

dred dollars for the best Monograph on the Kite, giving a full theory of its mechanics and stability, with quantitative computations appended. Further information may be obtained from the Secretary, Mr. A. A. Merrill, P. O. Box 1197, Boston, Mass.

MR. ROBERT M. PIRS, 320 E. 14th street, New York, will, beginning with July, edit and publish a quarterly journal entitled *Journal of Communication*, devoted to linguistic, metric and numeric progress.

THE *Atlantic Monthly* for July contains an interesting article by Mr. John Fiske, entitled 'The Century's Progress in Science.'

MAJOR J. W. POWELL will be engaged during the summer on a scientific expedition to the coast of Maine, for the purpose of studying the shell mounds.

WE learn from *Nature* that a preliminary meeting has been held in Liverpool for the purpose of taking steps for the establishment in that city of a Zoological Garden on a scientific basis, and on the model of that in Regent's Park, London. On the motion of Prof. Herdman, seconded by Dr. Forbes, the following resolution was unanimously adopted: "That in the opinion of this meeting it is desirable, in the interests of science and education in this city, to establish Zoological Gardens, containing a collection of living animals, and that those present form a committee, with power to add to their number, for the purpose of advancing this object." The question of a site was considered, and it appeared that there was just now a favorable opportunity of securing land in a central position very suitable for the purpose. It was resolved that the following gentlemen be asked to form a sub-committee to inquire fully into the matter and prepare a report: Prof. Herdman, Dr. Forbes, Messrs. A. L. Jones, A. A. Paton, A. S. Hannay, W. H. Picton, W. E. Willink, F. J. Leslie and F. Radcliffe.

THE Macmillan Co. will issue shortly an Elementary Solid Geometry by Prof. Henry D. Thompson, of Princeton University.

THE Council from the London Mathematical Society has awarded the De Morgan Medal to Mr. Samuel Roberts.

IN a paper presented before the London Physical Society on June 12th Prof. S. P. Thompson stated that he had been unable to obtain true reflection of the Röntgen rays, though most bodies, including air, gave diffuse reflection.

LORD KELVIN calls our attention to the fact that in a letter to the *London Times*, subsequent to the one quoted in our issue of May 22d, he added the sentences: "The weight of a cubic mètre of water is a French ton. The cubic decimètre of waters weighs a kilogramme, the cubic centimètre, a gramme." These sentences may be added at the middle of the second line at the top of the second column of page 166 of the last volume of this JOURNAL.

THE *International Medical Magazine* for June contains articles on X-ray photography in its application to medicine by Prof. Arthur W. Goodspeed, Prof. W. W. Keane and Dr. Thomas G. Morton. The articles are illustrated by ten full-page plates showing the details of the skeleton in health and disease with remarkable clearness. In the photographs of the trunk and pelvis taken by Prof. Goodspeed, the cervical vertebræ, the articulations of the shoulder joint, etc., are shown with as great clearness as the bones of the hand in the earlier experiments.

THE bill permitting the use of horseless carriages on highways in Great Britain has passed the House of Lords, but it is feared that the pressure of business before the House of Commons will prevent the bill from becoming a law before the vacation. In the meanwhile several companies have been incorporated for the manufacture of horseless carriages, one with a capital of \$5,000,000.

UNIVERSITY AND EDUCATIONAL NEWS.

THE University of Vermont dedicated, on June 23d, two new buildings, Converse Hall, a dormitory presented to the University by John H. Converse at a cost of \$125,000, and a science building presented by Dr. Edward H. Williams which, with its equipment, will cost about \$200,000. The dormitory was formally presented to the University by Mr. Converse.

and the science building, in the absence of Dr. Williams, by his son, Prof. Edward H. Williams, jr., of Lehigh University. The latter building, designed by Messrs. Wilson Brothers, of Philadelphia, has a front of 175 ft. and a depth of 53 ft., with a wing in the rear 51×49 ft., and is built of brick and terra cotta on a basement of granite. On the front are three medallions with the heads of Agassiz, Henry and Prof. Marsh. The building contains ample accommodations for the departments of physics, chemistry, biology, electrical engineering and metallurgy.

THE Butterfield Museum of Dartmouth College has been completed, and the departments of geology, zoology and botany have been removed to the new building.

THE New York University is about to erect a building to be used as a geological museum and library. It is to be one story in height, of rubble stone and brick, and is expected to cost about \$50,000.

THE Johns Hopkins University conferred this year the degree of Bachelor of Arts on 37 candidates and the degree of Doctor of Philosophy on 31 candidates. The following candidates presented theses in the sciences coming more especially within the scope of this JOURNAL: A. D. Chambers, An Investigation of the Composition of Certain Oxides of Manganese; F. S. Hollis, On the two Chlorides of Nitro-orthosulphobenzoic acid; E. Mackay, A Contribution to the Study of Double Salts in Water Solution; R. M. McKenzie, Some Double Chlorides of Ferric and of Ferris Iron with some Aromatic Bases; M. D. Sohon, An Investigation of Some Derivatives of Orthosulphobenzoic Acid; E. F. Gallaudet, Relations between Length, Elasticity and Magnetization of Iron and Nickel Wires; B. M. Roszel, The Action of the Asteroids on Mars; H. A. Sayre, On the Generation of Surfaces by the Motion of Plane Curves; T. H. Taliaferro, The Congruensis formed by the Tangents to the Lines of Curvature of a Given Surface; G. O. Smith, The Geology of the Fox Islands, Me., A. C. Spencer, The Geology of Massanutten Mountain, Va.; H. M. Nower, The Embryology of the Termite; G. Lefevre, Budding in Perophora.

OF the twenty-one fellowships this year awarded at the Johns Hopkins University, we note the following: *Physics*, N. E. Dorsey, W. T. Mather, J. F. Mohler; *Chemistry*, W. E. Henderson, C. D. Ragland; *Biology*, H. L. Clark, D. S. Johnson; *Mathematics*, A. Pell; *Pathology*, E. P. Carter; *Geology*, G. B. Shattuch.

PROF. C. D. WOODS has been elected Director of the Maine State College, at Orono, in the place of Prof. W. H. Jordan, who has been elected Director of the New York Experiment Station, at Geneva.

THE following public lectures will be given in connection with the Harvard University summer school from July 3d to August 14th:

July 7, 'University Study of Education and Teaching,' Prof. Paul H. Hanus. July 9, 'The Fine Arts in Elementary Education,' Prof. C. E. Norton. July 14, 'The Teaching of the Modern Languages: Aims, Means and Methods,' Prof. Hugo K. Schilling. July 16, 'Rational vs. Empirical Geography,' Prof. Wm. M. Davis. July 21, 'Certain Peculiarities of Australasian Vegetation; Illustrated by Stereoptican Views,' Prof. Geo. L. Goodale. July 23, 'The Teaching of Physical Science: Aims, Means and Methods,' Mr. Joseph Y. Bergen. July 28, 'Military Drill in the Public Schools,' Dr. D. A. Sargent. July 31, 'Psychology and Relaxation,' Prof. Wm. James. August 4, 'The Teaching of English: Aims, Means and Methods,' Mr. Byron S. Hurlbut.

DISCUSSION AND CORRESPONDENCE.

THE FORM OF THE HEAD AS INFLUENCED BY GROWTH.

TO THE EDITOR OF SCIENCE: I was much interested in Dr. W. Z. Ripley's contribution on the question of the growth of the head which appeared in the issue of June 19th, of SCIENCE. The author's observation that the cephalic index of Americans decreases with increasing age is certainly correct, but I think the contrary observations of European investigators admit of an interpretation different from the one given by Dr. Ripley, who is inclined to believe that in long-headed races the index decreases with increasing age, while in short-headed races it increases with increasing age. The European material seems to me hardly adequate to form a far-reaching conclusion of this kind.