

to send in their names. Another announcement made was that Mr. Henry Tate would present to the Tate Library a collection of standard books of the value of £5,500. The endowment of the chairs of Anatomy and Pathology completes the provision necessary in order to bring the medical department of the College into rank with similar departments at the older Universities and at Owens College, Manchester.

THE arrangements for the University Extension Congress, to be held in London in June next, have been announced. There are several reasons which render the present year opportune for such a gathering. In the first place, the University Extension movement attains its majority, the first Courses of Lectures having been arranged by the University of Cambridge in the autumn of 1873. And secondly, University Extension work has a defined place in the scheme for the establishment of a Teaching University for London. In view of the anticipated establishment of a Teaching University on the lines laid down in the Report of the Royal Commission, it is important to sum up and present the educational results of the twenty-one years' work in University Extension, and to consider, in the light of past experience, practical proposals and a general policy for the future of the whole movement.

The Congress, which will meet in the Lecture Theatre of the University of London, will include three sessions, to be held on Friday afternoon, June 22, and Saturday morning and afternoon, June 23. The Marquis of Salisbury, the Duke of Devonshire, and Lord Herschell, will preside at the three sessions respectively.

The subjects for discussion will be:—

(1) The means of preserving and further developing the educational character of University Extension work, and the relation of the more popular to the more strictly educational side of the movement.

(2) The essentials of efficient central and local organisation, and the relation, educational and financial, of the University Extension Movement, to the State and to local authorities.

(3) The educational possibilities of University Extension work and methods in relation to regular University studies and University degrees.

These subjects will be considered beforehand by a committee or committees of experts, who will present reports and formulate the resolutions to be submitted for discussion to the Congress. The Right Hon. the Lord Mayor has intimated his intention of inviting the members of the Congress to a reception at the Mansion House on the evening of Friday, June 22.

AT the last meeting of the Council of the Durham College of Science, Mr. Henry Palin Gurney, formerly Fellow of Clare College, and Deputy-Professor of Mineralogy in the University of Cambridge, was appointed Principal.

SCIENTIFIC SERIALS.

American Meteorological Journal, April.—“Storms of the Gulf of Mexico and their prediction,” by W. D. Stearns. Many of the storms which enter the United States from the Gulf of Mexico are very destructive, and give scarcely any indication of their approach by means of the barometer. The author has made a special study of local conditions and cloud movements which preceded a number of storms in 1892 and 1893, and thinks that by those means their presence may be detected in every case some hours in advance of their arrival. Notes are given of the phenomena preceding several storms.—A new chart of equal annual ranges of temperature, by J. L. S. Connolly. The chart was constructed on the basis of Dr. Buchan's “Challenger” isothermal charts. It shows that the torrid zone is, on the whole, a region of moderate annual range of temperature, while the north temperate zone has extreme variations compared with the south temperate. The effects of solar and terrestrial radiation are well shown; in northern Asia there is a range of 120°, and of 80° in the northern part of North America.

Bulletins de la Société d'Anthropologie de Paris, tome iv, No. 12.—This number contains a valuable memoir by M. L. Manouvrier on the normal and abnormal variations of the nasal bones in the human species. Whatever may be the original cause of variation, it is interesting to observe that that cause is sufficient to produce in one and the same race individual varieties suggesting all kinds of ethnic types. In one case, figured by

M. Manouvrier, the nasal bones are entirely suppressed, their place being supplied by the frontal bone.—M. G. de Mortillet proposes an important reform in chronology; he points out the inconvenience of using several different eras, such as the Foundation of Rome, the Birth of Christ, the Flight of Mohammed, or the Proclamation of the Republic, and suggests that 10,000 years before the Christian era should be adopted as a general starting point; this would not only include all Egyptian chronology, as known at the present day, but would also leave 5000 years at the disposal of future discoverers.—At the Broca conference, Dr. Capitan delivered a lecture on the rôle of microbes in society.—M. J. Deniker has contributed a paper on the natives of Lifou, one of the Loyalty Islands. The average stature of these islanders is somewhat below middle height (1642 mm.), although in the case of four individuals out of the ten examined by Dr. Francois, whose observations form the basis of this communication, the stature was from 1670 to 1690 mm.; the head is dolichocephalic (cephalic index = 72·4), and the nose is platyrrhine (nasal index = 97·8); five out of the ten subjects were hyperplatyrrhine (index 101 to 117). The colour of the skin, in the majority of those examined, resembled chocolate with a reddish tinge (28–29 Broca), while one of them had a light brown skin, and two others were black. The colour of the iris varied from brown to dark brown, the darker tinge predominating.—In a paper on family property in Anam, M. Paul Denjoy describes the organisation of the family, the prescriptions of the law with regard to succession and wills, and the extensive system of registration employed. He gives a good general idea of Anami's legislation, and of the principles that underlie it. The number includes several short communications of much interest.

Wiedemann's Annalen der Physik und Chemie, No. 4.—On the formation of floating metallic films by electrolysis, by F. Mylius and O. Fromm. A zinc plate is laid on the bottom of a glass jar, and is covered with a layer of 50 per cent. solution of zinc sulphate. A platinum wire 0·2 mm. thick touches the surface of the solution vertically. On passing a current from a 3-volt battery through the solution, a bright film of metallic zinc is formed round the platinum cathode, which gradually expands, and exhibits an approximately circular form, but subsequently becomes irregular. The phenomenon does not take place unless the surface of the solution is tainted with some substance insoluble in water, such as oil of turpentine. This may form a separate thick layer, and the film is produced at the separating surface. It may also be produced at the lower surface of the zinc sulphate solution by first pouring a layer of chloroform on to the zinc anode. Other metals, such as iron, cobalt, cadmium, silver, show analogous phenomena.—On the elasticity and tenacity of some new glasses as dependent upon their chemical composition, by A. Winkelmann and O. Schott. The coefficients of elasticity, and those of resistance to tension and pressure, were determined experimentally for eighteen kinds of glass. The first lies between 4699 and 7592 kg. per sq. mm. The second lies between 3·5 and 8·5 kg. per sq. mm., and the third between 60·6 and 120·8. These results may be represented by formula depending upon chemical composition, the calculated values varying by 3 per cent. from the observed ones in the case of elasticity, and about 8 per cent. in the case of tenacity.—On the coefficient of thermal resistance of different glasses as dependent upon chemical composition, by the same authors. The thermal resistivity is the property enabling glasses to withstand sudden cooling without breaking. It depends upon the elasticity, the tenacity, the thermal expansion and conductivity, the specific heat, and the specific gravity of the glass in question. In most cases the resistivity can be calculated with fair approximation if these properties are known.

Internationales Archiv für Ethnographie, vol. vii, parts 1 and 2.—The new volume of this useful journal is continued along the same lines as the previous volumes; the publisher only is changed. Heer Trap still prints the letter-press, and turns out the plates in his usual skilful manner. Prof. G. Schlegel gives the first published illustration and full description of “A Canton Flower-boat,” or, as it should be called, “Gaudy Boat.” These are really floating café-chantants, in which the greatest decorum prevails; they are hired for evening festivals and suppers, by wealthy officials and others.—Leo V. Frobenius has an interesting article, illustrated by three plates, on “Ceramics and their origin from Wood-carving in the Southern Congo Basin.” He deals with the pottery trade, the form of clay vessels, wooden

vessels, ornamentation, images in wood and clay, &c. He comes to the conclusion that the leather-work is the oldest industry of the Negro, and was followed by wood and plaited work, from which finally arose ceramics. The author agrees with Schurtz that a Wooden age replaced the Stone age in Africa, and was followed by the Iron age; the latter took place quickly on account of the superiority of iron weapons and utensils over wooden ones, but pottery slowly superseded wooden vessels and gourds, and has undergone only a slight development. The second part is mainly taken up with an elaborate article by J. Walter Fewkes, on the "Dolls of the Tusayan Indians." These are carefully described, and their symbolism is noted; coloured illustrations are given of forty-three of them. He points out that the characteristic details are always found on the head, and adds, "this fact is one which gives a great importance to the study of helmets, masks, and all cephalic decorations which are used in ceremonial dances."—Prof. P. J. Veth, on "Signature-lore" (De Leer der Signaturer); signature being "the resemblance of a vegetable or a mineral to any part of a man's body."—The first part of an essay of a branch of sympathetic magic deals with the subject in general, and a detailed account of the Mandrake (*Mandragora*).—R. Parkinson sends a note, which is illustrated, on the boring of shells in the manufacture of armings, &c. The shell is partially embedded in and lashed to a board, and the hole is drilled by means of a bamboo cylinder, to which a flat stone is fastened as a fly-wheel, sand and water is used as emery; when half cut through, the piece of shell is reversed.

Annalen des K.K. naturhistorischen Hofmuseums, Bd. viii. Nos. 2, 3-4. (Wien: A. Hölder, 1893.)—Dr. O. Finsch, in the last number of this publication, completes his "Ethnologische Erfahrungen und Belegstücke aus der Südsee." The sub-title describes this as a descriptive catalogue of a collection in the Vienna Museum. It rarely happens that an ethnological collection in a museum is so fully described as this has been, but in this case the author describes the specimens he has himself collected. The catalogue commenced in the third volume (1888) of the *Annalen*, and now concludes, having run to 675 pages, and having been illustrated by twenty-five plates and numerous illustrations in the text. But it is more than a mere illustrated catalogue, for the author has incorporated original ethnological investigations as well as given authentic accounts of the various objects enumerated. The whole series of papers forms an invaluable addition to the libraries of museums and of those interested in such subjects. The current numbers contain Dr. Finsch's account of the Marshall Archipelago and of the Caroline Islands, including Kuschai, Ponapé, Ruk, and Mortlock; to this are appended addenda and corrections of statements in the earlier papers, and several indices.—Eight new species of Hymenoptera belonging to the genus *Gorytes*, Latr., are described by A. Handlirsch (p. 276).—Prof. F. Toula has (p. 283) a preliminary communication on the fauna of the Miocene beds of Kralitz in Mähren; the Foraminifera are most fully noted.—Dr. A. Zahlbruckner gives a description (p. 438) and plate of a new species of lichen (*Pannaria austriaca*).—Dr. F. Berwerth follows, also with a coloured plate, "On Alaüt from Al. ö."—F. F. Kohl (p. 455) has a monograph, with three plates, on *Ampulex*, Jur. (s.l.) and allied genera of Hymenoptera. Numerous new species are described.—F. Siebenrock has an illustrated and carefully worked-out paper on the skeleton of *Uroplatus fimbriatus*, Schneid., one of the Geckos.

SOCIETIES AND ACADEMIES.

LONDON.

Chemical Society, March 15.—Dr. Armstrong, President, in the chair.—The following papers were read:—Formaldoxime, by W. R. Dunstan and A. L. Bossi. Formaldoxime has previously only been known as a gas or in solution; the authors have obtained it as a colourless liquid boiling at 84°-85°.—Derivatives of camphene containing halogens, by J. E. Marsh and J. A. Gardner. Chlorocamphene, C₁₀H₁₃Cl, is prepared by distilling camphene dichloride, and bromocamphene is obtained by the action of bromine and phosphorus chloride on camphor.—A sulphate of oxamide, by J. E. Marsh. A hot solution of oxamide in strong sulphuric acid deposits crystals of oxamide disulphate (CONH₂)₂.H₂SO₄, on cooling.—Fluoplumbates and free fluorine, by B. Br. uer. The author has prepared a fluo-

plumbate of the composition 3KF, HF, PbF₄; on treatment with sulphuric acid it yields lead tetrafluoride.—The action of nitrosyl chloride on unsaturated compounds, by W. A. Tilden and M. O. Forster.—Note on the action of nitrosyl chloride on amido-derivatives of benzenoid hydrocarbons, by W. A. Tilden and J. H. Millar. Nitrosyl chloride acts on aromatic amido-compounds yielding a diazo-derivative, a nitroso-compound, or a chloro-derivative.—Action of aluminium chloride on heptylic chloride; a correction, by F. S. Kipping.—Oximidosulphonates or sulphazotates, by E. Divers and T. Haga. A number of salts of oximidosulphonic acid have been prepared and their reactions studied.—Derivatives of tetramethylene, by W. H. Perkin, jun. Tetramethyleneamine is obtained as a colourless oil, by the action of potash and bromine on the amide of tetramethylenecarboxylic acid.—β-2-Dimethylglutaric acid, COOH.CH₂.CMe₂.CH₂.COOH, by W. Goodwin and W. H. Perkin, jun. This acid, which is probably closely allied to camphoric acid, yields an anhydride of the constitution



—The products of the action of fused potash on camphoric acid, by A. W. Crossley and W. H. Perkin, jun.—Conversion of ortho-into para-, and of para- into ortho-quinone derivatives. II. Dinaphthylidiquinone, by S. C. Hooker and J. G. Walsh, jun.

March 22.—Anniversary meeting.—Dr. Armstrong, President, in the chair.—After the reading of the President's address and the Treasurer's report, a ballot was taken for the election of officers and Council for the ensuing session. The ordinary members of Council are the following:—C. F. Cross, H. Dixon, B. Dyer, R. J. Friswell, A. G. Green, F. S. Kipping, W. H. Perkin, jun., W. A. Shenstone, T. Stevenson, J. A. Voelcker, W. P. Wynne, and S. Young.

Zoological Society, April 17.—W. T. Blanford, F.R.S., Vice-President, in the chair.—Mr. Sclater made some remarks on the possibility of breeding the African Mud-fish (*Protopterus*) in the Society's Gardens, and called attention to a recently published paragraph in "Le Mouvement Géographique" in which some account was given of the phenomena of reproduction of this Mud-fish, as observed by the French missionaries on Lake Tanganyika.—Prof. Karl von Bardeleben, of Jena, read a paper on the bones and muscles of the mammalian hand and foot, in which he explained his views on the rudiments of the sixth and seventh digits or rays. These rudiments, as he showed, are situated both on the inner and the outer borders of the hand and foot; they are present in nearly all the orders of mammals, especially in the lower forms, and are always provided with special muscles.—Dr. G. Herbert Fowler pointed out the characters of a new species of Sea-Pen of the family *Veretillidae* from a specimen belonging to the Madras Museum, and proposed to call it *Cavernularia malabarica*. Dr. Fowler likewise exhibited and made remarks on an example of *Lidaria phalloides* belonging to the same Museum.—Mr. F. E. Beddard, F.R.S., described two new genera comprising three new species of Earthworms from Western Tropical Africa.—A communication was read from Mr. Oldfield Thomas containing an account of a new Antelope from Somaliland, which he proposed to call *Neotragus rupicola*. Capt. H. G. C. Swayne, R.E., and his brother, Capt. E. Swayne, had discovered this Antelope during their recent explorations in that country, but had not been able to bring back specimens. Two skins and a frontlet, lately received by Capt. H. G. C. Swayne from his native hunters, had enabled Mr. Thomas to establish the species.

Geological Society, April 11.—Dr. Henry Woodward, F.R.S., President, in the chair.—Mesozoic rocks and crystalline schists in the Lepontine Alps, by Prof. T. G. Bonney, F.R.S. The author described the results of an examination of the infold of Jurassic rock in the Urserenthal, undertaken in the hope of finding some definite evidence as to the relations of the marble, exposed near the old church at Altkirche, and the adjacent Jurassic rocks.—The easternmost of the sections described occurs high up on the slopes north of the Oberalp road. Read off from the northern side it exhibits (1) gneiss, (2) phyllites with bands of subcrystalline limestone, &c.—Jurassic, (3) a little rauchlwacke, (4) "sericitic" gneiss. The next section (about 250 feet above the St. Gothard-road at Altkirche) gives (1) gneiss, (2) covered ground, (3) slabby marble, (4) phyllite, (5) thicker mass of slabby