

the training of those who desire to fit themselves for careers in public-health work in its various branches. The most urgent need at the present time is provision for the training of prospective health officials and for supplementary and advanced courses for those already engaged in public health service. Satisfactory completion of work in the school will be suitably recognized by the bestowal of certificates and degrees.

It is anticipated that mutually helpful relations will be established with municipal and state departments of health and the federal public health service, whereby opportunities will be afforded for field work and other practical experience in various departments of public health work. Especially advantageous will be the relations with the International Health Board of the Rockefeller Foundation, which is engaged in the study and control, not only of hookworm, but also of malaria, yellow-fever and other tropical diseases in various parts of the world.

The influence and usefulness of the school of hygiene and public health will be extended toward education of the public by exhibits, lectures and other means in a better appreciation and understanding of the importance and needs of public and personal hygiene, in co-operative efforts for the training of public health nurses, and in other directions.

The benefits to be expected from the establishment of such a school as that contemplated will not be measured solely by the number of students trained within its walls. A far-reaching influence should be exerted upon the advancement of the science and the improvement of the practise of public health, in establishing higher standards and better methods of professional education in this field, in stimulating the foundation of similar institutions in other parts of the country, in supplying teachers, and in cooperating with boards of health and other medical schools.

ENGINEERING EXPERIMENT STATIONS IN THE STATE COLLEGES

In the Senate of the United States on March 9, 1916, Mr. Newlands introduced the follow-

ing bill, which was read twice and referred to the Committee on Agriculture and Forestry.

A Bill to establish experiment stations in engineering and in the other branches of the mechanic arts in connection with the colleges established in the several states and territories under the provisions of an Act approved July second, eighteen hundred and sixty-two, and of the Acts supplementary thereto.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in order to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with engineering and the other branches of the mechanic arts, and to promote the scientific investigation and experiment respecting the principles and applications of the mechanic arts, there shall be established under the direction of the land-grant college in each state or territory established, or which may hereafter be established, in accordance with the provisions of an Act approved July second, eighteen hundred and sixty-two, entitled "An Act donating public lands to the several states and territories which may provide colleges for the benefit of agriculture and the mechanic arts," or any of the Acts supplementary to said Act, a department to be known and designated as an "engineering" or a "mechanic arts experiment station."

SEC. 2. That it shall be the object and duty of said experiment stations to conduct original researches, to verify experiments, and to compile data in engineering and in the other branches of the mechanic arts as applied to the interests of the people of the United States, and particularly of such as are engaged in the industries; also to conduct researches, investigations and experiments in connection with the production, transportation, extraction and manufacture of substances utilized in the application of engineering and of other branches of the mechanic arts to industrial pursuits; water supplies as to potability and economic distribution; sewage purification and its ultimate inoffensive disposal; economic disposal of urban and manufacturing wastes; flood protection; architecture; road building; engineering problems connected with transportation, manufacturing and public utilities, and such other researches or experiments bearing directly on the various industries and occupations of the people of the United States as may in each case be deemed advisable, having due regard to the varying conditions, resources and needs of the people of the respective states and territories.

SEC. 3. That bulletins giving results of investigations or reports of progress shall be published at said stations at least once in six months, copies of which shall be sent to persons, newspapers, institutions and libraries interested in engineering and in other branches of the mechanic arts as may request same in the states and territories in which the stations are respectively located, and to others as far as the means of the stations will permit.

Such bulletins or reports, and the annual reports of said stations, shall be transmitted in the mails of the United States free of charge for postage under such regulations as the Postmaster General may from time to time prescribe.

SEC. 4. That for the purpose of paying the necessary expenses of conducting investigations and experiments, printing and distributing the results as hereinbefore described the sum of \$15,000 per annum is hereby appropriated to each state and territory, to be specially provided for by Congress in the appropriation from year to year, out of any money in the treasury not otherwise appropriated, to be paid in equal quarterly payments on the first day of January, April, July and October in each year to the treasurer or other officer duly appointed by the governing boards of said colleges to receive the same, the first payment to be made on the first day of October, nineteen hundred and sixteen.

SEC. 5. That whenever it shall appear to the Secretary of the Treasury from the annual statements of receipts and expenditures of any of said stations that a portion of the preceding annual appropriation remains unexpended, such amount shall be deducted from the next succeeding annual appropriation to such station in order that the amount of money appropriated to any station shall not exceed the amount actually and necessarily required for its maintenance and support.

SEC. 6. That in order to secure as far as practicable uniformity of methods and economical expenditure of funds in work of said stations the supervision of the proposed experiment stations shall rest with the Secretary of the Interior.

It shall be the duty of each of said stations annually, on or before the first day of February, to make to the governor of the state or territory in which it is located a full and detailed report of its operations, including a statement of receipts and expenditures, a copy of which report shall be sent to each of the other stations provided for in this Act, to the Secretary of the Interior and to the Secretary of the Treasury of the United States.

SEC. 7. That nothing in this Act shall be construed to impair or modify the legal relation exist-

ing between any of the said colleges and the government of the states or territories in which they are respectively located.

SEC. 8. That nothing in this Act shall be held or construed as binding the United States to continue any payment from the Treasury to any or all the states or institutions mentioned in this Act, but Congress may at any time amend, suspend, or repeal any or all the provisions of this Act.

This bill, appearing to be an important measure for the advancement of research, the Committee of One Hundred on Scientific Research of the American Association for the Advancement of Science has adopted the following resolutions:

WHEREAS the applications of science have made democracy possible by so decreasing the labor required from each that equal opportunity can be given to all;

WHEREAS in a democracy scientific research, which is for the general benefit and can not usually be sold to individuals, must be supported by the public;

WHEREAS a combination of national and state support and control is desirable in education and in research and its value has been fully proved by the Land Grant Colleges of Agriculture and the Mechanic Arts, established in the states and territories by the Congress in 1862;

WHEREAS there is in connection with each of these colleges an agricultural experiment station to which the national government appropriates annually \$30,000 for agricultural research, the results of which have been of untold value to agriculture and to the nation;

WHEREAS experiment stations for the mechanic arts and engineering, including in their scope research in physics, chemistry and other sciences, would be of equal value to the nation and would repay manyfold their cost, and

WHEREAS at the present time attention is directed to the need of preparation for every emergency, and this can best be accomplished by the advancement of science and the ability of our people to meet new conditions as they arise;

Resolved that the Committee of One Hundred on Scientific Research of the American Association for the Advancement of Science earnestly recommends the passage of the senate bill introduced by Mr. Newlands to establish experiment stations in engineering and in the other branches of the mechanic arts in connection with the colleges established by the Congress in the several states and territories,

with an annual appropriation to each of \$15,000 for conducting investigations and experiments and printing and distributing the results; and further

Resolved that the committee urges each of the ten thousand members of the American Association for the Advancement of Science to use all proper efforts to bring the importance of the measure before members of the Congress and to the attention of the public.

J. McKEEN CATTELL,

June 20, 1916

SCIENTIFIC NOTES AND NEWS

DR. WILLIAM J. MAYO, of Rochester, Minnesota, has been elected president of the American Medical Association, in succession to Surgeon General Rupert Blue, U. S. N.

DR. A. B. MACALLUM, professor of physiology in the University of Toronto, has been elected president of the Royal Society of Canada.

PROFESSOR WILLIAM J. BEAL, formerly professor of botany at the Michigan Agricultural College, has received the degree of doctor of agriculture from Syracuse University.

THREE degrees of doctor of laws were conferred at the recent commencement exercises of the University of Missouri at Columbia, as follows: Curtis F. Marbut, graduate and former professor of geology in the University of Missouri, now in charge of the national soil survey organized by the U. S. Department of Agriculture; Henry Jackson Waters, president of the Kansas State Agricultural College, a graduate and former dean of the agricultural faculty of the University of Missouri; and Roscoe Pound, dean of the Harvard University School of Law.

PROFESSOR EDWIN G. CONKLIN, of Princeton University, will give the William Ellery Hale lectures at the autumn meeting of the National Academy of Sciences.

SIR ARTHUR EVANS, F.R.S., will preside over the eighty-sixth annual meeting of the British Association for the Advancement of Science to be held at Newcastle-upon-Tyne on September 9. The following are the presidents of sections: A (mathematical and physical sci-

ence), Dr. A. N. Whitehead; B (chemistry), Professor G. G. Henderson; C (geology), Professor W. S. Boulton; D (zoology), Professor E. W. MacBride; E (geography), Mr. D. G. Hogarth; F (economic science and statistics), Professor A. W. Kirkaldy; G (engineering), Mr. G. G. Stoney; H (anthropology), Dr. R. R. Marett; I (physiology), Professor A. R. Cushny; K (botany), Dr. A. B. Rendle; L (educational science), Rev. W. Temple; M (agriculture), Dr. E. J. Russell.

SIR DAVID PRAIN, director of the Kew Botanical Gardens, has been elected president of the Linnean Society.

DR. EMIL VON BEHRING, professor of hygiene at Marburg and director of the Institute of Experimental Therapy, has for reasons of health retired from active service.

DR. L. H. BAILEY has assembled the addresses delivered by him as vice-president of Section M (agriculture) of the American Association for the Advancement of Science, which were published in *SCIENCE*, and two others of similar character, and published them privately under the title "Ground Levels in Democracy." He offers to send the booklet free, as long as the supply lasts, to persons interested, upon application to his home address, Ithaca, N. Y.

PROFESSOR HERBERT E. GREGORY, of Yale University, who has been spending the winter in the Australian deserts, has returned to New Haven.

THE International Health Commission of the Rockefeller Foundation sent to Brazil to make a general medical survey of the southern part of the country, has returned. The commission consisted of Professor Richard M. Peirce, of the University of Pennsylvania, chairman; Major Bailey K. Ashford, of the U. S. Medical Corps; Dr. John A. Ferrell, of the International Health Commission, and a secretary. They were absent for about four months and the work included a study of the general educational system in Brazil, the medical schools, hospitals and dispensaries, and public health organization.