

and of a number of Demonstrators and Assistants. Plans for new buildings for Comparative Anatomy, Botany, and Mechanism are to be obtained.

Dr. Besant will lecture on Analysis (Schedules II. and III.) during two terms; Mr. Pendlebury on Analytical Optics, next term, and on Laplace's and Bessel's Functions in the Easter Term; Mr. Webb on Elementary Rigid Dynamics in the Easter Term, and on Higher Dynamics in the Long Vacation.

Inasmuch as the University Table at the Naples Zoological Station has been constantly occupied by students of animal morphology, and there are students in physiology and botany for whom study at Naples is very desirable, it is proposed to extend the advantages of study to students of biology generally. Dr. Dohrn has unofficially expressed his willingness to receive, when desired, two members of the University at a time for a payment of 100*l.* instead of 75*l.* a year.

It is hoped that the new Biological and Physical Laboratory, connected with Newnham College, which is being fitted up in Downing Place, may be ready for use by the beginning of next term. The nearness of the site to the new museums will enable students of Newnham to attend professors' lectures there and carry out practical study at the laboratory with the least possible loss of time.

With regard to the statement made last week that "St. John's does not as yet open any of its advanced lectures to other than its own students," we are informed that the advanced lectures have for a long time been open to members of the University, and lectures are provided in some subjects not lectured on elsewhere. The sentence in the report was to the effect that the list for next year was not yet issued. It has now appeared, and no less than six courses of open lectures are announced for the remainder of the academical year.

NEW ZEALAND.—The Queen has been pleased to direct Supplementary Letters Patent to be passed under the Great Seal granting and declaring that the Degrees of Bachelor and Doctor in Science granted or conferred by the University of New Zealand shall be recognised as Academic distinctions and rewards of merit, and be entitled to rank, precedence, and consideration in the United Kingdom and in the Colonies and Possessions of the Crown throughout the world, as freely as if the said Degrees had been conferred by any University of the United Kingdom.

SCIENTIFIC SERIALS

THE *American Naturalist* for November, 1883, contains:—The Pre-cambrian rocks of the Alps, by T. Sterry Hunt.—The achenial hairs of *Townsendia*, by G. Macloskie.—The hibernacula of herbs, by Aug. J. Foerste.—The hair-sac mite of the pig, by Prof. R. Ramsay Wright.—The geology of Central Australia, by Edward B. Sanger.—The number of segments in the head of winged insects, by A. S. Packard, jun.

Gegenbaur's Morphologisches Jahrbuch, Bd. ix., Heft 1, contains:—Researches on marine Rhipidoglossa, by Dr. Béla Haller, No. 1 (plates 1 to 7).—On developmental relationships between the spinal marrow and the spinal canal, by Dr. W. Pflüger.—Contribution to the comparative anatomy of the posterior limbs in fishes, part 3, *Ceratodus*, by Dr. M. Davidoff (plates 8, 9).—On some anatomical marks of distinction between the house dog and the wolf, by Prof. H. Landois.

Revista Scientifico-Industriale, October 23, 1883.—On the influence of static electricity on the needle, by Prof. Michela Cagnassi.—Experiments with the radiometer (continued), by Prof. Constantino Rovelli.—On the conditions which determine the least and greatest deviation of a ray passing through a prism, by Prof. G. Buzzolini.—On the employment of copperas in testing iodides blended with alcoholic bromides and chlorides, by Dr. Alfredo Cavazzi.—On the advantages that may be derived by medical jurisprudence from entomological studies, especially in determining the approximate date and cause of death, by P. Megnin.—Note on the *Titanophasma fayoli*, a new fossil insect found in the carboniferous formations of Commeny, Allier, by the Editor.

SOCIETIES AND ACADEMIES

LONDON

Royal Society, November 15.—"On *Sceparnodon ramsayi*," a fossil mammal from Australian Pleistocene deposits, by Prof.

Owen. The first indication of this species was transmitted to the author, in 1881, in the form of casts of detached teeth, all representing an anterior incisor, the most entire specimen being 5½ inches in length, 35 mm. in breadth, with uniform thickness of 8 mm., the tooth, slightly curved, with persistent pulp-cavity at the base, and a sharp chisel-shaped cutting margin at the opposite end. The author deferred notice of this indication in hope of receiving a specimen of the tooth itself. This was needed in order to make the requisite microscopical researches as to structure, the wombat and some small rodents alone possessing, in Australia, ever-growing scalpriform incisors, but markedly differing in shape as well as size from the fossil. Prof. Owen was favoured by receiving, in the present year, from the bed of King's Creek, Queensland, a tooth, identical in character with the cast, and the present paper records the results of his scrutiny of structure. They led to the conclusion of the former existence in Australia of a mammal with rodent upper incisors, as in the wombat, but of distinct shape, and indicative of a species as large as a tapir. The microscopic characters of both dentine and enamel weighed in favour of the marsupial affinities of *Sceparnodon*. The author referred to the fact that the first indication of the genus *Thylacoleo* was a single carnassial tooth submitted to him in 1833 by Sir Thomas Mitchell, and a similar evidence of *Diprotodon* was an incisor brought by the same explorer from the caves he had discovered in the district named, after the Colonel's old commander, "Wellington Valley."

At the same meeting Prof. Owen gave a minute description of a fossil humerus which had been transmitted to him by Mr. Ramsay, F.L.S., who had discovered it in the breccia cave in "Wellington Valley." The bone was partially mutilated, but gave sufficient evidence of its having come from a Monotreme, with so close a conformity, save in size, with that of the existing *Echidna hyotrix*, as to lead to its reference to an extinct species of that genus. It, however, far surpassed it in size, exceeding, as it did, the corresponding bone in the larger Monotrematous ant-eaters which have been found living in New Guinea. Drawings of the subjects of both papers accompanied the text.

Geological Society, November 21.—J. W. Hulke, F.R.S., president, in the chair.—The following communications were read:—On the skull and dentition of a Triassic mammal (*Tritylodon longævus*, Ow.) from South Africa, by Prof. Owen, C.B., F.R.S. The specimen described in this paper formed part of a collection containing remains of some of the known South-African Triassic reptilian genera, and agreed with them in its mode of fossilisation. It was submitted to the author by Dr. Exton, of Bloemfontein. The specimen is a nearly entire skull, wanting only the hinder part, and it measures about 3¾ inches in length, from the broken end of the parietal crest to the point of the united premaxillaries. The upper surface shows the ankylosed calvarial portions of the parietals, and the frontal bones divided by a suture; the contiguous angles of these four bones are cut off, so as to leave an aperture, occupied by matrix, which may be a fontanelle, or a pineal or parietal foramen. The frontals form the upper borders of the orbits, which are bounded in front by the lacrymal and malar bones, and were not completed behind by bone. Each frontal is narrowed to a point at the suture between the nasal and maxillary. The nasals are narrow, but widen in front to form the upper border of the exterior nostril, which is terminal, and is completed by the premaxillaries. The maxillaries are widened posteriorly, then constricted, and again widened before their junction with the intermaxillaries. The teeth include a pair of large round incisors, broken off close to the sockets and showing a large pulp-cavity, surrounded by a complete ring of dentine, which is covered by a thin coat of enamel on the front and sides. At 2 mm. behind each of these teeth is the socket of a smaller premaxillary tooth; this tooth apparently had a thin wall and a pulp-cavity relatively larger than in the anterior tooth. It is separated by a ridged diastema from the series of six molar teeth on each side, the first of which has a sub-triangular crown with the base applied to the second tooth. The latter and the four following teeth are nearly similar, subquadrate in form, with the crowns "impressed by a pair of antero-posterior grooves, dividing the grinding surface into three similarly disposed ridges, and each ridge is subdivided by cross notches into tubercles. Of these there are, in the second to the fourth molar inclusive, four tubercles on the mid-ridge, three on the inner ridge, and two on the outer ridge." The author discussed the relations of this new form of mammal, especially as indicated by the structure of the teeth, which he showed to resemble those of *Microlestes*, from