Bicycle" by Messrs. T. G. Allen and W. L. Sachtleben, an article on "Coasting by Sorrento and Amalfi," and one on "The Highroad from Salerno to Sorrento," all of them being well illustrated.

In addition to the magazines named in the foregoing, we have received *Longman's*, containing "Polar Bear Shooting on the East Coast of Greenland," by Dr. Nansen, and "Chamois Hunting above the Snow Line," by Mr. Hugh E. M. Stutfield.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

CAMBRIDGE.—The following are the speeches delivered by the Public Orator, Dr. Sandys, Fellow and Tutor of St. John's, on June 27, in presenting Sir John Bennet Lawes, Bart., F.R.S., Sir Joseph Henry Gilbert, F.R.S., and Prof. Mendeléef, for the honorary degree of Doctor in Science:—

(1) Salutamus tandem par nobile collegarum qui de agrorum cultura, de pecudum alimentis variis, experimentis exquisitis una elaborandis annos quinquaginta, magnum profecto aetatis humanae spatium, dedicarunt. Tot annorum autem labores non modo chartae fideles in perpetuum custodient, sed etiam saxum ingens nomine utroque insculptum inter posteros testabitur. Ab ipso autem "monumentum aere perennius" erit exactum, experimentis tam utilibus, tam fructuosis, munificentia ipsius etiam in posterum continuatis. Auguramur, nec nos fallit augurium, in agri culturae annalibus talium virorum nomina fore immortalia.

Duco ad vos Baronettum insignem, Regiae societatis socium, virum doctoris titulo bis aliunde merito ornatum, IOANNEM BENNET LAWES.

(2) Quos tot annorum labores una coniunxerunt, eos in laudibus nostris hodie divellere vix possumus. Constat tamen labores illos viri huiusce scientiae admirabili et industriae indefessae plurimum debere. Constat eosdem eiusdem scriptis, eiusdem orationibus, non modo in patria nostra sed etiam peregre maximo cum fructu esse patefactos. Cum collega suo summa concordia coniunctus, Plinii verba iure optimo posset usurpare: "nobis erat nullum certamen, nulla contentio, cum uterque pari iugo non pro se, sed pro causa niteretur."

"Felices ter et amplius
quos irrupta tenet copula."

Duco ad vos Regiae societatis socium, virum ab ipsa Regina equitem propter merita nominatum, IOSEPHUM HENRICUM GILBERT.

(3) In scientia chemica investiganda diu inter peritos quaerebatur, quaenam ratio interesset inter atomorum pondera e quibus rerum elementa constarent et vires eas, sive chemicas sive physicas, quae elementis ipsis velut propriae inhaererent. Qua in ratione penitus perscrutanda atque ad certam quandam legem redigenda nemo plura perfecisse existimatur quam vir illustris qui Siberia in remota natus, et undecim abhinc annos a societate Regia Londinensi numismate aureo donatus, hodie nostra corona qualicumque decoratur. Magnum profecto est inter tot elementa rationem certis intervallis velut circuitu quodam recurrentem observasse, eque rerum notarum observatione etiam ignota providisse. Viri huiusce ingenio etiam elementa prius inaudita mentis divinatione singulari praedicta sunt posteaque in ipsa rerum natura reperta. Quae elementa, trium gentium insignium nominibus Gallium, Scandium, Germanium nuncupata, nomen ipsius illustrius reddiderunt et Russorum famam, quantum ad ipsum attinet, feliciter auxerunt. Ergo virum de scientia chemica tam diu tamque praeclare meritum, totque titulis aliunde ornatum, hodie etiam nostrorum

"turba Quiritium
certat tergeminis tollere honoribus."

Newtoni certe in Academia honos ei praesertim debetur, qui etiam in scientia chemica Newtoni in vestigiis tam fideliter insistit, ut alumni nostri "qui genus humanum ingenio superavit" imaginem intuens, Lucreti verba paululum mutata possit usurpare:—

"te sequor, o Grantae magnum decus, inque tuis nunc
ficta pedum pono pressis vestigia signis."

Duco ad vos scientiae chemicae professorem Petroburgensem, DEMETRIUM IVANOVITCH MENDELEEF.

SCIENTIFIC SERIALS.

American Journal of Science, June.—Notes from the Bermudas, by Alexander Agassiz. The story of their present condition is practically that of the Bahamas, with the exception that at the Bermudas we have an epitome, as it were, of the physical changes undergone by the Bahamas. The development of the true reef builders, of the massive corals, is insignificant. Subsidence has brought about the existing outlines of the islands, but there is no evidence to show that the original annular coral reef was formed during subsidence. That reef has disappeared, and nothing is left of it except the remnants of the æolian ledges extending to sixteen or seventeen fathoms outside the reef ledge flats, ledges which owe their existence to the material derived from it: the former æolian hills of the proto-bermudian land.—Discovery of Devonian rocks in California, by J. S. Diller and Charles Schuchert. During the field seasons of 1884 and 1893, the U.S. Geological Survey acquired six lots of Devonian fossils, comprising about thirty species, mostly corals. They demonstrate the undoubted presence of middle Devonian deposits in California, where rocks of this age have long been looked for by geologists, more particularly since the recent discovery of Silurian fossils.—New method of determining the relative affinities of certain acids, by M. Carey Lea. This method is based on the principle that the affinity of any acid is proportional to the amount of base which it can retain in the presence of a strong acid selected as a standard of comparison for all acids. When to free sulphuric acid a salt is added in sufficient quantity to cause the whole of the sulphuric acid to saturate itself with the salt base, it is possible by means of the herapathite test to determine the exact point of such saturation. From this we can deduce the exact nature of the resulting equilibrium. A series of equilibria thus obtained with different salts enables us to determine the comparative strength of the affinities of the acids of these salts. The fact that even small quantities of weak acids added to sulphates will set free a certain quantity of sulphuric acid, can be rendered visible to the eye by a well-marked chemical reaction.—A recent analysis of Pele's Hair and a stalagmite from the lava caves of Kilauea, by A. H. Phillips. The stalagmite is of the kind characteristic of the lava caverns of Kilauea, differing very slightly from Pele's Hair in constitution, but widely from ordinary stalagmites formed by undoubted solution. They are suggestive of fused drops, which falling one on the other are at the time sufficiently plastic to be quite firmly welded together and congealed in a slightly drooping position.

Bulletin of the New York Mathematical Society, vol. iii. No. 8, May 1894. (New York: Macmillan.)—"Utility of quaternions in physics" is an analysis by Prof. A. S. Hathaway of A. McAulay's essay, which is well known to our readers (see NATURE, December 28, 1893, amongst other references). The reviewer considers it to be "of undoubted scientific value, and the work of a man of genuine power and originality," and that it will go far towards accomplishing the author's purpose of arousing serious interest in quaternion analysis.—Prof. Eneström, in a note upon the history of the rules of convergence in the eighteenth century, calls attention to two other mathematicians, in addition to those named in a notice by Prof. Cajori, in vol. ii. pp. 1–10, viz. Maclaurin and Stirling: for the former he claims "a signal place in the history of these rules."—Prof. F. Franklin concisely abstracts Dr. Franz Meyer's "Bericht über den gegenwärtigen Stand der Invariententheorie," a work which gives a remarkably full abstract of researches in the domain of algebraic forms and Invariants.—Cajori's "History of Mathematics" (pp. 190–197) is a work which Prof. D. E. Smith submits to a searching examination, the commencement of which is a severe condemnation of great part of the book, founded on a side by side comparision of Cajori's statements with those of previous writers on the subject, which he is alleged to have copied without giving due credit to the authors cited. He states the book to be weak in bibliography, and carelessly written. Its merits are that it tells the general story of the growth of mathematics in a popular way, is well printed and "altogether an attractive piece of book-making." Not having seen the work we cannot say if this witness is true, but he certainly adduces evidence which it will be hard to rebut.—"Gravitation and absolute units of force" is an abstract of a paper read before the New York Mathematical Society by Prof. W. Woolsey Johnson. Prof. Greenhill's views are