

Tartars do, nor with the Nogai, who are now, however, not numerous. After having measured the skulls of about 200 persons, he finds that the cephalic index is: 0.908 for children from 4 to 7 years old, 0.882 from 8 to 9 years, 0.876 from 10 to 12 years, 0.871 from 13 to 14 years, 0.852 from 15 to 19 years, and 0.845 from 20 to 23, being the average from 82 measurements. When discussing the figures received for 27 very pure representatives of Tartars, he shows that the maximum figures were, in four cases, from 0.886 to 0.903, and the minimum in two cases, 0.789 and 0.800; for the 21 others the index varies comparatively little, namely, from 0.822 to 0.876. M. Merejkoffsky has observed among the Tartar women the use of tattooing in small spots between the eyebrows and on the forehead. As to the staining the nails red, which is spread everywhere among the women, and sometimes also among men, M. Merejkoffsky, after having discussed the same custom among other peoples, arrives at the conclusion that it is a survival from the time when the whole skin was stained with red, originally with the blood of enemies, to inspire dread.

THE geysers of Whakarewarewa, New Zealand, are stated to have lately been in a state of agitation, throwing hot water to a great height. The natives anticipated still further eruptions. The geysers have been dormant for six months.

THE Annual Report for 1879-80 contained in the *Proceedings* of the Norwich Geological Society complains of the little interest taken in the work of the Society by the members; the bulk of the work seems to be done by the members of the Geological Survey stationed in the neighbourhood. The presidential address, by Mr. J. H. Blake, "On the Age and Relation of the so-called 'Forest-bed of the Norfolk and Suffolk Coast,'" is of considerable interest. It has been separately reprinted. Among the other papers is one on "The Subdivisions of the Chalk," by Mr. A. J. Jukes-Browne.

THE Twenty-Third Report of the East Kent Natural History Society contains some of the more important papers read during the year. We regret to see that the interest of some of the members in the welfare and work of the Society is not so great as it might be, and that, as in not a few similar societies, the bulk of the work falls on the shoulders of a few of the more energetic members.

WE are glad to find a decided improvement in No. 1, vol. x. of the *Canadian Naturalist*. The papers are mostly geological, a large proportion are original, or at least of purely Canadian origin, and all of scientific value. Principal Dawson contributes some important Palæontological Notes, and there is a long paper by Mr. R. Chalmers on the Glacial Phenomena of the Bay Chaleur Region, with a map. Dr. G. M. Dawson writes of the Geology of the Peace River Region. Appended are Meteorological Notes for 1880, and a curious statement as to the Niagara Falls having been dry for a day, March 31, 1848.

Nature Novitates, the fortnightly list of novelties in scientific literature, started some time ago by Friedländer of Berlin, continues, we are glad to see, to flourish. It is calculated to be of real service to workers in science.

MR. JOSCELINE BAGOT and Mr. Drummond, of the Grenadier Guards, accompanied by Mr. T. Wright, the winner of the International Balloon Contest, went up in a balloon from the Crystal Palace on the 1st inst. at 1 p.m. When the ropes were loosed they ascended to the height of 5000 feet, and travelled slowly in a south-westerly direction for the distance of about eight miles. The balloon then suddenly sank, but ballast being thrown out, it rose again to 8000 feet, and traversed in the direction of Epsom. The aeronauts then descended in a field about a quarter of a mile from the Grand Stand, which they reached in time to witness the race for the Derby.

SIR R. TEMPLE's lecture on the lake region of Sikkim is given in the current issue of the Geographical Society's *Proceedings*, illustrated by a capital map and some very good engravings from the author's sketches on the spot. The other papers are a translation from the Russian by Mr. Delmar Morgan of Dr. Regel's account of his expedition from Kuldja to Turfan in 1879-80, and Mr. F. C. Selous' notes on recent explorations in Mashuna-land, the latter of which adds something to our knowledge of the hydrography of the Zambesi basin, and is accompanied by a map in the text showing the routes of Mr. Selous and others. The geographical notes relate chiefly to the work of various expeditions on the Congo and other parts of West Africa. There are also notes of some interest on the true name of the Chukches and on Richmond Gulf, Hudson's Bay. Mr. James Stevenson contributes a memorandum of the longitude of Lake Nyassa, which is followed by a full abstract of the proceedings of the Paris and Berlin Geographical Societies.

THE paper by General Pitt-Rivers announced last week will be read at the Anthropological Institute on the 14th, not 7th inst.

THE additions to the Zoological Society's Gardens during the past week include a Macaque Monkey (*Macacus cynomolgus* ♂) from India, presented by Mr. W. Nugent; a Vulpine Phalanger (*Phalangista vulpina* ♂) from Australia, presented by Master H. Berridge; ten Green Lizards (*Lacerta viridis*), European, presented by Mr. H. N. Moseley, F.Z.S.; two Ostriches (*Struthio camelus* ♂ ♀) from Africa, two White-backed Piping Crows (*Gymnorhina leuconota*), a Laughing Kingfisher (*Dacelo gigantea*) from South Australia, deposited; a Prince Albert's Curassow (*Crax alberti* ♀) from Columbia, two Golden Agoutis (*Dasyprocta aguti*) from Guiana, two Common Boas (*Boa constrictor*) from South America, on approval; a Japanese Deer (*Cervus sika* ♂), a Cuming's Octodon (*Octodon cumingi*), born in the Gardens; five Impeyan Pheasants (*Lophophorus impeyanus*), four Peacock Pheasants (*Polyplectron chinquis*), a Ruddy Sheldrake (*Tadorna rutila*), bred in the Gardens.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE

OXFORD—In a Convocation holden on June 7 a decree was passed, without opposition, to amend the statute relating to the Degree in Medicine. According to the new decree, those who enter their names for the First Examination for the Degree of Bachelor of Medicine, and who satisfy the Regius Professor of Medicine that they have obtained Honours in the School of Natural Science, or that they have passed the Preliminary Honour Examination in the same School, shall not be required to be examined either in Chemistry or in Mechanics and Physics at the First Examination for the Degree of Bachelor of Medicine.

In the same Convocation the statute to enable non-members of the University to pass an examination in lieu of Responsions was also passed without opposition. The first examination in lieu of Responsions will be held towards the end of the ensuing long vacation.

Mr. George B. Ferguson, M.D., Hertford College, has been nominated Examiner in the Natural Science School in place of Prof. Lankester, and Mr. John Watts, M.A., Balliol College, in place of Dr. Odling.

Prof. Sayce announces a public lecture in the Taylorian Institution, June 8, on the ancient Hebrew inscription recently discovered in Jerusalem.

An examination will be held in Exeter College early in October for the purpose of filling up a Natural Science Scholarship, tenable for four years during residence. The age of the Candidates is not limited, but they will be expected to give evidence of sufficient Classical knowledge to be able to pass Responsions. The examination will be in Biology, Chemistry, and Physics. Candidates will be expected to show proficiency in at least two of these subjects, and the Scholar will be

required to read for Honours in Biology in the Natural Science School. The examination will be to a large extent practical, but special weight will be given to comprehension of general principles. Candidates for the Scholarship may obtain further information by application to the Rector, or to W. L. Morgan, Esq., the Lecturer in Biology at Exeter College.

CAMBRIDGE.—Prof. Humphry has given notice of a class in human osteology, to be held by the demonstrator (Dr. Creighton) during the long vacation, commencing July 4; and a class for practical histology (by Mr. Hill), beginning July 7.

Mr. J. W. Clark is continued in the office of Superintendent of the Museums of Comparative Anatomy and Zoology for two years.

The offer of the Cambridge Philosophical Society to make their library available as the nucleus of a general scientific library in the new museums, to be placed under the care of a librarian appointed by the University, has been formally accepted by the Senate.

Inter-collegiate lectures in higher mathematical subjects are offered for the ensuing long vacation by Mr. Allen at St. Peter's, on electro-magnetism; by Mr. Mollison (Clare), on heat; by Mr. Stearn (King's), on hydrodynamics; by Mr. Niven (Trinity), on elasticity; and by Mr. Lewis (Trinity), on vortex motion and viscosity.

NOTTINGHAM.—The following appointments have been made to the professoriate of Nottingham University College:—The Rev. J. F. Blake, M.A., F.G.S., Professor of Natural Science; Dr. J. A. Fleming, B.A., D.Sc. (London), Professor of Mathematics; Dr. Frank Clowes, D.Sc., F.I.C., F.C.S. (London and Berlin), Professor of Chemistry; the Rev. J. E. Symes (Cambridge), Professor of Literature.

AN important memorial to Lord Spencer, Mr. Mundella, and the Committee of Council on Education is now in course of signature, urging the more systematic teaching of science in elementary schools. The suggestions are made in prospect of the fundamental changes which are contemplated in the Code. The memorialists urge that in Standards I., II., and III. systematic Object Lessons should be given which should lead up to the more scientific teaching to be required in the higher standards. These Object Lessons should have reference to three main divisions of knowledge. They should include, first, Shape and Size, and the properties of bodies depending on them; second, Properties of Matter, including a knowledge of the obvious qualities of material and implements; and third, Plants and Animals, with a knowledge of their uses. At present the elementary stages of teaching have to do too little with things and too much with words, and the memorialists suggest that the existing standards favour this. The memorial has already received the signatures of Prof. Max Müller, Dr. Caldicott, Mr. Eve, Prof. Meiklejohn, Prof. Carey Foster, and leading members of many School Boards.

AT the Education Society on June 6, with Dr. Gladstone in the chair, a discussion was held "On Science Teaching in Intermediate Schools." After the opening remarks of the President, Miss Franks, Mr. Lake, Prof. Guthrie, Prof. G. Carey Foster, Mr. Cooke, and other gentlemen, gave the results of their experience or expressed their opinions. The main conclusions were: that natural knowledge should be taught, not from books, but from things themselves; that the lessons should not consist of information committed to memory, but of knowledge acquired by the child's own observation and experience; that by such object-lessons he should be led to observe the natural facts or processes around him and to exercise his powers of comparison as well as of perception, and thus arrive at such generalisations as are within his capacity; that after the first more general knowledge of the common things around him the child should be led along the broad lines of interest to some more special departments of science. In this later stage the reasoning powers of the child will be more called into action, and the knowledge of the teacher will be presented in a more systematised and abstract form, but still in such a way as shall best develop the intelligence of the scholar.

THE promoters of the Stephenson Centenary at Newcastle-on-Tyne have determined to commemorate the occasion by erecting, if funds can be obtained, a building in that town for the use of the College of Physical Science, to be called the Stephenson College. It is estimated that a sum of 20,000*l.* will be required, of which 1000*l.* has been promised by Sir William Armstrong,

and 2000*l.* by other friends. The Newcastle College of Physical Science was established and endowed ten years ago by the combined efforts of the inhabitants of the town and the University of Durham.

SCIENTIFIC SERIALS

American Journal of Science, May.—Action of frost on the arrangement of superficial earthy material, by W. C. Kerr.—Dall's observations on Arctic ice and the bearing of the facts on glacial phenomena in Minnesota, by N. H. Winchell.—Projection of lines of equal pressure in the United States, west of the Mississippi, by H. A. Hagen.—Neumann's method of calibrating thermometers, with ways of getting columns for calibration, by T. Russell.—William Hallows Miller, by J. P. Cooke.—Geology of Peace River region, by G. M. Dawson.—Shadows obtained during the glow-discharge, by H. B. Fine and W. F. Magie.—New form of galvanometer for powerful currents, by C. F. Brackett.—American Jurassic dinosaurs, by O. C. Marsh.

THE *American Naturalist* for May, 1881, contains: George Macloskie, the endo-cranium and maxillary suspensorium of the bee.—R. E. C. Stearns, *Mya arenaria* in San Francisco Bay.—H. L. Osborn, the squid of the Newfoundland Banks in its relation to the American Grand Bank Cod Fishery.—A. S. Packard, jun., the brain of the embryo and young locust.

Journal of the Franklin Institute, May.—On the ratio of expansion at maximum efficiency, by K. H. Thurston.—The Wootton locomotive engine, by J. S. Bell.—The efficiency of the Anthracite's engines, by C. R. Roelker.—Experiments in Mulhouse on a Corliss steam-engine, described by Chief-Engineer Isherwood.—Repairing a broken crank with wire-rope, by J. C. Kafer.—Concentration of low grade ores.

Annalen der Physik und Chemie, No. 5.—On transpiration of vapours (2nd part) by L. Meyer and O. Schumann.—On the specific heat of chlorine, bromine, and iodine gas, by K. Strecker.—On volume changes of some metals in fusing, by F. Nies and A. Winkelmann.—Thermochemical researches, by C. v. Than.—On the supposed heating of ice, by A. Wüllner.—On the double refraction of light in frictional liquids in motion, by A. Kundt.—New modification of light by reflection on narrow metallic gratings, by J. Fröhlich.—An apparatus for observation of Newton's rings, by L. Sohncke.—Magnetic researches, by E. Warburg.—On the variability of the capacity of condensers with a rigid insulator, by H. Herwig.—Derivation of the electrodynamic laws of induction, by N. Umow.—On the motion of an electric particle in a homogeneous magnetic field and the negative electrical glow, by E. Riecke.—Measurement of the force of terrestrial magnetism on a linear conductor capable of rotation, by the same.—An acoustical apparatus for lecture purposes, by H. Maschke.—Whether electricity, in changing insulating-plates, penetrates into their mass? by W. Holtz.—An old diving-bell, by G. Budde.

Journal de Physique, May.—Photometric studies, by A. Cornu.—Indices of refraction of water in surfusion, by B. C. Damien.—Optical properties of a plate of metal polarised by an electrical current, by G. Lippmann.—On the passivity of iron, by E. Bibart.—Mechanical inscription of Lissajous' figures, by A. Crova.

Archives des Sciences Physiques et Naturelles, No. 5, May 15.—Review of Marsh's work on the Odontornithes, by A. Humbert.—The chemical composition of albuminoid substances (continued), by Dr. Danilewsky.—*Compte rendu* of meetings of the Geneva Chemical Society, by M. Amè Pictet.

Rivista Scientifico-Industriale, No. 8, April 30.—The Gardini battery.—Velocity of sound in chlorine (continued), by S. Martini.—Geological note on the region of S. Vito (Marni) by G. Terrenzi.

Atti della R. Accademia dei Lincei, vol. v. fasc. 11.—On the properties of the urinary bladder, by A. Mosso.—On the physiological action of apatropine, by the same.—Crystallographic study of two chloroplatinates of Dr. Ciamician, by L. Valle.—Observations on the horizontal diameter of the sun in 1880, by L. Respighi.—New modifications of the process for extraction of arsenic, by F. Selmi.—New researches on the pathological base, and a saccharifying ferment of the urine of a scorbutic patient, by the same.