

of Finland early in August, and that observations commenced there on the 15th ult. as intended.

M. RABOT, a member of the French Geographical Society, has sailed from Tromsø to Spitzbergen for a private exploration. This is the first time that a French ship has been in these seas for exploring purposes since *La Siloisse* was sent during the reign of Louis Philippe, under the command of Blossville. This ship was lost, and nothing was ever heard either of it or any of the crew.

WE notice a good book of travel in Servia, published by Franz Scherer under the title, "Eilder aus dem Serbischen Volks- und Familien-leben."

THERE has just been published an elaborate work on the present state of silk-worm culture in Southern Russia and Trans-Caucasia, giving an accurate description of the whole of the culture, and a complete bibliography of works on the subject that have appeared since 1703. It is published in connection with the Moscow Exhibition, by the Moscow Agricultural Society, with many plates of drawings.

WE have received part 3, vol. iii. of the *Transactions* of the Norfolk and Norwich Naturalists' Society. We observe from the presidential address that the strength of the Society continues to increase, the present number of members being 234 as compared with 204 in the previous year; the financial position of the Society is also satisfactory. Amongst the published papers is a biographical notice of the late Dr. S. P. Woodward, by his son, Mr. H. B. Woodward, F.G.S. This memoir forms one of a series which the Society is publishing of distinguished naturalists connected with the county of Norfolk. A paper on the extensive destruction of the Lombardy poplar, contributed by Mr. H. D. Geldack, has also more than local interest. Mr. Stephenson's paper on the plumage of the waxwing contains some valuable additions to the history of this beautiful and singular bird. Additions to the fauna of the county are made in the Mammalia by Mr. Southwell, Hymenoptera by Mr. Bridgman, the Tortricidæ by Lord Walsingham, and to the Flora by Mr. A. W. Bennett, F.L.S. There are also papers on the noteworthy springs and spas of Norfolk by Mr. H. B. Woodward, F.G.S., the herring fishery of 1881, and some interesting notes on the habits of the nightingale, extracted from a letter written to the Rev. R. Sheppard in 1819. In addition there are ornithological and entomological notes from Mr. F. D. Power, Mr. Frank Norgate, and Mr. Stevenson.

MESSRS. PIPER AND CARTER have issued a new edition (the fifth) of Capt. Abney's "Instruction in Photography." The whole of the work has been revised, sixty pages of new matter added, and the latest details as to the gelatine emulsion process given.

WE have received from Mr. Stanford other two war-maps. One of Lower Egypt, on the scale of 4 miles to the inch is extremely minute in detail, and will be found of great service in following operations. The other contains a map of the Nile Delta, a plan of Cairo and its environs, the towns and ports of Suez, Ismailia, Port Said, and a general map showing the Suez Canal and Cape routes to India.

THE English Government having sent to Egypt three of the Woolwich balloons, we may remind our readers that balloons were taken out by the French army in 1794. But it was impossible for Buonaparte to use them, the furnace for the preparation of pure hydrogen having been lost when the French fleet was annihilated by Nelson in Aboukir Bay. Conte, the engineer of the aéronauts, was created the head of Cairo arsenal, and Coutelle, their captain, was sent on a scientific mission to Upper Egypt. The diameter of these French balloons being small (10

metres), their capacity was only 520 cubic metres; they were of silk, and always inflated with pure hydrogen, which was prepared by the action of steam on iron filings.

AN exhibition of considerable interest has been opened at the Royal Aquarium, consisting of a Javanese "Gamelon" or orchestra, of fourteen male and four female performers. There is a variety of percussion instruments and one stringed instrument stated to be a violin of the Chinese type. The females go through one of their native dances, if their peculiar postures and movement of limbs and head may be regarded as a dance. From an ethnological point of view, the exhibition is well worth a visit by those who have not had an opportunity of seeing the Javanese at home. With considerable general likeness, there is really great diversity of feature, one or two of the faces being almost European in type.

THE Swedish Government has decided not to prohibit vivisection in that country, in spite of the appeal made to them by the Diet in reference hereto last session.

ABOUT forty male pupils of the Parisian public schools who have taken honours have been sent on a visit to London. The Société Nationale Française have made arrangements for their board and guidance. The same number of laureates were sent to Central France.

TWO very large and splendid catseyes were exhibited at the *conversazione* of the British Association at Southampton by Mr. James R. Gregory. These were said to be the largest in the world; one of them measured 3 inches in length and 1½ in. in breadth, and weighed 359 carats, or nearly 2½ ounces; the other is somewhat smaller, weighing 308 carats. They are both remarkably fine stones.

THE additions to the Zoological Society's Gardens during the past week include two Southern River Hogs (*Potamocheilus africanus* ♂ ♀) from South Africa, presented by Col. J. H. Bowker and Mr. John Dunn; a Hairy-footed Jerboa (*Dipus hirtipes*) from Jeddah, presented by Mr. Lionel Adams; a Himalayan Bear (*Ursus tibetanus* ♀) from North India, presented by Mr. E. J. Coope; an Indian Chevrotain (*Tragulus meminna*) from India, presented by the Hon John Stoddart; a Macaque Monkey (*Macacus cynomolgus*) from India, presented by Mrs. Crawford; two Crimson-winged Waxbills (*Pytelia phænicoptera*) from West Africa, presented by Mr. Albert Krehl; a Four-coloured Shrike (*Laniarius quadricolor*) from South Africa, presented by Col. J. H. Bowker; a Red Brocket (*Cariacus rufus* ♀) from Brazil, a Grey Squirrel (*Sciurus cinereus* var. *nigra*) from North America, seven Madagascar Boas (*Pelophilus madagascariensis*) from Madagascar, deposited; a Yellow Baboon (*Cynocephalus babouin*) from West Africa, four White-headed Bullfinch-Larks (*Pyrrhuloxia verticalis*) from South Africa, two Yellow Sparrows (*Passer luteus*) from East Africa, two Scarlet Ibis (*Endocimus ruber*) from Para, two Crested Colins (*Eupsychortyx cristatus*), eleven Variable Leaf Frogs (*Phyllomedusa dactylos*) from Mexico, purchased.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE

UNIVERSITY College, Bristol, is making laudable efforts to provide a complete curriculum for the important district of which it is the centre. Like the similar colleges at Manchester, Leeds, Birmingham, &c., the lectures comprise all the branches of a liberal and scientific education. The erection of new buildings, which will be completed before the close of the current year, will give increased facilities for the study of science. The Chemical Department now contains accommodation for nearly fifty students, and is, we believe, equipped with the latest improvements for teaching which are in use in this country or on the Continent; lectures are delivered on pure chemistry as well

as on certain branches of applied chemistry. The physical and engineering departments are also provided with facilities for laboratory work. The instruction in experimental physics is kept abreast of the rapidly increasing requirements of the age, and arrangements are now perfected for the training of students as electric engineers—a profession for which the recent development of electric discovery opens good prospects. The Bristol Medical School, which is affiliated to the College, offers with the Royal Infirmary and General Hospital, every facility for the study of medicine. Instruction in biology is also given, and it is intended to open a biological laboratory in the course of the ensuing session. In other subjects the instruction is such as to make the curriculum practically complete.

THE Calendar of the Mason College, Birmingham, already extends to 250 pages. The list of professors is fairly complete, and the subjects cover pretty well the whole field of a liberal education. Science, of course, has a prominent place, both pure and applied, but literature, both ancient and modern, is as fully represented as could be desired. The examination papers are given, and are up to a high standard; and the College as a whole promises to fulfil the intentions of its liberal founder.

THOUGH in a less advantageous position so far as funds are concerned, the modest little Calendar of the Newcastle College of Science shows that every effort is being made to keep it up to the mark. It is a pity some of the rich coal and iron masters of the northern districts do not come forward and give the struggling institution a helping hand; they could not do the north a greater service.

AN important movement is taking place among the manufacturers and machine makers of Nottingham to promote the establishment of a first class technical school in connection with the University College in that town. A nucleus fund for this purpose has been provided by the Drapers' Company in a grant of 300*l.* per year for five years, with an additional 200*l.* in the first year for the purchase of apparatus. This grant is, however, subject to certain conditions, and is also to some extent dependent on the amount of local enterprise which is displayed. The company, after mature consideration, and upon the report of Mr. Magnus, the director of the City and Guilds' Technical Institute, who, with certain members of the Drapers' Company, visited Nottingham to make inquiries, resolved to make the grant through the Institute, and the instruction provided by it is to enable students, artisans, and others to present themselves for the Institute examination in mechanical engineering. A course of instruction in practical mechanics is to be given by a professor of physics and mechanics in the evening, and the services of a skilled fitter are to be obtained to act under the professor in the practical explanation of the tools and the machinery used in lace and hosiery manufacture. The local committee are now arranging for the setting apart of portions of the College for this special purpose.

At a meeting of the Council of the Yorkshire College, held on September 2, Mr. N. Bodington, M.A., Fellow of Lincoln College, Oxford, and Professor of Greek and Latin in the Mason's Science College, Birmingham, was elected to the Professorship of Classics, vacant by the resignation of Prof. Marshall, and to the Principals-hip of the College.

A NEW University building, which has taken two years to construct, will soon be opened in Lund.

SCIENTIFIC SERIALS

Annalen der Physik und Chemie, No. 9.—Experimental contributions to a knowledge of the electric conductivity of flame-gases, by W. Giese.—On absolute systems of measurement for electric and magnetic quantities, by H. Helmholtz.—Proof of the existence of Maxwell's electromotive force Y_{me} , by R. Colley.—The electric conductivity of sulphuric acid and pyrosulphuric acid, and the density of concentrated sulphuric acid, by W. Kohlrusch.—The specific heats of gaseous biatomic compounds of chlorine, bromine, and iodine with each other and with hydrogen, by K. Strecker.—Researches on the absorption of gases by liquids under high pressures, by S. v. Wroblewski.—On the motions of air on the surface of the earth, by A. Oberbeck.—On Newton's dust rings, by K. Exner.—On the action and piezo-electric properties of rock-crystals and their relation to the thermo-electric, by W. G. Hankel.—Note on an explosion of a glass tube filled with liquid carbonic acid, by L.

Pfaundler.—On an explosion of an oxygen gasometer of sheet zinc, by the same.

Rivista Scientifico-Industriale, June 15.—Elementary geometrical demonstration of the condition of minimum or maximum deviation of a homogeneous ray sent through a homogeneous prism, by Prof. Banfi.—On the reductive action of glycerine on salts of silver and application of this phenomenon to silvering of glass, by Prof. Palmieri.—On *Palæomonetes varians* and one of its varieties, by Prof. Garbini.

June 30 and July 15.—Anemoscope and anemometer with free transmission, of the Brothers Brassart, by S. E. Brassart.—On unequal heating of the two electrodes by the electric discharge, by Prof. Giovanni.—Movements, ruptures (lithoclastes), and tangential pressures the direct causes of the axial elevation of the Northern Apennines, by Prof. Bombici.—Contribution to study of anthropology of the southern provinces; prehistoric objects of Molise, by Dr. Del Lupo.

Bulletins de la Société d'Anthropologie de Paris, tome v. 2 fascicule, 1882, contain: Papers by M. de Mérejkowsky, on a series of Sardinian crania, with explanatory and metric tables, and on certain American crania belonging to the Araucanian, Moxo, and other native tribes of the north-west and west districts.—A report of the discussion at the meeting of March 2, on the relative weight of the brain, with reference specially to M. le Bon's views on the invalid character of determinations based on means, and to the conclusions which he has drawn from his own methods of comparing the relative weight of the body and brain in boys and girls.—A communication from M. de Ujfalvy, on his travels in the Western Himalayas, with the results of his craniometric and other determinations among the local tribes, more especially in Kashmere, Lesser Thibet, and the Koulou country, where polyandry exists.—At a subsequent meeting of the Society, M. Beaugard gave a *resumé* of M. de Ujfalvy's observations of the ethnic and social character of these peoples, and of the records of ancient and modern travellers concerning these mountain districts, tracing the history of polyandry back to the Getæ and Massagetæ, whom he believes to be the ancestors of the Dardis, whose country is regarded by Dr. Leitner as the original seat of the Aryan race. (The discussions to which the communications of M. de Ujfalvy gave rise have led to the adoption of a resolution for the extension and more exact definition of the ethnographic observations included in the Society's Directions for travellers.)—M. F. Regnault reports the results of his recent excavations at Bordes in Ariège, where in an old moraine bed he has found two burial chambers below an erratic granite boulder. Both chambers, one of which was situated below the other, contained human bones, a cut flint, and fragments of pottery, some of which were marked with geometrical designs. In the discussion following M. Regnault's communication, M. Leguay drew attention to a similar chamber disclosed at Crécy in 1842.—M. de Mérejkowsky described an instrument designed to determine the relations of the nasal arch to other parts of the cranium with a view of establishing a new character for the better comparison of differences of race. This number of the *Bulletins* closes with the first part of M. Le Docteur D'Hercourt's Topographical Survey of the Island of Sardinia, including the geography, meteorology, and natural products of the island.

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