

garded as of special interest. He said that while continental laboratories were supported by the State, in England they received practically no government support, and very little from the community, usually depending on the generosity of single individuals. As a result they were undermanned, and a large amount of public health work from which the community would profit remained undone. Each municipality should endow a laboratory, in which, besides original research, work required by the medical officer of health and the sanitary authorities could be done. The scheme he submitted presented very few difficulties. In the discussion that followed Prof. Haycraft mentioned that a commencement had already been made in South Wales. Dr. Hope thought it might soon be in operation in Liverpool, and Prof. Delepine described the arrangements already in existence in Manchester.

A PRIZE of £50, to be called the *Welby Prize*, is offered for the best treatise upon the following subject: The causes of the present obscurity and confusion in psychological and philosophical terminology, and the directions in which we may hope for an efficient practical remedy. Competition is open to those who, previously to October 1, 1896, have passed the examinations qualifying for a degree at some European or American university. The donor of the prize desires that general regard be had to the classification of the various modes in which a word or other sign may be said to possess 'meaning,' and to corresponding differences in the conveyance or interpretation of 'meaning.' The Committee of Award will consider the practical utility of the work submitted to them as of primary importance. The essays, which may be written in English, French or German, must be typewritten and extend at least to 25,000 words. They should be headed by a motto and accompanied by a sealed envelope containing the name of the writer. Manuscript from America should be sent to Prof. E. B. Titchener, Cornell University, Ithaca, N. Y., and must reach him not later than October 1, 1897. Other members of the committee are Prof. James Sully, London; Mr. G. F. Stout, Aberdeen, and Prof. O. Külpe, Würzburg.

UNIVERSITY AND EDUCATIONAL NEWS.

A DESPATCH from San Francisco says that the University of California is to be made richer by \$4,000,000 by donations from various persons, chief among whom is Mrs. Phoebe Hearst, widow of Senator Hearst, of California. This amount is not to be given all at one time, but will be paid as soon as the State is prepared to make proper use of the money. The State must spend \$500,000 on buildings, and when this is done the gifts will be paid. These facts became known at the meeting of the Board of Regents of the University when Mrs. Hearst sent a note to the board donating \$15,000 to be used in securing plans for new buildings. Mrs. Hearst stated that she would erect two buildings at her own expense, one of which would be a memorial to her late husband. The names of others who will give funds are withheld.

FROM notices in the daily papers it appears that the registration at several universities is as follows: Yale, 2,515, an increase of 100 over last year; Columbia, 1,760, an increase of 130; Cornell, 1,720, an increase of 109; Chicago, 1,126, an increase of 17; Massachusetts Institute of Technology, 1,184, an increase of 12.

THE corner stone of Brinckerhoff Hall and Millbank Hall, of Barnard College, were laid on October 24th. The corner stone of Brinckerhoff Hall was laid by the Dean of the College, representing Mrs. Van Wyck Brinckerhoff, and the corner stone of Millbank Hall was laid by Miss Eleanor Millbank Anderson. Addresses were made by President Low, of Columbia University; by Mr. Silas B. Brownell and by Bishop Potter.

THE corner stone of the Hall of History of the American University, at Washington, was laid on October 21st. An address was made by Bishop John F. Hurst, Chancellor, and by other prominent leaders in the Methodist Church. The building is to be built of white marble in Ionic style, and is the first of the six buildings that have been planned.

THE board of directors of the Catholic University at Washington have chosen as nominees for the office of rector of the University, Rev. Father T. J. Conaty, rector of the Sacred Heart parish of Worcester, Mass.; Rev. Father Dan-

iel Riordan, pastor of St. Elizabeth's parish, Chicago, and Rev. Father Joseph F. Mooney, vicar-general of the diocese of New York, and from these the Pope will select the rector, who will probably be the first recommendation of the board. The board of directors decided that the term of rector should be limited to six years.

THE will of the late P. B. O'Brien, of New Orleans who died a few days ago, leaves \$150,000 to the Catholic University at Washington to endow three chairs.

DISCUSSION AND CORRESPONDENCE.

HALSTED ON THE STRAIGHT.

HAVING returned from Russia so recently as not yet to be abreast of our current scientific literature, it is to the courtesy of the editor of SCIENCE that I owe my knowledge of the appearance in that journal of an important note by Prof. Fiske, headed 'The Straight Line as a Minimum Length.'

This note is right in maintaining that for the comparison of non-congruent lines, *e. g.*, the straight and circle, an assumption in addition to those of Euclid is essential. The strange thing about it is that in stating what Prof. Halsted 'appears to believe,' Prof. Fiske credits me with ignorance of the very principle which I of all the geometers have set forth most strenuously. To attract particular attention to it, I, in my *Elementary Synthetic Geometry* put it in the following somewhat bizarre form:

"In accordance with our definition of equivalent magnitudes, as such as can be cut into pieces congruent in pairs, no arc can be equivalent to a sect [piece of a straight]."

For the sake of comparison we make the following assumptions:

1. No arc is less than its chord.
2. No minor arc is greater than the sum of two tangents from the same point to its extremities.

By these paradoxal assumptions we attribute length to the curve, and can, *e. g.*, evaluate the circle in terms of its diameter to any desired degree of approximation."

GEORGE BRUCE HALSTED.

THE CURVE-TRACING TOP.

EDITOR OF SCIENCE: In your issue of October 9th, Mr. Warring refers to the very interesting and instructive article by Prof. Barus on the curve-tracing top or 'gyrograph,' which article appeared in SCIENCE on September 25, 1896. Mr. Warring suggests as an improvement in the apparatus that, instead of a lead pencil and paper arrangement, a smoked glass be used, the plate to be afterwards flowed with thin varnish. I would suggest, as a further modification, a very simple process which I have found of great convenience and service in a number of self-registering and tracing devices. Long ago I discarded the use of smoked glass in favor of glass plates coated with a thin layer of printer's ink. The ink can be applied with an ordinary hand-press roller, and can be distributed with almost perfect uniformity. The plate so prepared should receive the tracing while the ink is wet; then by exposure to the air the ink dries and the record is comparatively permanent. Such a plate may be used as an ordinary photographic negative in making blue prints or silver paper copies.

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GEOLOGY IN THE COLLEGES OF THE UNITED STATES.

In the discussion and correspondence of October 2d, Mr. F. W. Simonds, of the University of Texas, discusses Prof. T. C. Hopkins' report on this subject. It seems to me that Prof. Simonds treats altogether too severely those smaller colleges which still give courses in his judgment inadequate. It is scant justice to class all those who do not furnish contributions to geological literature as amateurs. It does not follow that a teacher who is occupied with details of administration to the exclusion of authorship is not quite as good a teacher as another who may contribute many papers.

The contention that geology is a subject of as great disciplinary value as the other sciences no one will dispute.

The situation in the smaller colleges is something like this: Many of them are unable to develop all lines of scientific work in a disci-