institutions to which the sets of questions were sent, this possibly represents a fairly high proportion of institutions in which instruction in this subject is given. While I am certain that well-defined bacteriological courses are presented in several institutions from which no replies have been received, a survey of the institutions with which I am familiar would lead me to believe that the replies had come probably from a majority of the schools giving bacteriological instruction. From the standpoint of geographical distribution, it seems to be evident that the middle west has done more in the promotion of microbiological education by the installation of courses than has the east or the south. Practically all the central and western state universities and agricultural colleges seem to have well-defined courses, and since these schools occupy very prominent positions in the field of education in the west, it appears to be evident that the student of the central and western part of the country has a greater opportunity to take work in this subject than has the eastern student, who is more likely to attend the privately endowed institutions. New England, with approximately thirty-five colleges and technical schools has, outside of the purely agricultural colleges, but five institutions in which comprehensive bacteriological instruction is given to the candidates for the Bachelor's degree in arts or science. No definite courses are offered in the collegiate department at Harvard, Yale, Dartmouth, Williams, Amherst, Bowdoin, Columbia, Princeton, Pennsylvania or Colgate, and this list could, with a little consideration, be very greatly extended.

It does not seem to the writer that this is the time to suggest methods of instruction, or the exact ground which should be covered in microbiological subjects. It is, however, worth emphasizing that the proper interpretation of bacteriological problems can not be had until the instruction in bacteriology is placed upon a very broad biological and physiological basis, and until there are correlated with such courses training in physics, chemistry and mathematics. These correlated subjects should be of sufficiently advanced character that the student may consider the organisms in their physical, chemical and biometric relations, for it must be admitted that modern bacteriology includes far more than the microscopical examination and cultivation of a few pathogenic types.

Samuel C. Prescott

A Botanical-Zoological Laboratory in Porto Rico

The University of Porto Rico announces that it plans to offer to students facilities for research in botany and zoology in the American tropics.

Special space will be set aside in the agricultural building now in process of erection and the well-equipped physical, chemical, botanical, zoological, bacteriological and plant pathology laboratories may be drawn upon for supplies and apparatus. The research laboratories will be equipped only with the usual essentials, but endeavor will be made to meet special needs, in the way of equipment, which the problems of each student demand.

It is probable that a seaside laboratory, within a few yards of the ocean, will also be provided with needed equipment, including a motor launch for marine collecting, and that a third laboratory will be located on some suitable elevated region. These facilities will be extended to all who are competent to use them and are properly accredited by reputable institutions.

Free tables will be provided for a limited number of advanced students under conditions which will be explained upon communication with the director.

Students who desire to use the laboratories are requested to communicate, as early as possible, to the director, their needs and dates at which accommodation is desired, since there is often delay in procuring supplies.

For the information of prospective students, the following data are given:

Porto Rico lies between 17° 54′ and 18° 30′ north latitude. Geologically it is of much interest, though but little studied as yet. It is extremely rugged and picturesque with its

many volcanic peaks, some rising over 3,700 ft. Caves abound. The climate is delightful and healthful; the nights cool. The mean annual temperature is 76°, the average during the coolest winter month 73°, during the warmest month 79°. The early morning temperature averages 70° in summer, 63° in winter. The average daily maximum is 88° in summer, 83° in winter. The highest temperature recorded on the island last year was 99°. The highest at Mayaguez was 96°. Vegetation is beautiful, distinctly tropical and luxuriant.

The pelagic flora and fauna of the Mona passage are especially interesting. Trawls, dredges, aquaria, etc., will be provided. Fine opportunity is offered for the study of animal and plant anatomy, embryology, physiology, taxonomy, morphology, experimental morphology, ecology, climatic relations and breeding; tropical fauna and flora, marine and land, and problems on geographic distribution and bird migration.

Correspondence of all interested is invited. All who intend to come for summer study, or for other portions of the year, should write several months in advance.

F. L. STEVENS,
Director

SCIENTIFIC NOTES AND NEWS

THE lord provost of Glasgow proposes to convene a conference to promote an international memorial to Lord Lister in Glasgow.

FOR the meeting of the British Association for the Advancement of Science, which is to be held this year at Dundee, beginning on September 4, under the presidency of Professor E. A. Schäfer, F.R.S., the following presidents have been appointed to the various sections: Mathematical and Physical Science, Professor H. L. Callendar, F.R.S.; Chemistry, Professor A. Senier; Geology, Dr. B. N. Peach, F.R.S.; Zoology, Dr. P. Chalmers Mitchell, F.R.S.; Geography, Sir Charles M. Watson, K.C.M.G., C.B., R.E.; Economic Science and Statistics, Sir Henry H. Cunynghame, K.C.B.; Engineering, Professor A. Barr; Anthropology, Professor G. Elliot Smith, F.R.S.; Physiology, Mr. Leonard Hill, F.R.S.; Botany, Professor F. Keeble; Educational Science, Professor J. Adams; Agriculture, Mr. T. H. Middleton.

PROFESSOR CHARLES SEDGWICK MINOT has been selected by the German government as Harvard exchange professor at the University of Berlin for 1912–13. Dr. Rudolf Eucken, professor of philosophy at Jena, has been appointed exchange professor at Harvard University.

DR. WILLIAM T. BRIGHAM, director of the Bishop Museum, Honolulu, has been made a corresponding member of the Imperial Academy of Science, St. Petersburg, and of the Senckenbergische Naturforschende Gesellschaft at Frankfort.

THE following have been elected correspondents of the Academy of Natural Sciences of Philadelphia: Viktor Goldschmidt, Carlotta J. Maury, John Casper Branner and Charles Haskins Townsend.

PROFESSOR W. ODLING, F.R.S., of Oxford University, has resigned the Waynflete professorship of chemistry, which he has held for forty years.

PROFESSOR A. H. PURDUE, who for nearly sixteen years has held the chair of geology in the University of Arkansas, and since 1907 ex-officio state geologist of Arkansas, has been elected state geologist of Tennessee to succeed Dr. Geo. H. Ashley, resigned.

D. W. OHERN, professor of geology at the University of Oklahoma, has been appointed director of the Oklahoma Geological Survey to succeed Chas. N. Gould, who has resigned to enter private work.

MR. MYRON L. FULLER, a geologist on the U. S. Geological Survey, and Mr. Frederick G. Clapp, formerly of the survey, have organized an association known as the Bureau of Associated Geological Engineers with offices in Boston and Pittsburgh.

MR. E. NEVILLE NEVILL, director of the Natal Government Observatory, Durban, is retiring from office, and will in future live in England.