

*UNIVERSITY AND EDUCATIONAL NEWS*

THE committee on education of the House of Representatives has reported favorably a bill establishing a National University in Washington. According to the bill an initial appropriation of \$500,000 would be made. The university would be devoted to research and graduate work and no degrees would be conferred.

IN its annual report to the board of education of New York City, Superintendent Maxwell urges the need of appropriating ten million dollars for elementary school buildings in order that all children may be accommodated. There is also said to be immediate need of buildings for high schools and for vocational schools.

ESTIMATES for 1915 appropriations for the Massachusetts College and Station have been submitted for \$313,300 for maintenance and additional appropriations as follows: Microbiology laboratory, \$67,500; for the completion of the agricultural building, \$122,500; new dormitory, \$40,000; enlargement of the power plant, \$30,000, and minor improvements, \$10,000.

IN view of the difficulties of foreign travel no fellows will be appointed by the Kahn Foundation for the year 1915-16.

DR. HORACE GROVE DEMING, for the past three years associate professor of chemistry in the Philippine College of Agriculture, has been appointed professor of chemistry and chief of the department in the University of the Philippines, filling the vacancy occasioned by the death of Dr. Paul Caspar Freer.

DR. ANDREW HUNTER, formerly assistant professor of biochemistry in Cornell University, has resigned the position of biochemist, U. S. Public Health Service, in order to accept the chair of pathological chemistry in the University of Toronto.

*DISCUSSION AND CORRESPONDENCE**THE HISTORY OF SCIENCE*

TO THE EDITOR OF SCIENCE: I desire to express my hearty commendation of Dr. Libby's

paper in the "History of Science," published in SCIENCE for November 6, 1914. His paper is one of the pioneers in this new and interesting field of thought, and the expression of such ideas needs further encouragement.

It is apparent that the time is fairly well upon us to give some definite consideration to the value and place of the study of the "History of Science," in the curricula of our universities, colleges and technical schools.

That this study represents a strong reactionary movement from the over-materialistic and specializing tendencies of the age in all departments of human progress is evident, and this is especially true in the sciences themselves. This reaction finds its development in the present idealism in the German school of science, where the historical method in the study of the sciences, theoretical and empirical, has been practised.

Two other notable and interesting papers in the past have contributed valuable suggestions, emphasizing two essential pedagogic points of view. The first treated the cultural or intellectual values derived from the intimate understanding of the problems of nature through the scientific method, and the second the historical perspective in the study of the sciences. Dr. Geo. H. Mead,<sup>1</sup> of the department of philosophy, lays special emphasis upon the cultural aspect in the history of science. In the last paragraph of his article he says:

There is certainly no agent that can carry more profound culture than the sciences, but our science curriculum is poor in what may be called cultural courses in the sciences, and the import of science for culture has been slightly recognized and parsimoniously fostered.

The value and importance of history as a subject, and as a method, in the ordinary culture courses can not be denied; therefore the study of nature or science with the historical basis is equivalent to a power twice as great. And when education as an instrument of progress emphasizes the cultural element, education then becomes a potent force in making and maintaining the civilization of the future.

<sup>1</sup> SCIENCE, N. S., Vol. XXIV., September, 1906, pages 390-97.

The second paper, by Professor C. R. Mann,<sup>2</sup> of the education department in the University of Chicago, advances the historical method in the teaching of science, and the fruitful consequences to be brought about.

Some few years ago the writer undertook a study similar to that of Dr. Libby regarding the value of the history of science for the undergraduates of our colleges, and the replies which came from many prominent men in science, education and philosophy were most encouraging. These letters brought forth a universal affirmative reply regarding the value, importance and the future of the subject, and in general substantiated the arguments of the three papers named. To quote from a letter of Dr. Libby, in which he quotes from some one in authority, "the history of science is the very next essential thing in the development of technical education." Possibly the progress has been slow because there exists no satisfactory text-book on the subject in this country. Professor Tyler and Professor Sedgwick,<sup>3</sup> of the Massachusetts Institute of Technology, throw a much needed and encouraging ray of light to workers in this field.

In this country at the present time a number of our universities, colleges and technical schools are offering history of science courses in one way or another. Foremost of these are the universities of Chicago, Harvard, Michigan, Columbia, California, Stanford and the Massachusetts Institute of Technology. There are apparently two types of courses in the history of science, or two methods in treating the subject, namely, the history of a single subject such as physics, chemistry, etc., which is found in most schools; the second type is represented by the course given at Harvard. This is a general or combined course, three hours through the year being divided into physical and biological sciences. This is also conducted as a separate group of studies, thereby giving it more value or importance, and has now been offered for four years by

<sup>2</sup> "The History of Science, An Interpretation." *Popular Science Monthly*, Vol. 72, April, 1908, pages 313-22.

<sup>3</sup> "The Teaching of the History of Science," *SCIENCE*, January 1, 1915, pages 26-27.

Dr. L. J. Henderson, of the chemistry department. Personally, I believe it is the most satisfactory method in treating such a study as a course, although it depends upon the point of view one takes.

The University of Chicago offers in addition to its separate historical courses of individual sciences, a series of courses in the department of philosophy on the history and development of ancient and modern scientific concepts, which is apparently closely allied to the history of science.

The writer is at present preparing a paper upon the "Present Status of the Teaching of the History of Science in Our Universities, Colleges and Technical Schools." This study will involve a statistical account and comparison of the different courses given in the history of science, the number of hours of lectures, method of treating the course, and other facts bearing upon the tendencies and progress of this subject.

It is encouraging to note that while the bibliographical material upon this subject is very meager, in this country at least, yet sufficient has been accomplished to enable a fair beginning to be made for a working basis. The John Crerar Library, Chicago, has done more than any other agency in developing this important phase. Of course there are a number of foreign bibliographies or catalogues, such as *The International Catalogue of Scientific Literature*, London, *Institute International de Bibliographie* (science section), Zurich, *Bibliographie der Deutschen Naturwissenschaftlichen Literatur*, Berlin, and the *Bibliotheca Mathematica, Zeitschrift für Geschichte der Mathematischen Wissenschaften*, Leipzig.

In France the Paris Academy of Sciences offers each year a prize of two thousand francs for the best essay, memoir or book, original or translated, upon a general or specific subject in the history of science. The most notable instance was when in 1911 the Prix Binoux was awarded to M. Antonio Favaro, the great Italian historian of science, for the publication of the works of Galileo Galilee, and to M. Edmond Bonnett for his "Notes and Memoirs Relative to the History of the Sciences."

It is to Germany, however, that the most credit belongs for the development and the work in this field. The number of very excellent texts and treatises in the history of science in Germany is far beyond the production in any other country. German scholarship is here again manifested in both quantity and quality, and Der Deutschen Gesellschaft für Geschichte der Medizin und Naturwissenschaften, organized in 1902, Leipzig, is probably the only organization devoted to the study and fostering of the history of science. The *Mitteilungen* contain a most complete and valuable bibliographical record of articles, memoirs and books in print, also containing originals and translations of historical treatises in science.

Two other publications worthy of notice at this time are the *Archiv für die Geschichte der Naturwissenschaften und der Technik*, Leipzig; and *Isis, Revue Consacrée à l'Histoire de la Science*, published in Belgium (or was published).

In closing, it would seem that in order to lend encouragement and force to aid this new field of investigation great good ought to come from an organization of a section in the American Association for the Advancement of Science, known as the History of Science section.

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#### SCIENTIFIC BOOKS

*The Home of the Blizzard, being the Story of the Australian Antarctic Expedition, 1911-1914.* SIR DOUGLAS MAWSON, D.Sc., B.E. J. B. Lippincott Co. Illustrated, also with maps. \$9.00 net.

It was thought by many that the acme of antarctic interest had culminated in the record-breaking sled journeys of Shackleton, the attainment of the Pole by Amundsen, and especially in the pathetic tragedy of Scott's latest expedition. It is encouraging to find in the records of Mawson's non-pole hunting explorations novel lines of human endurance, of tragic disaster, and of historical reversion,

combined with scientific researches of value to the world. These physical and moral results exacted from the explorers not only the fullest effort of body and mind, but they also obliged the chief, returning as by miracle from death, to face a deficit of nearly \$40,000 to pay for his privilege of polar service.

Mawson's expedition, which had the financial support of the Australasian governments, looked to the exploration of antarctic lands in the Australian quadrant—from 90° E. to 180° E.—and their occupancy for scientific observation and research. An intermediate station, wireless equipped and weather observing, was established on Macquarie Island, 850 miles south-southeast of Hobart. Circumstances restricted the parties for the continent of Antarctica to two—the main base at Commonwealth Bay, 67° S., 143° E. occupied by Mawson and 17 men, and the west base on the Shackleton Oceanic Icecap, 66.7° S., 97° E., established by Dr. Frank Wild and 7 men, in January, 1912.

Scientific work was carried out along the principal lines of geographic exploration, geology, biology, meteorology, glaciology, oceanography and magnetism.

*Geographic Exploration.*—From Mawson's base journeys aggregating 2,400 miles were made, in which King George V. Land was discovered and explored between 138° and 152° E., and from 67° to 70° 30' S. In one journey a névé bridge broke and Lt. Ninnis with team and sledge were fatally precipitated into a crevasse hundreds of feet deep, where they disappeared from sight. Mawson and Dr. Mertz were thus stranded over 300 miles from the station, with 6 wretched dogs and food for a week. Manfully accepting the situation, they struggled amid blizzards over frightfully rough ice, killing and eating their dogs as they failed to work. Mertz died of exhaustion 100 miles from home, towards which Mawson struggled in the last stages of bodily weakness, escaping as by miracle through an indomitable will, physical endurance and the finding of a chance cache set up by a search party. From the western base Wild's party discovered and explored Queen