

lege as well as other wells in the vicinity of Ames, and especially the wells that were supposed to have conveyed typhoid fever to the students of the college. There was shown to be a very wide variation, but in the case of the epidemic at Ames the milk was shown to have been the agent that conveyed the disease.

Botanical papers were presented by H. A. Mueller on the 'Shrubs and Trees of Madison County'; T. J. Fitzpatrick, on the '*Cupuliferae* and *Juglandaceae* of Iowa,' and one by F. M. Witter, on 'Some Observations on the Flora of Southern Alabama and Louisiana.' James E. Gow presented a 'Preliminary List of the Flowering Plants of Adair County.' Mr. F. W. Faurot described the early development of *Astragalus caryocarpus*. In fixing, best results were obtained by the use of Flemming's, although platinic chloride also gave good results. Professor Shimek, in his paper, 'Addenda of the Flora of Lyons County,' reported *Juglans nigra* and several herbaceous plants for that county. L. H. Pammel presented a paper on the 'Thistles of Iowa.'

An expedient for maintaining a constant temperature through the process of salt-glazing clay was presented by Ira J. Williams.

A committee on pure food legislation, consisting of C. O. Bates, J. B. Weems, Nicholas Knight, M. Ricker and W. S. Hendrixson was appointed, and also one on forestry, consisting of L. H. Pammel, T. H. Macbride and H. A. Mueller.

L. H. PAMMEL.

THE NEBRASKA ORNITHOLOGISTS' UNION.

THE annual meeting of the Nebraska Ornithologists' Union was held in the lecture room of the Omaha City library, January 12, 1901. President J. S. Trostler called the meeting to order for a business session which occupied the morning. During the noon hour the visiting members were the

guests of the resident members, who had a luncheon prepared in the dining-room of the Omaha Commercial Club. The afternoon was devoted to the reading and discussion of papers. Measures were adopted and resolutions drafted in the interest of greater protection for all birds of the State. It was the expression of the body that the growing revulsion of feeling against bird slaughter would soon lead to such improved sentiment that the hunter's path through the woods could not be tracked by the blood of birds shot indiscriminately.

In the absence of Mr. J. H. Ager, State Warden of the League of American Sportsmen, Professor Lawrence Bruner reported upon an important measure for the protection of fish, game, and birds, to be presented for legislative action at the present session. The recent balloting for officers resulted as follows: *President*, Erwin Hinckley Barbour, Lincoln; *Vice-President*, Miss Elizabeth Van Sant, Omaha; *Corresponding Secretary*, J. C. Crawford, Jr., West Point; *Recording Secretary*, Robert H. Wolcott, Lincoln; *Treasurer*, Charles Fordyce, University Place; *Executive Committee*, Lawrence Bruner, Lincoln; F. H. Shoemaker and J. S. Trostler, Omaha. The Secretary announced the present membership as ninety-five.

PROGRAM.

President's Address, 'History of Ornithology in Nebraska and of State Ornithological Societies in General,' by J. S. Trostler, Omaha.

'The Relation of Birds to Agriculture,' by L. Bruner, Lincoln.

'Injurious Traits of the Blue Jay,' by E. D. Howe, Table Rock.

* 'Ornithology in the Schools,' by Wilson Tout, Utica.

'The Value of Birds as Objects of Study in the Grades,' by Chas. Fordyce, University Place.

'A Late Nest of the Ruby-throated Hummingbird,' by Frank H. Shoemaker, Omaha.

'Young Rose-breasted Grosbeaks,' by Elizabeth Van Sant, Omaha.

'The Breeding of the Prothonotary Warbler in the
* Read by title.

Missouri River Bottom,' by M. A. Carriker, Nebraska City.

'Observations on Traill's Flycatcher,' by M. A. Carriker, Nebraska City.

* 'On the Distribution and Breeding Habits of Bell's Vireo,' by Merritt Cary, Neligh.

'Some Notes on a Chimney Swift Tree,' by J. S. Trostler, Omaha.

'Birds that Nest in the State,' by L. Bruner, Lincoln.

'A Peculiar Disease of Birds' Feet Observed in Western Nebraska,' by E. H. Barbour, Lincoln.

* 'Intestinal Parasites of Nebraska Birds,' by H. B. Ward, Lincoln.

* 'Changes in the Bird Fauna of the Prairies in the Last Thirty Years,' by L. Sessions, Norfolk.

'Additional Observations on the Birds of Northwest Nebraska,' by J. M. Bates, Long Pine.

'Results of a Collecting Trip to Sioux County,' by J. C. Crawford, Jr., West Point.

'Notes on Cherry County Birds,' by J. S. Hunter, Lincoln.

'Notes on Birds from Western Nebraska,' by A. R. Graves, Kearney.

'Notes on Some of the Rarer Birds of Gage County,' by M. H. Swenk, Beatrice.

'Additional Observations on the Keeping of Records,' by R. H. Wolcott, Lincoln.

'Sketch of M. L. Eaton,' by R. H. Wolcott, Lincoln.

* 'Behavior of Birds when driven from their Nests,' by W. Edgar Taylor.

'Miscellaneous Notes.'

After President Trostler had inducted the newly elected President into office, the meeting was adjourned.

EDWIN H. BARBOUR,
UNIVERSITY OF NEBRASKA. *Secretary.*

THE KANSAS ACADEMY OF SCIENCE.

THE thirty-third annual meeting of this Academy was held at Topeka on Dec. 28-29. The following papers were read:

E. B. Knerr reported upon an artesian well at Muskotah, from which a very potable water flows at the rate of fifty-five gallons per minute. This water has a temperature of 56° F. J. T. Willard gave an account of some experiments on the relative digestibility of raw and cooked proteids. The experiments were made upon peas, beans, oat-

* Read by title.

meal, and flour, with a weak pepsin solution. The general results showed that the proteids in all these articles were much more digestible raw than cooked. While cooking diminishes the digestibility of the proteids, it of course increases that of the carbohydrates. The same author reported some results obtained at the Experiment Station in reference to the effect on the soil of continuous cropping of wheat. The figures given showed that the soil was in a marked degree deprived of soluble phosphoric acid by this continuous cropping. Parallel analyses were made of the soil of a field where wheat had been grown continuously for many years, and of an adjoining field where a variety of crops had been grown, and in the latter this loss of phosphoric acid did not occur. Professor Willard also discussed the effect of oxygen upon organic life. The tests made showed that, as far as the lower animals were concerned, it made very little difference whether they breathed oxygen or ordinary air.

A. E. Langworthy gave a complete report of a diamond drill boring recently made at Atchison. The drill disclosed no less than sixteen seams of coal, having together a thickness of fourteen feet and six inches. The most interesting of these seams are a 36-inch seam at a depth of 1,123 feet, a 28-inch seam at 1,187 feet, and a 15-inch seam at 1,197 feet. The 36-inch vein is a specially good quality of coal. An analysis of the Mississippian limestone, from this boring, is reported by Fred. B. Porter. W. C. Bauer reported on the work of the United States Coast and Geodetic Survey as carried on at Baldwin.

C. N. Gould read a paper on the salt plains of Oklahoma. The largest of these covers an area of nearly 50 square miles. Salt springs are found in various localities, so that a practically inexhaustible supply of salt can be obtained. The same author reported on the 'Southern Extension of the