

unbrageous habit and wide-spreading branches it is extremely valuable as a shade tree. The wood is soft and of little value except as firewood, and the pod is sweet, like that of the carob (*Ceratonia siliqua*), and may probably prove valuable as a food for cattle, for which purpose, indeed, these pods are used in the West Indies. For this reason, and not for that of gathering and dispersing moisture (for which the tree became momentarily celebrated), it is probable the tree may be generally planted.

THE additions to the Zoological Society's Gardens during the past week include a Macaque Monkey (*Macacus cynomolgus*) from India, presented by Mr. Theodore Beck; a Black-crested Cardinal (*Gubernatrix cristatella*), two Red-crested Cardinals (*Paroaria cucullata*) from South America, purchased; a Macaque Monkey (*Macacus cynomolgus*) from India, deposited; a Baker's Antelope (*Hippotragus bakeri*) from Nubia, received in exchange.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE

THE proposals of the Cambridge Mathematical Studies Syndicate for completing the new scheme for the mathematical tripos have been carried. The following summary of the whole scheme of the mathematical tripos which will come into operation in the year 1882 is given in the *Times*. It will consist of three parts, the examination for each part occupying three days. The subjects of the first part are to be confined to the more elementary parts of pure mathematics and natural philosophy, the subjects to be treated without the use of the differential calculus and the methods of analytical geometry. The examination in Part II. will only be open to those who have passed Part I. so as to deserve mathematical honours, and the subjects are algebra, trigonometry, plane and spherical, theory of equations, the easier parts of analytical geometry, plane and solid, including curvature of curves and surfaces, differential and integral calculus, easier parts of differential equations, statics, including elementary propositions on attractions and potentials; hydrostatics, dynamics of a particle, easier parts of rigid dynamics, easier parts of optics and spherical astronomy. Those who pass this second part will be arranged as wranglers, senior optimes, and junior optimes in order of merit. Both the examinations in Parts I. and II. will take place in June. The examination in Part III. will be held in January, and be open only to those who are classed as wranglers. It will last three days. On the tenth day after the end of the examination in Part III. the moderators and examiners, taking into account the examination in that part only, shall publish in three divisions, each division arranged alphabetically, those examined and approved. The moderators and examiners may place in the first division any candidate who has shown eminent proficiency in any one group of the subjects in Schedule III.

THE *University College of Wales Magazine*, the first number of which lies before us, is a neat little publication of fifty-two pages, doing credit to the Oswestry press from which it issues, as well as to the enterprise of the Aberystwith Institution, and the ability of its members. We do not suppose its promoters expect a large general circulation, though there is no reason why the magazine might not be so conducted as to meet with considerable favour in the principality. Curiously enough, the first paper after the introduction is on Persian literature, while one on Welsh literature occupies the sixth place. There is a paper on Cambria at Paris, showing what a good appearance she made at the recent exhibition; a Welsh story, an Oxford letter, college news, &c. We wish the magazine success; and it might do good service by devoting itself to research in various directions in regard to Wales. We should like to see the science professors in this college fill up some of its pages.

THE First Annual Report of the Dulwich College Science Society is, on the whole, satisfactory; the appended lists, forming the bulk of the volume, show that the Society has several diligent collectors, and we hope it will continue to do genuine work and nourish in the school a lasting love of real science.

PROF. H. G. SEELEY completed on Friday at the College for Men and Women, 29, Queen Square, Bloomsbury, a course of six lectures on some of the principal forms of extinct animals which resemble reptiles and birds, and have no representatives

now living. The subjects have been as follows:—Lecture I.—On the Geological Distribution of Fossil Reptiles and Birds; and concerning points in which Extinct Reptiles differ from those which now inhabit the Earth. Lecture II.—The Ichthyosaurs and Animals of the Open Ocean. Lecture III.—The Plesiosaurs and Animals of the Sea Shore. Lecture IV.—The Dinosaurians and Allied Types of Land Animals. Lecture V.—The Ornithosaurs and other Flying Types of Life. Lecture VI.—The Classification of Reptiles and Allied Fossil Animals, as illustrating some Aspects of the Doctrine of Evolution.

PROF. WURTZ was charged some time since by the French Minister of Public Instruction, to make an inquiry into the organisation of the laboratories and practical instruction given in the several universities of Germany and Austro-Hungary. Prof. Wurtz accordingly made several journeys to the great seats of learning in these two countries, and the *Journal Officiel* of last Saturday publishes at full length his report. Prof. Wurtz insists strongly on the danger of creating large establishments, where students are taught something of everything, and on the necessity of creating special foci for every large section of experimental science. He shows the advantage of special institutes, and insists upon the organisation of chemical, physical, physiological, anatomical, and pathological institutions such as flourish on the other side of the Rhine, and may be established in Alsace-Lorraine. He ends his report by describing the Munich Hygienic Institute.

THE French budget of Public Instruction has been voted *au pas accéléré*. The resolutions proposed by the Commission were voted without any material alterations. The estimates reach about 2,000,000*l.*

The University of Bern celebrated, on November 15, the forty-fourth anniversary of its foundation. It numbers among its students, about twenty ladies, mostly Russians, who study medicine.

ACCORDING to a new law, all children who finish their education in any school of the Canton of Bern are submitted to an examination. This year 4,610 boys and 4,446 girls were examined (total population of the Canton 537,000), and the results proved unsatisfactory. The Canton continues to occupy the eighteenth and twenty-first places in the Cantons of the Swiss confederation.

A WEALTHY Serbian, Ilija Milosavljevitch Kolaraz, who died a month ago at the ripe age of eighty-two, has left the sum of 100,000 ducats for educational purposes, 10,000 ducats for the publishing of valuable works in the Serbian language, and 60,000 ducats for the foundation of a Serbian university at Belgrade, which is to be known as Kolaraz' University.

SCIENTIFIC SERIALS

Journal of Anatomy and Physiology, July, 1878.—Dr. Ogston, of Aberdeen, gives an account of the growth and maintenance of the articular ends of adult bones. He believes that the articular cartilage produces the osseous tissue beneath it, forms the epiphyses, supplies their waste, and maintains them in their proper size and bulk during adult life.—Prof. Cleland describes the brain in cyclopians or one-eyed monsters, including specimens of human kind, dogs, lambs, and pigs. He finds that there is no trace of a retina in the cyclopien eyeball, and that moreover there is an arrest of the development of the first cerebral vesicle.—Dr. Creighton gives an exhaustive account of the formation of the placenta in the guinea-pig, and refers very prominently to its early development in connection with the structure of the ovaries and supra-renal bodies.—Prof. Turner contributes notes on the foetal membranes of the reindeer, and on the oviducts of the Greenland shark.—Mr. David Newman's paper on the functions of the kidney gives an account of the physical influences which promote secretion, so far as can be demonstrated by experiments with animal membranes and the kidneys of animals recently killed.—Dr. Dodds' historical and critical analysis of our knowledge upon the localisation of the functions of the brain deals with the anatomy of the brain in this number.

October.—Dr. Cunningham, of Edinburgh, gives his deductions on the intrinsic muscles of the mammalian foot, derived from a large number of dissections; and further describes the muscles of the foot of cuscus and thylacine.—Prof. Miall and Mr. Greenwood conclude their valuable memoir on the anatomy of the Indian elephant, dealing with the alimentary canal and