

medical and physical science, was approved at an influential meeting of members and friends of the University held in the Glasgow City Chambers last week. Addressing the meeting, Principal Story said that in the beginning of the present year an executive committee was formed to provide funds for carrying out the measures of extension and reform considered of primary importance, and already they had received a sum of more than 62,000*l.*, including 10,000*l.* given for a special lectureship. It was proposed to make good the defects by the erection of additional premises for the class rooms, departmental museums, and laboratories of physiology, materia medica and forensic medicine, and public health. The needs of the chemical department, which could be regarded as belonging both to the faculty of science and to that of medicine, might be met, but only partially and temporarily, by the transference of premises available when physiology was provided for. A set of thoroughly furnished chemical laboratories is one of the most immediate wants, and additional accommodation is needed by the department of physical science. The full realisation of these designs must necessarily be a work of time, and will cost in all probably not far short of 100,000*l.* But it is encouraging to know that within the last few months more than the half of this sum has been subscribed. For the other half the University must depend upon the generosity of its many friends.

### SCIENTIFIC SERIALS.

*American Journal of Science*, October.—On galvanometers of high sensibility, by C. E. Mendenhall and C. W. Waidner. A description of the design and manufacture of a delicate galvanometer of the four-coil Thomson type. There is a detailed discussion of the methods for obtaining the highest sensibility and also of the causes of the changes of zero.—On a method of locating nodes and loops of sound in the open air, with applications, by Bergen Davis. A small mill-like arrangement, constructed by placing four hollow cylinders of gelatine at the end of cardboard arms in such a manner that the closed ends pointed in the same angular direction, was mounted in the mouth of a resonator with the plane of the system perpendicular to the mouth. The resonator was in unison with an organ pipe, and when the pipe was blown the mill was found to rotate with a high velocity, the position of the nodes and loops being readily determined with considerable accuracy. In the open air the effect could be observed up to about sixty feet from the pipe.—The anatomy of the fruit of *Cocos Nucifera*, by A. L. Winton.—Studies of Eocene mammalia in the Marsh collection, Peabody Museum, by J. L. Wortman.—A new crinoid from the Hamilton of Charlestown, Indiana, by E. Wood.—On the estimation of cesium and rubidium as the acid sulphates, and of potassium and sodium as the pyrosulphates, by P. E. Browning.—Time values of provincial carboniferous terranes, by C. E. Keyes.—The spectra of hydrogen and some of its compounds, by John Trowbridge. The vacuum tubes used in the experiments described were illuminated by a current derived from a large battery of storage cells and not from a Ruhmkorf coil. The conclusions drawn from these investigations, which are at variance with the views generally received, are that hydrogen is an insulator, the passage of electricity through hydrogen, oxygen, nitrogen and their gaseous compounds being conditioned by the water vapour present. Certain carbon bands are always present in glass tubes filled with hydrogen, nitrogen, oxygen and ammonia gas, notwithstanding the greatest care taken during filling. The X-rays excited by the application of a steady current are due to the radiations set up by the dissociation of highly rarefied water vapour.

*Bulletin of the American Mathematical Society*, October.—Prof. F. N. Cole gives an account of the proceedings at the eighth summer meeting of the Society, held at Cornell University, Ithaca, New York, August 19–24. It was a largely attended meeting, and various circumstances made an adequate provision of time for the reading and discussion of the thirty-two papers presented practically impossible. The titles and abstracts occupy more than twenty pages. The third colloquium of the same Society was also held on the same date. Dr. Kasner gives an abstract of the proceedings at the two previous colloquia, as well as of this one. During the four days, two courses of four lectures each were delivered by Prof. Oskar Bolza, on the simplest type of problems in the calculus of variations, and by Prof. E. W. Brown, on modern methods of

treating dynamical problems, and in particular the problem of three bodies. Grateful acknowledgments were made of the hospitality of the University and for the numerous privileges which were afforded to the members present. Short notices are given of two of the papers: upon the non-isomorphism of two simple groups of order  $8\frac{1}{2}$ , by Miss Schottenfels, and concerning surfaces whose first and second fundamental forms are the second and first fundamental forms respectively of another surface, by Prof. A. Pell. Extensive notes of the mathematical courses for the session 1901–1902 at several Universities follow, with other matters of personal interest. Several pages are also devoted to new publications.

### SOCIETIES AND ACADEMIES.

LONDON.

Entomological Society, October 2.—The Rev. Canon W. W. Fowler, president, in the chair.—Mr. G. C. Champion exhibited a long series of *Buprestis sanguinea*, Fabr., from Albarracin, Spain, showing the remarkable dimorphism of this species.—Mr. H. St. J. Donisthorpe exhibited on behalf of the Rev. H. S. Gorham, of Shirley Warren, a specimen of the scarce beetle, *Hister marginatus*. He also exhibited a number of rare Coleoptera from the New Forest, including *Velleius dilatatus*, F., from hornets' nests, *Anthaxia nitidula*, L., *Agrilus sinuatus*, Ol.—not taken for many years—*Agrilus viridis*, L., *Platydema violaceum*, F., a species also not recorded recently, and *Collydium elongatum*, F., one specimen taken in the burrows of *Melasis buprestoides* and another in the burrows of *Scolytus intricatus*. Mr. Champion said that Mr. George Lewis associated *Velleius* with *Cossus* and not with hornets.—Mr. C. P. Pickett exhibited varieties and aberrations of *Lycaena corydon* taken during August at Dover, and a series of *Angerona prunaria* (bred June and July), the results of four years' interbreeding, showing a wide range of coloration.—Prof. T. Hudson Beare exhibited a specimen of *Medon castaneus*, Grav., taken at the edge of a pond in Richmond Park.—Mr. A. Harrison exhibited a series of *Amphidasys betularia* bred from parents taken in the New Forest in 1900, including six gynandromorphous specimens.—Mr. C. J. Gahan exhibited a male specimen of *Thamnotrizon cinereus*, L., one of the long-horned grasshoppers taken by Mr. F. W. Terry at Morden, near Wimbledon, and called attention to a very interesting abnormality displayed by the specimen in possessing two pairs of auditory organs instead of a single pair, the second pair being situated on the tibiae of the middle legs in a position corresponding with that of the normal pair on the fore-legs.—Mr. F. Merrifield exhibited a series of *O. antiqua* much darker than the type, bred from pupæ placed in a refrigerator five weeks and then exposed to a mean temperature of 48° F.—Mr. R. South communicated a paper by the late Mr. J. H. Leech, entitled "Lepidoptera-heterocera from China, Japan and Corea (Pyralidæ)"; Mr. G. C. Champion contributed notes and observations upon the sexual dimorphism of *Buprestis sanguinea*.

October 16.—Mr. E. Saunders, vice-president, in the chair.—Mr. C. Morley exhibited for the Rev. E. N. Bloomfield leaves of hornbeam from Battle, and a photograph of leaves of sweet chestnut from Haslemere, rolled by *Atelabus circulionoides*.—Mr. R. Adkin exhibited a specimen of *Pteris daplidice* taken by him at Eastbourne on August 19 last. He said that the insect was flying strongly, and in that respect and indeed in general appearance resembled on the wing a pale female of *Colias hyale*.—Mr. C. P. Pickett exhibited series of *Melitaea cinxia* bred in June last from larvæ taken in the Isle of Wight, including light and dark varieties, and a series of *Choerocampa elpenor* bred in June last from larvæ taken at Broxbourne in July 1900, including a variety of the male with purplish lower wings and another with purple markings on the upper wings.—The Rev. F. D. Morice exhibited specimens of *Hedychrum rutilans*, Dhl., and *Salix propinqua*, Lep., taken at Lyndhurst by Miss Ethel Chawner, and both new to the British list. He also exhibited two monstrosities, viz. *Allanua arcuatus*; (sawfly) with two perfect wings, and two other imperfectly developed wings on the left side, and *Gorytes quinquevinctus* (fossor) with the abdominal segments extraordinarily twisted out of their proper shape and places.—Mr. Arthur M. Lea communicated a list of the Australian and Tasmanian Mordellidæ, with descriptions of new species; and Mr.