magazine. In *Good Words* Sir Robert Ball gives the second of a series of articles on "The Great Astronomers," the subject of his biographical sketch being Kepler. E. M. Caillard founds an excellent article on "Matter," and manages to impart clear and accurate notions on the universal properties of extension, inertia, unity, indestructibility and structure.

We note in *Chambers's Journal* "The Science of Colouring in Animals," "The Sargasso Sea," "Spiders and their Habits," and "The Identification of Habitual Criminals." Mr. A. Binet's "Mechanism of Thought," in the *Fortnightly*, is chiefly concerned with psychology and hypnotism. Honour is done to the late Prof. Robertson Smith by Mr. J. G. Frazer in the same magazine. Prof. Victor Horsley replies in the *Humanitarian* to the paper on vivisection contributed by Bishop Barry to the April number. The seventh of Mr. Phil Robinson's articles on "The Zoo Revisited," in the *English Illustrated*, deals with the animals in the "Small Cats' House." In the same magazine, Mr. W. B. Tegetmeier briefly describes the scope of his forthcoming book on horses, asses, and zebras. The May number of the *Nautical Magazine* contains an article in which Capt. Wilson Barker points to the study of "Natural History" (a term used to cover the ground of physiography) as a recreation for sailors.

In addition to the magazines mentioned in the foregoing, we have received the *Contemporary* and *National* reviews.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

CAMBRIDGE.—The Provost of King's, Mr. A. Austen Leigh, has been re-elected Vice-Chancellor for the ensuing year.

St. John's College has carried off both the Smith's prizes this year; the winners are Mr. S. S. Hough and Mr. H. C. Pocklington, third and bracketed fourth Wranglers respectively in 1892, and first class in Part II. of the Mathematical Tripos, 1893.

Candidates for the University Lectureship in Invertebrate Morphology, vacated by Prof. Hickson, are requested to send their names to the Vice-Chancellor by June 9. The stipend is £50 a year.

Prof. Foster has been re-appointed a Manager of the Balfour Studentship Fund for the ensuing five years.

Mr. J. J. Lister, of St. John's, is to occupy the University's table at the Plymouth Biological Laboratory this summer.

The first examination for Diplomas in Agricultural Science will be held on July 2. Candidates are to send their names and fees to the Registrary by June 13.

The next examination for Diplomas in Public Health will begin on October 2. The names of candidates, with their certificates, are to be sent to the Registrary by September 18.

Sir G. G. Stokes, Dr. Sandys, and Prof. Robinson, are to represent the University at the Bi-centenary Festival of the University of Halle, to be held next August.

The following Examiners have been nominated by the Special Board for Medicine:—In Medicine, Dr. W. H. Dickinson, Dr. J. K. Fowler, Dr. L. Humphry, Dr. J. F. Payne; in Midwifery, Dr. W. S. A. Griffith, Dr. J. Phillips; in Surgery, Mr. H. H. Clutton, Mr. F. Treves, Mr. H. Marsh, Mr. W. H. Bennett.

Mr. H. Woods, of St. John's College, has been appointed an Elector to the Harkness Scholarship in Geology and Palæontology.

SCIENTIFIC SERIALS.

American Meteorological Journal, May.—The principal article is "Meteorology and Geodesy," by Prof. C. Abbe. It contains tables showing the variations in the force of gravity over the North American continent and the Atlantic ocean and their effect on the mercurial barometer. The author points out that there is a local attraction of gravitation that is less over the continents than over the oceans, and probably, on the average, less in the northern than in the southern atmosphere; these differences must be allowed for, in combination with the effects due to the density of the atmosphere and to centrifugal force. The principal resistance to the motion of the atmosphere originates in the connective processes that force stagnant air to mix with air in motion; this convective friction is quite independent of viscosity, which has been generally introduced into the formulæ for atmospheric motion, and it is much more effective. The most important subject for the meteorologist to study is these convective mixtures and the resistances or accelerations that result therefrom. The author considers it unnecessary to take up the minute irregularities treated of in this paper, until after the study above referred to has explained the larger part of the irregularities of atmospheric motions. The same journal contains some very useful suggestions by Prof. Abbe, on the various meteorological problems that might be taken up by mathematical students.

Bulletin de la Société des Naturalistes de Moscou, 1893, Nos. 2 and 3.—On the copulation organs of the males of the genera *Crosica*, *Melecta*, *Pseudomelecta*, &c., by General O. Radoczkowsky (in French, with four plates).—Contribution to the pathologic evolution of the nervous system, by Mme. O. V. Leonova, being a description of a complicated case of total anencephaly in a human embryo.—A case of seeming hermaphroditism with *Perca fluviatilis*, by N. Iwanzoff.—The Tithonian deposits of Theodosia, Crimea, by O. Retowski (in German, with six plates). This elaborate monograph contains the description of sixty-five fossil species from those little-known beds—no less than thirty-one species and one genus being new.—Palæontological data for the vertical subdivision of the Sarmathian deposits of South Russia, by A. P. Ivanoff (in Russian, summed up in French). The following five zones are distinguished:—(1) Zone of *Cerithium mitrale*, *mediterraneum*, and *rubiginosum*; (2) *C. disjunctum* and *mitrale*; (3) *C. nodosoplicatum*, *disjunctum*, and *mitrale*; (4) *C. rubiginosum*, *nodosoplicatum*, *disjunctum*, *mitrale*, var. *bicostata*, and *nympha*; (5) *C. mitrale*, var. *bijuga*; and (6) *C. disjunctum*. The beds overlying the above are characterised by the absence of *Cerithes*, and the appearance, for the first time, of *Trochus podolicus*, and a great development of *Mactra ponderosa*. The uppermost layers of the series contain no *Trochus podolicus*, while other species of *Trochus* and *Turbo* appear in great numbers. —The birds of Moscow, by Th. Lorenz, continued.—Note on J. D. Chersky, with a complete list of his works, by A. Iwanowski.—On a new species, *Parus transcaspius*, by N. Zaroudnoi (in French).

Memoirs of the Kazan Society of Naturalists, vol. xxvi. Nos. 4, 5, and 6.—On the theory of the root-force in the plant, by Dr. Alexis Horvath. The manometric measurements of the author prove the existence of a rarefaction within the plant, and he therefore considers the vessel of a plant as a tube, in which we should have a succession of drops of a liquid, separated from each other by bulbs of air. The heating of the gas and its expansion acts in the tube as the piston of an aspirating pump.—On the consequences of the decapitation of the plant on some of its organs, by W. Rothert.—On the supply of water to Kazan, by Prof. Stscherbakoff.

SOCIETIES AND ACADEMIES.

LONDON.

Royal Society, April 19.—"On Variations observed in the Spectra of Carbon Electrodes, and on the Influence of one Substance on the Spectrum of Another." By W. N. Hartley, F.R.S.

Certain "lines" in Hartley and Adeney's spectrum of carbon are attributed to cyanogen in a recent paper by Eder and Valenta.[1] These lines are not produced by cyanides such as potassium cyanide or mercuric cyanide. Graphite electrodes immersed in solutions show beautiful groups of lines which coincide with the edges of certain bands in spectra of the flame of burning cyanogen. These bands can be recognised in the groups iii. and iv. on the spectra photographed by Kayser and Runge.

The origin of these coincident portions of spectra, namely, from the combustion of cyanogen and from carbon electrodes in saline solutions, taken in conjunction with the fact that they are not rendered by cyanides, makes it doubtful whether the cyanogen spectrum is not due to elementary carbon, as first advocated by Marshall Watts. There are other facts and circumstances which somewhat support this doubt. First, variations have been observed in the spectrum of carbon which cannot be easily accounted for. Secondly, the effect of one substance on

[1] "Line Spectrum of Elementary Carbon and the Ultra-violet Spark Spectrum of Wet and Dry Wood Charcoal" (Vienna: "Akad Wiss. Denkschriften," vol. 60, 1893).