sending less than fifty students each. Among European countries the twenty-one universities of the United States lead only in Denmark (12 *vs.* 11), the American figures in European countries mentioned above being in every case far below the German figures, namely Russia 44, Austria-Hungary 11, Switzerland 7, Bulgaria 5, Great Britain and Ireland 61, Rumania 2, Greece 4, Servia and Luxemburg 0 and Turkey 38. Almost a third of the foreign students in attendance on German universities are at the University of *Berlin*, namely, 1,492 out of 4,672. *Berlin* is followed by the following universities in the order given: *Munich* 845, *Leipzig* 634, *Halle* 285, *Heidelberg* 186, *Königsberg* 185 (of whom 179 hail from Russia), *Göttingen* 141, *Freiburg* 127, *Jena* 119, *Bonn* 117, *Breslau* 107, *Strassburg* 105, the remaining institutions all attracting less than one hundred foreigners each. Figured on a percentage basis we find that 8.5 per cent. of Germany's 54,823 university students are foreigners, whereas only 2.1 per cent. of 74,325 students attending the twenty-one American universities mentioned hail from foreign countries. It should be borne in mind that the American institutions in every instance include an undergraduate academic department and in most instances a technical school, which is not the case for the German universities, but the comparison here outlined undoubtedly conveys a fairly accurate idea of the situation.

Of the three middle western universities that were included in the table for 1904–5, *Illinois* shows a gain in students from foreign countries during the six years of 120, *Michigan* of 62 and *Indiana* a loss of 3, while the total increase in foreign students during the same period at the nine universities included in the above table amounts to 460.

Examining the foreign delegations of the different American institutions by continents, we observe that the order in North America is *Columbia, Pennsylvania, Harvard, Cornell;* in South America: *Pennsylvania, Cornell, Massachusetts Institute of Technology, Michigan;* in Europe: *Pennsylvania, Columbia* and *Harvard, Illinois;* in Asia: *California, Columbia, Illinois, Cornell;* in Africa: *Cornell, Northwestern* and *Pennsylvania;* and in Australasia: *Pennsylvania, Northwestern.* In the countries that send at least ten students to any one institution, the order is as follows: Canada: *Columbia, Harvard, Northwestern;* Central America: *Pennsylvania, Cornell, Massachusetts Institute of Technology;* Cuba: *Cornell, Pennsylvania, Syracuse;* Mexico: *Illinois, Pennsylvania, Massachusetts Institute of Technology;* Germany: *Columbia, Harvard* and *Pennsylvania;* Great Britain and Ireland: *Pennsylvania, Columbia* and *Illinois* and *Bryn Mawr;* Russia: *Illinois, Northwestern, California* and *Harvard;* China: *Cornell, Columbia* and *Illinois, Wisconsin;* India: *California, Harvard, Northwestern;* Japan: *California, Columbia, Illinois;* Turkey: *Yale, Illinois, Columbia;* and Australia: *Pennsylvania, Northwestern.*

Rudolf Tombo, Jr.
Columbia University

The Smithsonian Expedition to Study the Heat of the Sun

Director Abbot, of the Smithsonian Astrophysical Observatory, has just returned from a five months' astronomical expedition to Bassour, Algeria. The object of the expedition was to confirm or disprove the supposed variability of the sun. The Astrophysical Observatory has been for seven years making observations on Mt. Wilson, in California, on the daily quantity of heat received from the sun. The observations are arranged in such a manner as to indicate not only the quantity

of solar heat reaching the earth, but also the quantity of heat which would reach a body like the moon, which has no atmosphere.

The observations have indicated that the sun is probably a variable star having a range of variation amounting to from five to ten per cent. within an irregular interval of from five to ten days. Last year Mr. Abbot observed in Algeria, while his colleague, Mr. Aldrich, observed on Mt. Wilson, in California. The object of thus duplicating the measurements was to avoid being misled by any local atmospheric conditions which might have affected Mt. Wilson observations. As nearly one third of the circumference of the earth lies between Mt. Wilson and Algeria, it could not be expected that a similar local disturbance could affect both stations at the same day in the same manner. The observations of 1911 strongly supported the belief that the sun is variable, but owing to cloudiness their number was not sufficient to fully establish this point. Hence, it was thought best to return to Algeria this year.

Mr. Abbot was assisted in Algeria by Mr. Anders Knutson Angström, of Upsala, Sweden. Mr. Angström comes from a distinguished family of scientists. His grandfather, Anders Angström, is the one of whom Kayser says in his great work on spectroscopy, "Now arose a man so great that his name will be forever associated with the history of spectroscopy." Mr. Angström's father, Knut Angström, was scarcely less distinguished than the grandfather, and invented many valuable instruments for measuring the radiation of the sun and earth. The present Mr. Angström is much interested in the same problems that occupied his father, and is now pursuing advanced work at Cornell University.

The observations made by the Smithsonian party in Algeria this year were apparently very satisfactory. They occupied sixty-four days, and on more than fifty of these days Mr. Fowle made similar observations on Mt. Wilson, in California. It can hardly be doubted that the results of the work of 1911 and 1912 will thoroughly establish the supposed variability of the sun, or will show conclusively that this hypothesis can no longer be held.

PROFESSOR MORRIS LOEB

AT a special meeting of the board of trustees of the Chemists' Club of New York City, held October 8, the following resolutions offered by committee consisting of Mr. Ellwood Hendrick, Mr. Clifford Richardson and Mr. Walter E. Rowley, were adopted:

WHEREAS Morris Loeb, the president of the club, has been taken from us by death, and

WHEREAS he was the leading spirit in bringing to fulfillment ambitions and plans that had long been ours, and

WHEREAS he was always ready to shoulder burdens and to give help, and

WHEREAS he was a man of order, and of integrity in mind and in heart, sincere in scholarship, living without malice or scorn, speaking no evil, and generous in judgment, and

WHEREAS we were drawn to him by ties of deep and abiding affection, now, therefore, be it

Resolved, that we make this minute of our poignant grief at his passing, and that we cherish his memory as another of his great gifts to science and to humanity.

SCIENTIFIC NOTES AND NEWS

THE autumn meeting of the National Academy of Sciences will be held in New Haven, beginning Tuesday, November 12, 1912, at 10 A.M. By invitation the sessions will be held in Sloane Physics Laboratory of Yale University.

SIR WILLIAM RAMSAY lectured at the Johns Hopkins University on October 18, when the degree of doctor of laws was conferred on him.

Nature states that Sir George Darwin, Plumian professor of astronomy at Cambridge University, has undergone a severe operation after which he is making good progress toward recovery.

THE Fritz Schaudinn medal for work in microbiology has been awarded by the international committee to Dr. Carlos Chagas, of the Institute Oswaldo Cruz Manguinhos, Rio de Janeiro.