tributions to science, especially on the Gulf Stream, as well as for his services as an officer in the navy, has died at the age of seventy-three years.

RICHARD BLISS, who died at Newport on January 7, was at one time an assistant in the Museum of Comparative Zoology, Cambridge, and bibliographer of the United States Geological Survey and the Northern Trans-continental Survey. For thirty-one years, until his retirement in 1914, he was librarian of the Redwood Library at Newport.

DR. S. MACKAY, professor of chemistry at Dalhousie University since 1896, died from pneumonia in Halifax, N. S., on January 6. Dr. Mackay was born in Nova Scotia in 1864. He was educated at Dalhousie and the Johns Hopkins Universities.

THE Senate has passed a joint resolution appropriating $500,000 to be used by the Public Health Service in combating influenza. The resolution directs the Public Health Service to investigate influenza and allied diseases in order to discover their causes and prevent their spread. It requires the allotment of money to universities, colleges and other research institutions for scientific investigation. The Public Health Service is accorded the privilege of making selection of such institutions.

A MEETING of surgeons, representing the surgical staffs of all the great teaching hospitals of Britain, assembled in the theater of the Royal College of Surgeons of England on January 8, as we learn from *Nature*, under the chairmanship of Sir Rickman J. Godlee, and resolved to form an "Association of Surgeons of Great Britain and Ireland." British surgeons have thus followed the precedent set by their colleagues the physicians, who formed a similar association a number of years ago. The object of the newly formed association is to permit surgeons as the staffs of the hospitals to meet together from time to time at various centers in order to exchange observations and compare results. The association will stand as the representative body for British surgeons, and in that capacity will represent British interests at international surgical congresses. Sir John Bland-Sutton was elected president of the new association.

THERE has been formed recently in Chicago a Scientific Laboratory Workers' Union, No. 16,986, American Federation of Labor. This includes fifteen members, physicians, chemists and bacteriologists of the Bureau of Laboratories of the Chicago Department of Health.

AT the annual general meeting of the Inventors Union, held in London, the provisions of the Patents and Designs Bill were warmly discussed in view of the inadequate protection the bill provides to British inventors. A resolution was carried to the effect that the government should be approached to consider the creation of an all-empire patent to replace the present system which entailed an initial outlay of several hundred pounds to secure protection in Great Britain and the dominions and colonies for the simplest invention.

UNIVERSITY AND EDUCATIONAL NEWS

THE corporation of Yale University having requested Dr. Fred T. Murphy to make a survey and report as to the school of medicine and Dr. Murphy having presented his views and recommendations, the committee on educational policy unanimously recommended the following minutes which were adopted by the corporation:

1. That there is a clear and definite opportunity and obligation of the university to medical education.

2. That the Yale School of Medicine has a valuable nucleus of men and material and sound traditions, which richly justify the development of an institution for medical education of the highest type.

3. That the corporation accept as a policy the development of a medical school of the highest type to include the pre-clinical and clinical years of instruction upon such principles of medical education as may be approved by the corporation, after conference with the medical faculty.

4. That every effort be made to obtain at the earliest possible date the necessary funds with which to expand and develop the buildings, the

equipment, the instruction, and the research, and the service, in accordance with the best ideals of modern medical education—as an essential unit of our university plan for development.

Professor W. H. Dalrymple has resigned the editorship of the *Journal* of the American Veterinary Association because of his appointment to the deanship of the college of agriculture of the Louisiana State University. The nominees for the governorship and the legislature have pledged themselves the support of the movement for a greater university, in which movement it is proposed to raise three million dollars for the college of agriculture.

Dr. Allen E. Stern, of the department of chemistry at the University of Illinois, took charge of the division of physical chemistry at the University of West Virginia, beginning in February.

Dr. Henry C. Tracy, of the Marquette Medical School, has been appointed professor of anatomy at the University of Kansas.

Dr. C. H. Edmundson, professor of zoology at the University of Oregon, resigned at the close of the fall term to accept the position as head of the department of zoology and director of the research laboratories at the College of Hawaii, Honolulu.

Professor Clarence Moore has resigned the chair of biology in Dalhousie University, Halifax, N. S., and has been succeeded by Professor Dowell Young, of Cornell University.

DISCUSSION AND CORRESPONDENCE

UNRELIABLE EXPERIMENTAL METHODS OF DETERMINING THE TOXICITY OF ALKALI SALTS

A method frequently used by investigators of the toxicity of alkali salts is to add certain percentages of salts to soils, plant them to crops and estimate the toxicity by the depression of the crop growth. They assume that if sodium carbonate or other salt is added to a pot of soil, that it remains in solution in the soil and that its toxicity can be measured by subsequent crop growth. Very elaborate and expensive experiments have been performed based upon this assumption.

Now it has been shown by various investigators that soils absorb a part, at least, of the salts added, and that the crop growth in these treated soils is much more closely related to the proportion of alkali salts recoverable from the soils than to the proportion of salts which have been added. In other words, the toxicity of salts is not so accurately measured by the amount added to the soil as by the salts recoverable by analysis after the treatments have been made.

Two papers have been published in the *Journal of Agricultural Research* which illustrate the erroneous conclusions that may be reached when toxicity is determined by the per cent. of salts added, viz., "Effect of alkali salts in soils on the germination and growth of crops," by Frank S. Harris, and "Soil factors affecting the toxicity of alkali," by F. S. Harris and D. W. Pittman. In both these investigations the attempt was made to measure the toxicity by correlating crop growth with the amount of salts added. In the first-named paper Mr. Harris reaches the following conclusions which are not in accordance with results obtained by other investigators. The questionable results quoted below would almost certainly not have been secured had the more accurate method been followed of measuring toxicity by correlating crop growth with the soluble salts found in the soil after the various additions had been made.

The conclusions which appear to the writer to be unjustified are:

1. "Only about half as much alkali is required to prohibit the growth of crops in sand as in loam."

Since no analyses were made Mr. Harris did not know how much alkali was contained in the soil solution in either sand or loam and the conclusion is therefore unjustifiable.

2. "Results obtained in solution cultures for the toxicity of alkali salts do not always hold when salts are applied to the soil."

This statement may be true but his experiments do not warrant the drawing of such a conclusion for here again the author did not determine the concentrations of the soil solutions and he therefore has no basis for comparing the toxicity of salts in solution cul-