressure. The velocity with which the storms passed ranged from fifteen to sixty miles per hour. The tables show that the heaviest rainfall is rarely found along the central path of the storm. Of the cyclones which came from the west *across* New England, only ten out of sixty-nine had their heaviest precipitation on or near the storm-path, while forty-five had the maximum area on the right of the storm-track; similarly, out of eighty-four cyclones which moved from the west *near* New England, seventy-three had their maximum precipitation south of the storm-track. Further comments are reserved until the results of a study of the storms coming from the south are given.—The barometer at sea, by T. S. O'Leary. This paper deals with observations made chiefly by captains of American vessels. The author considers that a great step forward was made when the number of observations was reduced from twelve to one daily, the result being that the number of observers has increased nearly eight-fold. Another valuable feature is that the leaves of the log-books are forwarded to the central office as soon as opportunities are offered, so that the captains can see their observations made use of without delay. A simple plan for obtaining comparisons of the barometers has been adopted with very satisfactory results. The observers when in port record readings at certain hours, and forward them on post-cards to the central office; a copy of the "corrections" is immediately returned to them, and copies filed for use and future reference.

SOCIETIES AND ACADEMIES.

LONDON.

Royal Society, November 15.—"The Pigments of the Pieridæ. A Contribution to the Study of Excretory Substances which function in Ornament." By F. Gowland Hopkins.

The wing-scales of the white Pieridæ are shown to contain uric acid, this substance practically acting as a white pigment in these insects. A yellow pigment, widely distributed in the group, is shown to be a derivative of uric acid, and its artificial production as a bye-product of the hydrolysis of uric acid is demonstrated. That this yellow pigment is an ordinary excretory product of the animal is indicated by the fact that an identical substance is voided from the rectum on emergence from the pupa.

These excretory pigments, which have well-marked reactions, are apparently confined to the Pieridæ, and are not found in other Rhopalocera. This fact enables the observation to be made that when a pierid mimics an insect belonging to another group, the pigments of the mimicked and mimicking insects, respectively, are chemically quite distinct.

Other pigments existing, not in the scales, but between the wing membranes, are described, and are shown sometimes to function in ornament. The analysis, and the properties of the yellow scale-pigment are fully discussed in the paper.

Physical Society, November 23.—Prof. Rücker, F.R.S., President, in the chair.—Mr. Womack read a paper on a modification of the ballistic galvanometer method of determining the electromagnetic capacity of a condenser. The condenser is placed in parallel with one arm (S) of a Wheatstone's bridge arrangement of non-inductive resistances. A balance for steady currents having been obtained, the condenser is placed in circuit, and the throw on depressing the battery key determined. The condenser is then thrown out of circuit, and the proportionality of the arms of the bridge disturbed by changing the value of S to S + dS. The steady deflection due to this change is then read. From these two readings and the known values of S and dS the capacity is immediately determined. In practice readings of deflection may be taken with equal positive and negative values of dS. To avoid changes of E.M.F. of the battery, the author finds it best to use a reversing key in the battery circuit, and to observe the throw on reversing the current instead of on simply breaking it. One advantage of the method is that there is no need to know the galvanometer- or battery-resistance, and the author points out that it may be of service in the simultaneous determination of the resistance and of the joint capacity and inductance of a submarine cable or of a telephone or telegraph line. Prof. Perry asked what were the advantages of the method as compared with the Rayleigh-Sumpner method. Mr. Blakesley thought that the correction for damping in the ballistic part of the experiment might be avoided if in the second part the disturbance of balance due to the increment dS were measured by half the first throw of the needle on making the galvanometer circuit, instead of by the steady deflection. He doubted whether reversing the current in the battery circuit would have just twice the effect of simply breaking the circuit. In reply, Mr. Womack said he had not tried the method of reading suggested by Mr. Blakesley, but with regard to the reversing of the battery circuit, that was found to give in practice as nearly as possible twice the deflection which resulted from simply breaking.—A paper, by Prof. S. P. Thompson and Mr. Miles Walker, on mirrors of magnetism, was read by Prof. Thompson. It was pointed out that, corresponding to the theory of electric images produced by insulated conductors, there is a theory of magnetic images produced by bodies of infinite magnetic permeability. A magnet pole in the latter theory is the analogue of an electric charge in the former, and a body of infinite magnetic permeability is the analogue of an insulated conductor (which is electrostatically indistinguishable from a body of infinite dielectric capacity). Experiments were made to determine how far the magnetic images due to thick sheets of iron accorded with those deduced by theory for the case of infinite permeability. The image of a north pole in an infinite plane sheet should consist of a south pole of the same strength at a point coinciding with the optical image of the north pole, together with an equal north pole distributed uniformly over the surface of the infinite sheet, as a free electrical charge would be, and so exerting no finite action. Working at distances of a few inches in front of the surface, a sheet of iron a few feet in length and breadth, and a couple of inches thick, was found to realise the theoretical conditions with very tolerable exactness. In a coil of wire placed on one side of the sheet a current was started or stopped, and the electromotive impulse produced in a subsidiary exploring coil was detected by means of a ballistic galvanometer. That the effect of the actual mirror was equivalent to that of the theoretical image, was verified by substituting for the iron a coil equal and similar to the first, and coinciding with its optical image. Sending the same primary current as before round the two coils (with due regard to its direction in the second coil), hardly any appreciable difference in the secondary impulse was observed. This was found to hold good whether the original primary coil had its axis perpendicular or oblique to the plane of the magnetic mirror. Some observations on spherical sheets were also recorded, but in this case the conclusions were less simple. The paper was followed by a discussion, in which Mr. Boys, Prof. Perry, Prof. Ayrton, Dr. Burton, Mr. W. Bailey, and Prof. Carey Foster took part.—Prof. Ayrton exhibited a student's apparatus for verifying Ohm's law, designed by himself and Mr. Mather. The current flowing through a circuit is to be measured (not necessarily in terms of any defined unit) by means of a galvanometer, while the potential-difference between two fixed points is measured by means of an idiostatic electrometer. Within small limits of experimental error, the current and potential-difference are found to vary in the same proportion; but the electrometer and its manner of use constituted the chief interest of the paper. The fixed and moving parts (inductors and needle) are alike cylindrical in form (the term being understood in its most unrestricted sense), and the generating lines are vertical. There is a vertical axis of symmetry, such that the disposition of these cylindrical parts would remain unchanged if the instrument were rotated through 180° about the axis. The needle is hung by a very thin phosphor-

bronze strip, and to obtain a reading when it differs in potential from the inductors by an amount which we have to measure, it is brought back to its ordinary zero position by turning a torsion-head to which the upper end of the suspending strip is fixed. The potential-difference is then proportional to the square root of the angle through which the torsion-head has been turned, but the E.M.F. of a moderate battery of accumulators can be read with very fair accuracy. The authors have bestowed great care on the design of the needle, so that, for a given potential-difference, the turning-moment divided by the moment of inertia may be as great as possible. The whole instrument is protected from external inductive influence by having the inner surface of its glass case coated with a transparent conducting varnish, which Prof. Ayrton has described elsewhere.—Prof. Ayrton also showed an idiostatic electrometer, whose needle, instead of being suspended, was pivoted on an axle. The instrument is rapid and nearly dead-beat in action, and gives a scale-reading of about three inches for an E.M.F. of 100 volts. Prof. S. P. Thompson expressed great admiration for the instruments exhibited, but denied that the law which they served to prove was Ohm's law at all; and this led to some discussion as to what Ohm's law really is. Prof. Ayrton briefly replied.

Chemical Society, November 1.—Dr. Armstrong, President, in the chair.—The following papers were read: The electromotive force of alloys in a voltaic cell, by A. P. Laurie.—Determinations of the E.M.F. developed by sixteen alloys of the heavy metals confirm Matthiessen's conclusion that the tin-gold alloy is the only definite compound amongst them.—A product of the action of nitric oxide on sodium ethylate, by G. W. MacDonald, and O. Masson. Nitric oxide is absorbed by an alcoholic solution of sodium ethylate with formation of an explosive salt, probably the sodium salt of methylenedihydroxynitrosamine, $CH_2[N(NO)OH]_2$. The incomplete combustion of some gaseous carbon compounds, by W. A. Bone and J. C. Cain. When a hydrocarbon containing n atoms of carbon is burnt with n atoms of oxygen, the interaction may be represented by the following equation: $C_nH_x + O_n = nCO + \frac{x}{2}H_2$.—Derivatives of tetramethylene, by W. H. Perkin, jun. A number of halogen and hydroxy-derivatives of tetramethylene and tetramethylenedicarboxylic acid are described. Pentamethylenedicarboxylic acid, $CH_2\begin{<}\begin{matrix}CH_2\,.\,CH\,.\,COOH\\ |\\ CH_2\,.\,CH\,.\,COOH\end{matrix}$, by E. Haworth and W. H. Perkin, jun.. A number of derivatives of this acid are described.—Substituted pimelic acids, by A. W. Crossley and W. H. Perkin, jun. The authors have succeeded in preparing ethyl- and methylethyl-pimelic acid, and also describe several other new aliphatic acids.—Homologues of butanetetracarboxylic acid and of adipic acid, by B. Lean. The disodio-derivative of ethylic butanetetracarboxylate reacts readily with the alkylic iodides or chlorides yielding derivatives which on hydrolysis are converted into tetracarboxylic acids of the constitution, $CR(COOH)_2\,.\,CH_2\,.\,CH_2\,.\,CR(COOH)_2$; on heating these acids, di-substituted adipic acids are obtained.—Contributions to the chemistry of cellulose. (1) Cellulose sulphuric acid, and the products of its hydrolysis, by A. L. Stern. Cellulose disulphuric acid, $C_6H_8O_3(HSO_4)_2$, is obtained by dissolving cellulose in sulphuric acid; on hydrolysis, it yields first cellulose monosulphuric acid, and then products containing less sulphur.—The chlorination of aniline, by J. J. Sudborough.—Condensation of benzil with ethyl malonate, by F. R. Japp and W. B. Davidson. Benzil and ethylic malonate condense yielding monoethylic benzoïnylmalonate $COPh\,.\,CPh(OH)\,.\,CH(COOH)COOEt$, and desylenemalonic acid $COPh\,.\,CPh:C(COOH)_2$.

Linnean Society, November 15.—Mr. C. B. Clarke, F.R.S., President, in the chair.—Mr. J. E. S. Moore exhibited preparations illustrative of his investigations concerning the origin and nature of the achromatic spindle in the spermatocytes of elasmobranch fishes. His results were approximately in agreement with those arrived at by Hermann in regard to the corresponding elements in amphibia, and more in accord with those of Ishikawa relating to the division of noctiluca. As to the spindle fibres themselves, it appeared that during the diastral stage of the division they were the optical expression of thickenings in the wall of a membranous cylinder stretched out between the chromosomes.—The Rev. G. Henslow exhibited some curious iron implements of somewhat varied pattern, used in Egypt for cutting off the top of the Alexandrine fig, *Ficus Sycamorus*, Linn., the operation being necessary to render it edible by getting rid of the parasitic insect *Sycophaga crassipes*, Westwood, with which it is always infested. The practice was said to be very ancient, being described by Theophrastes, and alluded to by the same word, κνίζων, in the septuagint version of the Old Testament (Amos vii. 14) in translating from the Hebrew.—Mr. H. N. Ridley showed some drawings of the green larva of a sphinx moth mimicking a green tree snake, *Trimeresurus Wayleri*, as well as a cluster of caterpillars mimicking a fruit, all of which were found in Singapore. He also exhibited a drawing from life of the tan-producing gambir-plant (*Uncaria Gambir*) in flower.—Mr. Thomas Christy exhibited some germinating seeds of pepper showing the testa being carried up by the cotyledons.—A paper was then read by Dr. D. Prain, on the plant-yielding Bhang *Cannabis sativa*. Illustrating by lantern slides the anatomy of flower and fruit in *Cannabis*, he reviewed the theories propounded of theirstructure; confirmed from teratology those of Payer (1857) and Celakovsky (1875), and refuted those of B. Clarke (1853) and Macchiati (1889). He then explained (1) the prevention of fertilisation for development of narcotic properties, and (2) of the various forms of the narcotic to each other. A series of monœcious conditions described in plants of both sexes show that the so-called ♂ flower is probably an inflorescence, the perianth segments being bracts, not sepals, while the stamen is the homologue of the anterior sterile carpel of the ♀ flower.—A paper, on the proposed revision of the British Copepoda, by Mr. Thomas Scott, was, in the unavoidable absence of the author, read by the secretary.

Geological Society, November 21.—Dr. Henry Woodward, F.R.S., President, in the chair.—The Pleistocene beds of the Maltese Islands, by John H. Cooke. An especially noticeable feature of these beds is the absence of ordinary anticlinal and synclinal folding, and the predominance of monoclinal faults, which largely affect the character of the surface. These faults were formed prior to the deposition of the Pleistocene beds. The plateaux of Malta, rising to a height of 600-800 feet above sea-level, occur south of the great east-and-west fault, which has a downthrow to the north. They have no Pleistocene deposits upon their summits. Three classes of superficial deposits were described, namely: (1) Valley-deposits; (2) agglomerates and breccias found along coast-lines and fault-terraces, always at the foot of the fault-terraces, or along the lower slopes of the depressed areas; (3) ossiferous deposits of caves and fissures.—Geological notes of a journey in Madagascar, by the Rev. R. Baron.—On a collection of fossils from Madagascar obtained by the Rev. R. Baron, by R. Bullen Newton.

Mineralogical Society.—Anniversary meeting, November 20.—Prof. N. S. Maskelyne, F.R.S., President, in the chair.—The annual report of Council was read and adopted.—The following were elected ordinary members of Council: Prof. A. H. Green, F.R.S., Mr. A. Harker, Mr. A. E. Tutton, and Mr. W. W. Watts, in place of the four retiring members; in other respects the list of officers and Council remains unchanged. The following papers were read: On cone-in-cone structure, by the Rev. Prof. T. G. Bonney, F.R.S.; confirming and extending the views previously published by Prof. Cole.—On a basic ferric sulphate from Parys Mount, Anglesey, by Prof. A. H. Church, F.R.S.; containing the analysis of an earthy mineral corresponding to a compound of one molecule of coquimbite with five molecules of normal ferric hydrate.—Augelite, by Mr. G. T. Prior and Mr. L. J. Spencer; containing a full account of the chemical, physical and crystallographical characters of specimens from Machacamarca, Bolivia, of a mineral previously described only from massive material found in Sweden.—On the occurrence of delessite in Cantyre, by Prof. M. F. Heddle and Mr. J. S. Thomson; containing two analyses of the mineral.—Specimens of augelite, and of a beautiful opal cast of a bivalve from Australia, were exhibited.

PARIS.

Academy of Sciences, November 26.—M. Lœwy in the chair.—Photographic studies of some parts of the lunar surface, by M M. Lœwy and Puiseux. The need of care in interpreting photographs taken under ordinary conditions is emphasised; the many ways in which accidental circumstances may produce

markings in the photographic film corresponding to no real object render it essential that the more obscure details shall be fully confirmed by a close correspondence in form and extent on different negatives. Again, the tendency to aggregation of the reduced silver in the negative destroys all value in enlargements carried beyond a certain limit, say thirty or forty times the original size. Certain clear negatives, obtained at Paris on February 13 and March 14, have been enlarged by Dr. Weinek and compared with the best maps of the corresponding region, with the result that many new details, fully described in the paper, have been added to our knowledge of the moon's surface.—A note on the calculation of the orbits of planets, by M. F. Tisserand.—An observation of Wolf's planet (1894, B E), made with the Bordeaux equatorial, by M. G. Rayet.—On the laws of air resistance, by M. E. Vallier. Formulæ are derived which express the specific resistance of air to a moving body (*a*) where the velocity is greater than 330 metres, (*b*) where the velocity is between 330 and 100 metres, and (*c*) where the velocity is less than 100 metres per second.—New details concerning the Nymphæinæ; tertiary Nymphæinæ, by M. G. de Saporta.—The elements of the planet B E, by M. L. Schulhof.—Observations of Swift's new comet E (1894, November 20) from the Paris Observatory, by M. G. Bigourdan.—On the distribution of planets between Mars and Jupiter, by M. E. Roger. A mathematical paper in which the author endeavours to obtain, from the known distribution of the minor planets, some support for a hypothesis formulated in a previous communication (*Comptes-rendus*, t. cxvi.).—On the movement of a solid body, by M. G. Kœnigs.—On an application of the principle of areas, by M. L. Lecornu.—On functional equations, by M. Leau.—On Bertrand's theorem, by M. Cartan.—A *réclamation* concerning M. P. Stäckel's note on the problems of dynamics of which the differential equations admit an infinitesimal transformation. M. Otto Staude published a paper on this subject in 1892. M. Stäckel merely extended the theorems therein demonstrated from two and three to *n* variables.—On the tempest of November 12, 1894, by M. Alfred Angot. A tabular comparison is made between data obtained at the Meteorological Bureau and on the Eiffel Tower respectively. Interesting conclusions are drawn from the tower observations, which are free from the disturbances ordinarily brought in owing to the nearness of the surface of the soil.—On the conversion of propionic acid into lactic acid, by M. Fernand Gaud. By heating a mixture of 10 per cent. of propyl alcohol with Fehling's solution for 200 hours at 240°, the author has obtained both the ordinary and isomeric lactic acids. As metallic copper is produced on heating copper propionate with excess of water at 200°, the equation representing the production of the lactic acid must be written $2(C_3H_5O_2)_2\,Cu + 2H_2O = 2Cu + 2C_3H_6O_3 + 2C_3H_6O_2$.—On the ethereal salts derived from active amyl alcohol, by MM. Ph. A. Guye and L. Chavanne. The specific rotations are given for a number of these esters, the maximum value is obtained for the fatty salts with amyl propionate. The product of asymmetry reaches its maximum with amyl acetate.—On the so-called organic chlorine of the gastric juice, by M. H. Lescœur. A direct method of determining *organic chlorine* is described, and it is pointed out that the *organic* chlorine of MM. Hayem and Winter is partly derived from ammonium chloride, which is itself partly formed at a high temperature from the sodium chloride present.—On the composition of the red pigment from *Diemyctylus viridescens*, by M. A. B. Griffiths. The analytical results give the formula $C_{20}H_{18}N_2O_7$ for diemyctyline.—On acid leathers, by MM. Balland and Maljean.—A new entoptical phenomenon, by M. S. Tchiriew.—The principles of chroology or physiological synthesis of colour, by M. W. Nicati.—On the effects of ablation of the venom-glands in the viper (*Vipera Aspis*, Linn.), by MM. C. Phisalix and G. Bertrand.—Contributions to the study of the "cellule conjonctive" in the molluscous Gasteropods, by M. Joannes Chatin.—A new method for the cultivation of fish-ponds, by M. Jousset de Bellesme.—The reptiles of the upper jurassic age in the Boulonnais, by M. H. E. Sauvage.—On the new ivory human statuettes from the quaternary station at Brassempouy, by M. Ed. Piette.—Influence of arsenic acid on the growth of algæ, by M. Raoul Bouilhac. It is shown that arsenic acid in certain cases acts like phosphoric acid, which it may replace in some plant cultivations.—On the age of Lake Bourget and the ancient alluvial deposits of Chambéry and the valley of the Isère, by M. A. Delebecque.

BOOKS, PAMPHLETS, and SERIALS RECEIVED

BOOKS.—The Province of South Australia: J. D. Woods (Adelaide, Bristow).—The Mechanism of Weaving: T. W. Fox (Macmillan).—Meteorology, Practical and Applied: Dr. J. W. Moore (Rebman).—Life of Richard Owen: Rev. R. Owen, 2 Vols. (Murray).—Elements of Astronomy: G. W. Parker (Longmans).—A Hand-book to the Order Lepidoptera. Part 1. Butterflies, Vol. 1: W. F. Kirby (Allen).—A Hand-book to the Primates: Dr. H. O. Forbes, 2 Vols. (Allen).—Ostwald's Klassiker der Exakten Wissenschaften: Nos. 54–59 (Leipzig, Engelmann).—Physikalische Krystallographie: P. Groth, Dritte Auflage, 1 and 2 Abthg. (Leipzig, Engelmann)—Grundriss der Psychologie: O. Külpe (Leipzig, Engelmann).—Portraits berühmter Naturforscher (Wien, Richler).—The Iron-bearing Rocks of the Mesabi Range in Minnesota: J. E. Spurr (Minneapolis).—Coal Deposits of Iowa: C. R. Keyes (Des Moines).—U.S. Geological Survey, Twelfth Annual Report, 1890-91. Part 1, Geology; Part 2, Irrigation (Washington),—Ditto, Thirteenth Annual Report, Part 1, Report of Director; Part 2, Geology; Part 3, Irrigation (Washington).—N.Z. Papers and Reports relating to Minerals and Mining (Wellington).—Annuaire de l'Observatoire Municipal de Montsouris, 1893 (Paris, Gauthier-Villars).—Kitchen-Boiler Explosions: R. D. Monro (Griffin).—The Elementary Properties of the Elliptic Functions; Prof. A. C. Dixon (Macmillan).—Birds of the Wave and Woodland: P. Robinson (Isbister).—Elementary Commercial Geography: Dr. H. R. Mill, 2nd edition (Cambridge University Press).—An Introduction to the Theory of Electricity: L. Cumming, 4th edition (Macmillan).—Symbolic Logic: Dr. J. Venn, 2nd edition (Macmillan).—Farm Vermin, edited by J. Watson (Rider).—The Cyclopædia of Names: edited by B. E. Smith (Unwin).

PAMPHLETS.—Geological and Natural History of Minnesota: N. H. Winchell (Minneapolis).—Magnetic Observations made at the U.S. Naval Observatory during the Year 1892: Prof. S. J. Brown (Washington).—Meteorological Observations and Results, U.S. Naval Observatory, 1889 (Washington).—The Warble Fly: E. A. Ormerod (Simpkin).—American Museum of Natural History, Annual Report for 1893 (New York).

SERIALS.—Archiv für Entwickelungsmechanik der Organismen: Prof. W. Roux. Erster Band, Erstes Heft (Leipzig, Engelmann).—Studies from the Yale Psychological Laboratory, Vol. 2 (New Haven).—Biology Notes, Nos. 1 and 2 (Chelmsford).—Bulletin of the American Mathematical Society, 2nd series, Vol. 1, No. 2 (New York, Macmillan).—School Review, November (Hamilton, New York).—Journal of the College of Science, Imperial University of Japan, Vol. viii. Part 1 (Tōkyō, Japan).—Contemporary Review, December (Isbister).—Proceedings and Transactions of the Nova Scotian Institute of Science, Halifax, second series. Vol. 1, Part 3 (Halifax).—Proceedings of the American Philosophical Society, June (Philadelphia).—Transactions of the Academy of Science of St. Louis, Vol. vi. Nos. 9 to 17 (St. Louis).—Quarterly Journal of Microscopical Science, November (Churchill).—Fortnightly Review, December (Chapman).—Morphologischen Jahrbuch, 22 Band, 1 Heft (Leipzig, Engelmann).—Zeitschrift für Physikalische Chemie, xv. Band, 3 Heft (Leipzig, Engelmann).—National Review, December (Arnold).—Scribner's Magazine, December (Low).

CONTENTS.

	PAGE
Peculiarities of Psychical Research. By H. G. Wells	121
The Beginnings of History	122
The Transmission of Power. By G. F.	124
Our Book Shelf:—	
Stevenson: "A Treatise on Hygiene and Public Health"	124
Kalpa: "Involution and Evolution according to the Philosophy of Cycles"	125
Muir: "The Mountains of California"	125
Letters to the Editor:—	
Origin of Classes among the "Parasol" Ants.—Herbert Spencer	125
"Acquired Characters."—J. T. Cunningham; Prof. Edward B. Poulton, F.R.S.	126
The Homing of Limpets.—Prof. C. Lloyd Morgan	127
Gravitation.—Dr. J. Joly, F.R.S.	127
The Ratio of the Specific Heats of Gases.—S. H. Burbury, F.R.S.	127
An Observation on Moths.—Henry Cecil	127
Snakes "Playing 'Possum."—G. E. Hadow	127
Volcanic Stalactites. (*Illustrated.*)	128
Notes	129
Our Astronomical Column:—	
The New Comet	132
The Spectrum of Mars	132
The Anniversary Meeting of the Royal Society	132
The Battle of the Forests. II. By Prof. B. E. Fernow	139
The Relation of Energy of Combination to Electrical Energy	141
University and Educational Intelligence	141
Scientific Serial	142
Societies and Academies	142
Books, Pamphlets, and Serials Received	144