Drs. James M. Anders, M. Howard Fussell, Herman Allen and Edward E. Montgomery. An initial appropriation of $300 was made by the society for the purchase of books and journals.

THE desirability of establishing an international scale for the comparison of observations in solar radiation has led Mr. C. G. Abbot, director of the Smithsonian Astrophysical Observatory, to construct a standard "pyrheliometer." This instrument, tested by him both in Washington and at Mount Wilson in California, has been found to yield satisfactory results. Accordingly, a limited grant from the Hodgkins Fund of the Smithsonian Institution was made for the construction of four of these silver disk pyrheliometers. These have now been completed and are about to be sent to investigators in widely separated localities for use in obtaining constants. The first will be sent to M. Violle, who is chairman of the committee on solar radiation of the Solar Union, and by him will be placed in the meteorological station established by the French government on the Pic du Midi in the Pyrenees in the south of France. The second will go to M. Chistoni, of the Physical Institution in Naples, and will be sent to the observatory on Mount Vesuvius.

THIS government has received through the customary diplomatic channels, an announcement of the Official Exhibition of Art to be held at Buenos Aires, Argentine Republic, to commemorate the first centenary of the independence of the country. This exhibition will be opened on May 25, 1910, and will be continued until September 30, or later should the executive committee so decide. Full details with reference to the conditions of participation in the exhibit may be obtained by addressing El Senor Comisario General, Exposicion Internacional de Arte del Centenario, Cangallo 827, Buenos Aires, Republica Argentina.

UNIVERSITY AND EDUCATIONAL NEWS

CHARITABLE and educational institutions received $162,000 by the will of Mrs. Frances E. Curtiss, of Chicago. Among the institutions benefited are Williams College, Williamstown, Mass., $25,000.

COOPER MEDICAL COLLEGE, San Francisco, has received a bequest of $5,000 by the will of the late Mrs. Myrick.

PLANS are under way for the merger of the Jefferson, Medico-Chirurgical and Polyclinic Medical Colleges of Philadelphia and their connection with some university as its medical department.

THE trustees of Syracuse University have recently voted in favor of the proposition to establish a College of Agriculture and Forestry in that institution. As a preliminary step there will be organized out of facilities already available an agricultural group and a forestry group of studies drawn especially from the departments of botany, chemistry, engineering, geology (including meteorology) and zoology. These courses will be open to election with the next collegiate year. Temporarily, the work of organization is to be under the direction of Professor William L. Bray, of the department of botany.

THE total number in attendance last year for the two weeks' courses in agriculture and for the Corn Growers' and Stockmen's Conventions at the University of Illinois was 775. That number will be more than surpassed this year. More than 700 have already been registered, of whom 115 are women. The lectures are being given not only by men of the college, but by men of prominence from different parts of the state.

PRESIDENT SCHURMAN, of Cornell University, said in a recent address: "I should like most to see at Cornell a score of research professorships with salaries, say $7,500 each, which would call for a capital of some $3,000,000 or $4,000,000, a really small amount in this age of American multi-millionaires."

DR. LOUIS A. KLEIN, appointed last year professor of pharmacology and veterinary medicine, has now been made dean of the veterinary department of the University of Pennsylvania, to fill the vacancy occasioned by the death of Dr. Leonard Pearson.

Robert Bruce Brinsmade, B.S. (Washington University), E.M. (Lehigh), has accepted the chair of mining engineering at West Virginia University, replacing Henry Mau Payne, who has gone into other lines of work.

Mr. O. T. Jones, of the Geological Survey of England and Wales, has been appointed lecturer in geology and physical geography in University College, Aberystwyth.

Mr. H. J. Seymour, B.A., of the Geological Survey of Ireland, has been appointed professor of geology in University College, Dublin.

Discussion and Correspondence

The Green Bug and Its Natural Enemies

Professor Woodworth has very kindly sent me in advance a copy of his review of "The Green Bug and Its Natural Enemies." The views advanced by him are interesting and his interpretations somewhat out of the usual order.

1. He does not understand why data from the experimental laboratory studies were not used to show the potentiality of the parasite, *Lysiphlebus tritici,* over the green bug, *Toxoptera graminum.* No attempt was made to use the data in that way, since the contest between the two forms took place, not in the experimental laboratory, but under natural conditions in the open, over territory from central Texas northward through Oklahoma to central Kansas. Accordingly, it was stated (page 135), "The average number of green bugs killed by a single parasite under natural conditions is probably much larger than the above figures show," and reasons were there given for this opinion. Since that time corroborative evidence on this point has appeared as follows: "The female *Lysiphlebus* is even more prolific than the female *Toxoptera.* Mr. Phillips has found females which had upwards of four hundred eggs in their ovaries and Mr. Kelly has reared in some cases 206 individuals from a single mother *Lysiphlebus.*[1]

Obviously, then, figures or tables, such as prepared by the reviewer, based on data obtained under artificial conditions, would not form a safe basis for conclusions upon the outcome of such a struggle in the natural environments of the contestants.

However, since the reviewer has placed special stress upon the value of his tables it should be noted, as showing their bearing upon the laboratory experiments, that he takes the minimum period, five days, for development of the green bug and considers that as the average. That is, among 140 green bugs reared in laboratory under daily observation, four, or 2.8 per cent., gave birth to young on the fifth day, and this percentage he rates as the average. As a result he obtains 95,571 progeny for one green bug in thirty days, whereas the author, using the average summer rate, seven days, of development for 80 green bugs reared in laboratory under daily observation, obtains for the same period 15,794 (page 95)—a difference of 79,777 on the first basis of comparison. As to the parasite, the reviewer takes the average rate (page 7 based on results of several observers) of development of parasite in the open field, seven days, for his computation on the parasite.

That is, the behavior of 2.8 per cent. of the green bugs observed in the laboratory and the behavior of the average of all parasites observed in the open, are the factors which he uses to compute the potentiality of the parasite. Obviously, basal factors so unlike in quantity and conditions furnish no reliable foundation for comparisons from which to deduct safe conclusions. Furthermore, these factors are not representative of the data from which they are supposed to be taken.

Consequently, the subsequent computations and deductions upon his table as brought out by the reviewer, unique in themselves, would not seem to require further consideration here.

The statement of the author regarding the outcome of the struggle between the parasite and its host was not based upon deductions from the experimental laboratory data, but from the records of continuous field observations made during the entire time of the struggle by eight different reliable observers. The seven from the university were stationed from central Oklahoma to northern Kansas, as

[1] Circular No. 93 rev., p. 15, U. S. Dept. of Agric., B. of Ent., June 23, 1909.