

erobes. This Dr. Hayden refused to do unless he received £300 compensation, and the government has, consequently, seized and destroyed them.

THE following extraordinary statement has been given to the press: "Mrs. Mary Baker Eddy, discoverer and founder of Christian Science, has just completed the examination of a class of about seventy of the active workers in Christian Science mind healing to confer upon them the degrees of the Massachusetts Metaphysical College as healers and teachers of this system of medicine, whose only crowned head is divine sovereignty, whose only priest is spiritualized man."

AT the funeral of the late John W. Keely his work was eulogized and the plans of the Keely Motor Company promoted by four clergymen of the Methodist Episcopal Church. Rev. W. C. Best, D.D., said: "The wave of sorrow caused by Mr. Keely's death came to all lands and reached all shores. Thousands of investigators and scientists, though not visibly present, are gathered in spirit around his casket." Rev. W. J. Colville said: "When that mighty force shall cause suffering and poverty to cease on earth, then will statues be reared to Keely and he will be looked upon as one of the greatest men, not only of America, but of the world."

WE learn from *Electricity* that Messrs. Irving E. Burdick and Francis G. Hall, of the electrical engineering department of Yale University, have designed a submarine arc lamp of from 1,000 to 2,000 candle-power. The lamp is absolutely water-tight, with an inner and outer globe, the upper part of the outer globe being hermetically sealed to the metal cylinder containing the feeding mechanism by means of rubber gaskets and rings. The feeding mechanism in this lamp differs from that of the ordinary arc lamp in that it is enclosed in a cylinder both water- and air-tight. From the top of the cylinder, through a carefully-packed aperture, issue the two insulated wires, which, for convenience, are bound together into a cable. The lower portion of the lamp is protected by an eight-wire guard. Tests of the lamp at the depth of twenty-five feet are said to have been very satisfactory.

THE botanical expedition to the La Plata and San Juan Mountains, of Colorado, says the *Botanical Gazette*, was in the field four weeks last summer, the time being unexpectedly shortened. During that time the three collectors, Professor F. S. Earle, C. F. Baker and S. M. Tracy, secured about 25,000 specimens. Eighteen uniform sets (all sold in advance) will be distributed shortly, besides which there will be a number of partial sets (a few yet remaining unsold). It is believed that the series is more than usually valuable, both on account of the biological importance of the region and from the care exercised to secure all available forms and variations. There are also a number of new species, and quite a number of rare ones, including *Ranunculus Macauleyi* in flower and fruit, *Astragalus Wingatensis*, *Cerastium arvense*, *Fuegianum*, *Fendlera rupicola* and others. The sets will form the basis for a report upon the season's work to be issued with the aid of Dr. E. L. Greene.

UNIVERSITY AND EDUCATIONAL NEWS.

THE late Edward Austin, of Boston, has given by his will \$1,100,000 for public purposes; \$500,000 is left to Harvard University, \$400,000 to the Massachusetts Institute of Technology, \$30,000 to Radcliffe College, \$30,000 to Roanoke College, and \$30,000 to the Tuskegee Normal and Industrial School. The income from these large bequests is to be used for scholarships. The sum of \$10,000 is also given to the bacteriological laboratory of the Harvard Medical School.

MR. J. N. TATE, of Bombay, has guaranteed 1,250,000 Rs per annum for advanced education in India, mainly for post-graduate study and scientific research. *The Indian Textile Journal* says: "The examples of other countries, and especially of America, have offered every encouragement;" and it is further remarked: "The systematic instruction of teachers of handicraft on an adequate scale in India has yet to be begun."

It is proposed that the bequest to Cambridge University of £10,000 by Mr. Allen, the income to be applied for a scholarship, should form the endowment of a student to be called the Allen Student, whose duty it shall be to devote him-

self to literary or scientific research. It will be awarded in alternate years in the sciences and humanities and is of the value of £250.

THE family of the late Dr. John Hopkinson, in addition to their gift of £5,000 towards the engineering laboratory at Cambridge, have given £1,600 to Owens College, Manchester, where Dr. Hopkinson was a student. The money is to be used for building a dynamo house connected with the new physical laboratory.

THE Twelfth Annual Convention of the Association of Colleges and Preparatory Schools of the Middle States and Maryland was held on Friday and Saturday at Columbia University, New York. The subjects chosen for discussion were the teaching of history and of civics in the secondary schools and the requirements for admission in engineering colleges. The discussion of the last-mentioned topic was opened by Professor R. H. Thurston, of Cornell University, who was followed by President T. M. Drown, of Lehigh University, Professor W. H. Spangler, of the University of Pennsylvania, and Professor D. G. Carhart, of the Western University of Pennsylvania. The discussion of the subject was continued by Secretary Dewey, of the Regents' Office; President Warfield, of Lafayette College; Chancellor Holland, of the Western University of Pennsylvania; Chancellor McCracken, of New York University, and President Low, of Columbia University.

THE number of students enrolled in the departments of the University of California at Berkeley is 1,565, over 150 more than at the corresponding time last year. The graduate department has an enrollment of 149 students.

THE number of undergraduate students at Oxford for the present term is 3,412, four more than last year. The number of matriculations was twenty-one greater than last year, but the B. A. was conferred on only 554 students as compared with 580 in 1897. The number of resident members of congregation is 461.

THE number of resident members of Cambridge University, both graduates and undergraduates, is this term 3,524, a decrease of twenty-one as compared with last year. The stationary condition of the two great universi-

ties, when compared with the rapid growth of the American and German universities is doubtless in a measure due to the establishment of provincial universities, but it may also in part be attributed to the fact that the educational systems of Oxford and Cambridge do not fully meet modern requirements.

THE *Journal of Education*, London, gives in its last issue some account of the extension of commercial education abroad. For some time already an annual Congress has been held of the directors of commercial schools in the Imperial Higher Commercial School at Tokio. At that held in May last, representing seventeen cities, the draft of a statute regarding industrial, commercial and agricultural education was submitted by the responsible Minister for discussion; and, in an extraordinary session of the Diet, a bill has this year been passed which allocates 119 million yens (about \$60,000,000) to the subsidizing of the intermediate commercial schools throughout the Empire. Signor Ferdinando Bocconi has placed at the disposal of the Milan Polytechnic a sum of 400,000 lire (\$80,000) for the establishment of an 'Istituto superiore di commercio,' or Commercial University, which shall have a local habitation annexed to the Polytechnic. Its aim shall be to train traders of the first rank, in view of a diploma granted for knowledge of the economic conditions and languages of the most important countries, of chemistry, commodities, commercial geography, commercial, industrial and maritime law, customs and railway legislation, banking, insurance and business methods. A project is also in hand for the establishment of a Commercial University at Moscow. It is expected that a Council will be appointed and regulations framed before the end of the present year.

OWING to the resignations, during the summer, of Dr. Henry P. Quincy and of Dr. Elisha H. Gregory, Jr., the department of histology and embryology at the Harvard Medical School, under Professor Minot, has been reorganized. Dr. Schaper remains as the demonstrator, and the following corps of assistants have been formed, the names being arranged in the order of seniority. Dr. John L. Ames, Dr. Frederick

A. Woods, Dr. Roger T. Atkinson and Dr. F. R. Stubbs. Dr. Quincy was connected with the department from its inception to the present time, and its rapid development has depended very much upon his zeal and devotion. This loss will be long regretted.

MR. F. G. HOPKINS, late demonstrator of physiology at Guy's Hospital, has been appointed to the new university lectureship in chemical physiology at Cambridge University.

DISCUSSION AND CORRESPONDENCE.

SHALL THE INTERNATIONAL EQUIVALENT OF 'ANLAGE' BE PRIMORDIUM OR PROTON?

TO THE EDITOR OF SCIENCE: In *Nature*, for August 25, 1898, p. 390, appeared a communication from Arthur Willey entitled 'What is Anlage?' He well remarks:

"To be obliged, on every occasion, to write 'Anlage' in inverted commas is a standing testimony to the deficiency of our scientific nomenclature and a constant offence to our æsthetic susceptibilities."*

After pointing out the more or less obvious objections to *forecast*, *fundament* and *rudiment*, he concludes:

"The word that commends itself to me as being at once accurate and well-sounding is *primordium*, and I trust some of your readers will criticise it whether favorably or unfavorably."

I have hesitated to respond to the foregoing cordial invitation because the alternative term in the title of this note was first, in recent times, at least, proposed by me. Nearly six years ago, in an article on the Brain ('Reference Handbook of the Medical Sciences,' IX., p. 104, note), *proton* was employed to 'designate the primitive, undifferentiated mass or rudiment of a part.' It was also introduced in my review of two works on Human Embryology (*The Nation*, LVI., No. 1454, p. 350):

"One author translates *Anlage* *fundament*. The other adopts it as an English word, regardless of its multifarious and incongruous senses, the confusion that attends its pronunciation and spelling, and the improbability of its acceptance by French embryologists. Neither seems to have thought of reverting to Aristotle, whose

phrases, τὸ πρῶτον; ἡ πρώτη ὕλη; ἡ πρώτη αἰτία, suggest the short word *proton*, already familiar in numerous compounds, and eligible for adoption into any modern language."

Proton was also referred to in my 'Neural Terms International and National' (*Jour. Comp. Neurology*, VI., 289, December, 1896); and in 'Some Neural Terms,' 'Biological Lectures' [Marine Biological Laboratory], 1896-1897, p. 158. It has been employed by S. H. Gage, address as President of the American Microscopical Society, 1895 (*SCIENCE*, August 23d, p. 211); by Mrs. S. P. Gage, 'Comparative Morphology of the Brain of the Soft-shelled Turtle and the English Sparrow' (*Proc. Amer. Micros. Soc.*, 1895, p. 228); by B. B. Stroud, 'The Development of the Cerebellum in Man and the Cat,' *Jour. Comp. Neurology*, V., July, 1895, p. 88; by Joseph Collins, Translation of Jakob's 'An Atlas of the Normal and Pathological Nervous Systems,' 1896, p. vii.; by C. J. Herrick, *Jour. Comp. Neurology*, IV., p. 6, April, 1894; by A. Meyer, *idem*, VIII., p. liv.; and, with editorial commendation, in the *Philadelphia Medical Journal*, May 7, 1898, p. 798. It is defined in Gould's 'Medical Dictionary.'

These uses of *proton* were evidently unknown to Mr. Willey; doubtless he was likewise unaware that the very question propounded in the title of his note had been considered in the article, 'Inquiries Regarding Current Tendencies in Neurological Nomenclature,' by C. L. and C. J. Herrick, in the *Journal of Comparative Neurology*, VII., 162-168, March, 1898. In a circular dated December, 1896, which was 'mailed to about one hundred and fifty of the leading neurologists and anatomists of the world,' was included the following item:

"Kindly underscore your preference among the following, making any comments or additions which may seem best to you: (a) *Proton*, *fundament*, *rudiment*, for the German *Anlage*."

To this query were received forty-two replies, tabulated on p. 166: *Beginning*, *origin* and *foundation* had each one American advocate; *fundament*, six (three American and three European); *rudiment*, nine (five and four); the retention of *Anlage* was favored by eleven (eight and three); but *proton* was preferred by thirteen (seven American and six European).

Had the above facts been known to Mr. Willey he would, of course, have included *proton* among the possible equivalents for *Anlage*. Were *proton* not available *primordium* would be acceptable to me. I venture to express the

*The needless adoption of German words into English had already been vigorously reprobated by Schäfer. *Nature*, August 13 1896; p. 341.