

the ovules. This habit the author calls antidromy, and claims that all flowering plants are antidromous. The manner in which this habit manifests itself in different plants is described and a list of the plants examined is given. The author thinks this law will explain many of the mysteries of plant growth.

21. *Exoascus upon Alnus Leaves*, by MRS. FLORA W. PATTERSON, Cambridge, Mass. An account is given of the first recorded appearance of *Exoascus* on *Alnus* leaves in America. The difference between this *Exoascus* and various other species is shown. The species will not be named until additional knowledge in regard to it is obtained.

22. *Experiments in Pollinating and Hybridizing Citrus Fruits*, by H. J. WEBBER, Eustis, Fla. The author gives an account of his experiments to determine the cause of the sterility of the Navel orange. It was found that this variety produces no pollen. The form, growth, etc., of the Navel and common oranges are minutely described. Experiments were also conducted by the author to determine if Navel oranges develop without pollination and the effect on this variety of foreign pollen. Other experiments in hybridizing were also described.

23. *Summary of a Revision of the Genus Dicranum*, by CHAS. R. BARNES and RODNEY H. TRUE, Madison, Wis. Read by title.

24. *The Physiology of Isopyrum viter-natum L., and the Transmission of Stimuli Effects in Mimosa pudica L.*, by D. T. MACDOUGAL, University of Minnesota. The papers by Professor MacDougal were read during the absence of the Secretary, and as the abstracts were not at hand a review cannot be given.

On Saturday, August 30, a number of the botanists visited Harvard College, where they were entertained by Dr. Farlow, and shown the many things of botanical interest in the vicinity of Cambridge.

B. T. GALLOWAY, *Secretary*.

SECTION I. ECONOMICS.

THE most important feature of the meeting was the change in name of the section, looking toward an extension of scope. The old name 'Economic Science and Statistics' was justly regarded as bungling and inadequate. The question of terminology is, however, a serious one. No name wholly adequate to express and limit the field which this section seeks to cover could be found. It is properly a branch or offshot of anthropology, as Mr. Fernow showed in his Vice-Presidential address, and is concerned with all that advances the physical well-being of man; while, equally with anthropology, it discusses his social and moral welfare, all being indissolubly knit together. 'Sociology' was at first the name selected by the section, after considering 'Social and Economic Science.' The general session, however, preferred the latter, and the constitution was accordingly so amended.

The Section of 'Social and Economic Science' is fortunate in having had as its President this year an economist so well and favorably known as B. E. Fernow, Chief of the Division of Forestry; and equally fortunate in the election for next year of Wm. R. Lazenby, so long a professor at the Agricultural College at Columbus, O., and this year doubly honored by election to the office of President of the Society for the Promotion of Agricultural Science.

Popular interest in this section is always great, and even when there is not a flood of papers there are always some to arrest attention. Not that everything said in the section is sound. Some wild monetary theories have been broached; some revolutionary socialistic schemes advocated, but the sound common sense of the majority of members gives them a speedy quietus, and the result is better than if they were exploited somewhere else where their fallacy might be less promptly refuted. On the other hand, some interesting and valuable

material is almost certain to be presented among the papers read and in the discussions.

Papers were read by title in the section on 'The Law of Chance Illustrated in Railway Accidents,' by T. C. Mendenhall, and on 'Suicide,' by W. L. O'Neill. On the morning of Friday, August 30, Mr. Henry Farquhar read a paper on 'An International Coinage,' which contained arguments for such a system and reviewed the difficulties to be overcome before the system could be put in practical operation.

In the afternoon a joint session of Sections A, B, E and I was held to listen to papers on meteorology, which will be reported elsewhere in this journal.

On Monday, September 2, the first paper presented was by the Secretary of the Section, W. R. Lazenby, whose subject was 'Manual Training in Horticulture for Our Country Schools.' The author said that in the earlier educational history of this country, when the forests covered large sections of the land and people lived in log houses built by their own hands, and the school-houses were constructed in the same manner, the boys and girls grew to be men and women of great force of character and strong personality. Nothing could be more useful than manual training in horticulture to train the eye and hand, to stimulate the power of observation, to awaken an appreciation of the beautiful, in short to develop all the faculties of body and mind, which is the aim of modern education. In a paper entitled, 'Equality of Opportunity—How Can We Secure It?' J. L. Cowles argued in favor of government control of the means of communication and transportation. Mrs. Mary J. Eastman, an associate member, was invited to read a paper on 'A Cottage Settlement in Spain,' in which she advocated the extension of the university settlement idea by the establishment of model cottages.

On Tuesday, September 3, E. L. Corthell read a paper on 'The Growth of Great Cities.' He traced the growth of cities, and closed by predicting the population of some of the world's greatest cities in 1920, as based on past and present growth, and allowing for a future decrease. His predictions are as follows: Population of London 8,344,000; Paris, 3,808,586; New York, 6,337,500; Berlin, 3,422,221; Chicago, 7,797,600; Philadelphia, 1,838,160; St. Petersburg, 1,470,833. The last paper of the meeting was on 'Taxation in the United States,' by Edward Atkinson. The speaker aimed to show the necessity of carefully investigating what proportion of taxes goes to construction, to interest, etc. Other things being equal, the country that spends the most of its taxes for construction and the least for military expenses is the best administered.

SCIENTIFIC NOTES AND NEWS.

M. CH. BOUCHARD announced to the Paris Academy of Sciences, on September 2d, that he had examined the gases from three sulphurous springs in the Pyrenees. In one he found the characteristic lines of both argon and helium, in one of helium alone, and in a third helium together with an unknown substance characterized by lines in the orange and red.

At the same meeting of the Academy, M. J. Janssen reported on the work at Mont Blanc Observatory. Measurements of the force of gravity have been made at Chamonix and at the Grand-Mulets, at an elevation of 3,050 m., and it is hoped to repeat the measurements next year at the summit, if it be found possible to transport the apparatus. M. de Thierry has ascended to the summit in order to study the ozone in the air and make certain bacteriological examinations.

PROFESSOR C. V. RILEY, the entomologist, was killed by a fall from a bicycle at Wash-