the Willow Cone Gall,' by Roy L. Heindel, showing the importance of galls to the insect world; 'Forest Centers of Eastern North America,' by Edgar N. Transeau, the term being used to designate the distribution of trees about the region where they attain their best development; 'Mandibular and Pharyngeal Muscles of Acanthias and Raia,' by G. E. Marion, who finds that from the peculiar shape of the head the ray possesses a few muscles not found in the dogfish.

Bird-Lore for November-December is a thick number, having for its general articles 'The Structure of Wings,' by W. M. Wheeler; 'The Growth of a Young Bird,' by E. R. Warren, illustrated with pictures of birds at various stages of growth; 'Some Early American Ornithologists—Alexander Wilson,' by Witmer Stone; 'Blue Jays at Home,' by Wilbur F. Smith; 'The Story of a Tame Bob-White,' by J. M. Graham, and 'The Feeding Habits of the Northern Phalarope,' by Frank M. Chapman. W. W. Cooke contributes the thirteenth of a series of papers on 'The Migration of Warblers' and William Dutcher the seventeenth Educational Leaflet of the Audubon Societies, devoted to the American goldfinch and accompanied by a colored plate. The Annual Report of the National Association of Audubon Societies for 1905 covers fifty pages and is encouraging reading, showing steady increase and interest in the matter of bird protection.

The Museums Journal of Great Britain for November has articles on 'The Formation of Local Illustrative Collections in Museums,' by John Maclauchan, showing how much has been done in Dundee and what may be done elsewhere; 'The Exhibition of Fresh Wild Flowers in Museums,' by G. A. Dunlop. The notes, as usual, form an important part of the number.

The Journal of Nervous and Mental Disease for December opens with a discussion of the effect of diet upon epilepsy, by Dr. A. J. Rosanoff, including the report of some experiments, from which the author concludes that the organism of the epileptic can not take care of proteid material as it is taken care of by the healthy organism, and that consequently proteids should be replaced in his diet by fats and carbohydrates as far as is consistent with the general health. Dr. M. A. Bliss follows with a report of twenty-four cases of multiple neuritis of obscure origin observed by him among the patients of an insane asylum. Dr. Hecht's elaborate paper on dementia præcox, begun in the previous number, is concluded in this issue.

SOCIETIES AND ACADEMIES.

THE GEOLOGICAL SOCIETY OF WASHINGTON.

At the 171st meeting on November 22 the following papers were presented:

Artificial Wollastonite and Pseudo-wollastonite: Mr. Fred E. Wright.

Mr. Wright described the results of an extended chemical, physical and mineralogical study of the mineral wollastonite by Drs. E. T. Allen, W. P. White and himself, of the U. S. Geological Survey and Carnegie Institution. In the course of their investigation they not only produced artificial wollastonite crystals identical with the natural mineral, but also observed interesting facts bearing on the conditions of its formation which are of geologic significance. It was found that on heating both natural and artificial wollastonite crystals up to the melting point, 1,512° C., an inversion in the solid state took place at 1,180° C. to a second form called pseudo-wollastonite which has never been found in nature and which differs materially from the original substance in optical properties. On cooling, the second form does not revert to wollastonite under ordinary conditions and can only be induced to do so in the presence of some flux such as calcium vanadate. The importance of the inversion temperature (1,180°) as a definite point which is uninfluenced by surrounding magmatic conditions except pressure, was emphasized, and the inference drawn that since pseudo-wollastonite does not occur in nature while wollastonite is found usually in limestone contact aureoles of eruptive rocks where pneumatolytic solutions have been active and all minerals formed contemporaneously, the inversion temperature places a prob-

able upper limit on the temperature of solutions emanating from intrusive magmas. The rare occurrence of wollastonite in eruptive rocks was also discussed, and difficulties of drawing conclusions as to the temperature of their intrusion discussed, and the views of Dr. G. F. Becker on the subject briefly cited.

An Area of Faulting in Central Pennsylvania: Mr. GEO. H. ASHLEY.

The region described is one in which extensive mining operations have permitted the mapping of a large number of faults and their minute examination in many cases. The feature upon which most stress was laid was the fact that the great majority of the faults run in lines transverse to the general structure of the region, and where the whole fault from end to end has been found in a single mine working, it appears to be of the nature of a long transverse buckle, which is broken down longitudinally. The resulting faults have all the appearance of normal faults and often present a much complicated series of breaks with the intermediate blocks tilted or dropped down, as is common with a broken arch. The speaker's main argument was that in attempting to account for the faults, resource must be had to the pressure which folded the rocks of the region, their normal appearance being due to the fact that unequal resistance to that pressure allowed the buckling of the strata in the lines of pressure, which buckles or small folds afterwards broke down to the positions in which they at present are seen. Several charts were exhibited illustrating the features discussed.

ARTHUR C. SPENCER,
Secretary.

THE KANSAS ACADEMY OF SCIENCE.

THE thirty-eighth annual meeting of the society was held in Lawrence on December 1 and 2, with over sixty members present from different parts of the state. The address of the retiring president, Professor L. C. Wooster, was given on Friday evening on 'The Development of the Sciences in Kansas.' The academy was divided into two sections, for reading of papers, of which sixty-five were presented. Among those of more general interest, the following are noted: "A New Repetition of the Foucault Experiments with the Pendulum,' J. T. Lovewell; 'Some Recent High-efficiency Lamps,' R. H. Freeman; 'Is the Rain-fall in Kansas Increasing?' F. H. Snow; 'The Variation of Latitude,' E. Miller; 'Dry Periods in Northeastern Kansas, and their Relation to Water Supplies,' W. C. Hoad; 'Some Properties of the Alloys of the Ferro-magnetic Metals, Considered from the Standpoint of Osmond's Allotropic Theory,' Bruce V. Hill; 'Note on Certain Formulas for the Design of Reinforced Concrete Beams,' A. K. Hubbard; 'On the Substituted Ureas,' F. B. Dains; 'Chemical Reactions in Benzene,' H. C. Allen; 'A Chemical Study of the Lime-and-Sulphur Dip,' R. H. Shaw; 'The Gas-and-Oil Engine for Commercial Purposes,' P. F. Walker; 'The Interpretation of Transpiration in Plants,' L. N. Peace; 'Indicator Diagrams,' C. D. Corp; 'General and Special Features of Laboratory Equipment,' J. T. Willard; 'The Botanical Features of the New U. S. Pharmacopœia,' L. E. Sayre; 'The Loup Fork Miocene of Northwestern Kansas,' C. H. Sternberg; 'Notes on Coleoptera,' W. Knaus; 'A Deep Well in Emporia,' A. J. Smith; 'A Little Experiment in Flower-making,' Grace R. Meeker; 'Hygroscopic Structures in the Distribution of Pollen Grains and Spores,' M. A. Barber; 'Secondary Increase in Thickness of *Smilax*,' W. C. Stevens; 'Notes on the White Sheep,' L. L. Dyche; 'On the Malaria Mosquito and the Relative Number in the Vicinity of Lawrence,' S. J. Hunter; 'Comparison of the Microscopic Structure of Stems and Roots,' C. M. Sterling; 'The Disintegration of Cement Plaster under Peculiar Conditions,' E. H. S. Bailey; 'The University of Kansas Expedition to the John Day Region of Oregon,' C. E. McClung; 'A New Qualitative Test for Cyanides,' H. P. Cady.

At the close of the session the following officers were elected:

President—F. O. Marvin.
First Vice-President—B. F. Eyer.
Second Vice-President—J. E. Welin.
Secretary—J. T. Lovewell.
Treasurer—A. J. Smith.

E. H. S. BAILEY.