Mrs. Christine Ladd Franklin read a paper on the 'Reduction to Absurdity of the Ordinary Treatment of the Syllogism,' which will be published in SCIENCE. Other papers in the philosophical section were 'The Kantian Doctrine of Space,' by Professor George S. Fullerton; 'Nietzsche,' by Professor Grace Neal Dolson; 'Professor Ladd's Theory of Reality,' by Professor William Caldwell; 'The Doctrine of the Two-fold Truth,' by Professor F. C. French; 'A Study of Pluralism,' by Professor A. H. Lloyd; 'The Problem of an Emotional Logic,' by Professor W. M. Urban; 'Examination of Professor Sidgwick's Proof of Utilitarianism,' by Dr. Ernest Albee 'A Peripatetic Formula for the Moral Ideal,' by Professor W. R. Newbold; 'Active and Passive Reason in the Writings of Aristotle,' by Professor W. A. Hammond. The last named paper was read by title.

LIVINGSTON FARRAND.
COLUMBIA UNIVERSITY.

IOWA ACADEMY OF SCIENCES.

THE fifteenth annual meeting of the Academy met in Des Moines, Iowa, on December 26, 27, 28, 1900. A lengthy and an excellent program was carried out. The annual semi-popular lecture was given by Dr. Wm. Trelease, of the Missouri Botanical Garden, on the 'Harriman Alaska Expedition' on Thursday evening to a large and highly appreciative audience. The president, Professor W. H. Norton, delivered his presidential address on the 'Social Service of Science' on Wednesday evening. Professor Norton sketched briefly the service of science to society. This service is not appreciated as it should be, and yet nearly every modern convenience in the industrial world had its origin in the discovery of some scientific truth by some scientist, as in medicine, physics, electricity and mechanics.

Geological papers were presented by Dr. Charles R. Keyes on 'Depositional Equivalent of Hiatus at Base of our Coal Measures'; and the 'Arkansan Series,' a new terrane of the carboniferous in the western interior basin. The present Arkansas valley, however, has probably been formed entirely since Tertiary times, and by a system of drainage in no way dependent upon the carboniferous drainage. Where the great uplift of Missouri and Arkansas over the northern part—embraced by the so-called Ozark isle—and the southern part composing the Ouchita mountains were made up of resistant limestones, these yielded less quickly to erosion than the central soft shales; and the Arkansas river, which happened in old peneplain to traverse the central part of the uplifted area, was able to cut its way down as fast as the region rose, and was thus able to maintain its old course. In his paper on 'Names of Coals West of the Mississippi River' he indicated the stratigraphical units of the carboniferous in the western interior coal fields—the terranes of the Missourian, Des Moines and Arkansan being given. In a paper on the volcanic necks of Piatigorsk, Southern Russia, he briefly described the highest peak in Europe, Mt. Elburz, which is 18,526 feet above the level of the sea. Mr. T. E. Savage briefly gave an account of the 'pre-Kansan Drift Exposure in Tama County, Iowa.' His conclusions were based on the buried soil, in which organic matter was found, leaching, and an oxidized zone. Professor Shimek made a comparison of the loess and modern 'Molluscan Fauna of Iowa City and Vicinity.' A large number of the species enumerated are aquatic.

Of chemical papers, Professor Nicholas Knight, on 'Some Recent Analyses of Iowa Building Stones,' stated that the chemical composition varied from nearly typical dolomite to admixtures in different proportions of calcium carbonate and dolomite. In his paper on 'Potable Waters' chemical an-

alyses were recorded for deep wells in Mount Vernon as well as analyses from the Cedar river. The wells were all more than 100 feet deep, the albuminoid ammonia running as high as .088, free ammonia .084, nitrates 1.38; the latter amount of nitrates was found in an artesian well which supplies the city of Mount Vernon and is 330 feet deep.

Dr. J. B. Weems and Mr. J. C. Brown presented a paper on 'The Influence of Chlorin as Chlorid in the Determination of Oxygen consumed in Water Analysis.' In this paper attention was called to the large amount of chlorin as chlorids in the deep well waters of the State. Naturally in the determination of the oxygen consumed in these waters there is a question of interest as to the effect of the chlorids in the potassium permanganate solution. The effect of chlorin in the form of sodium chlorid, in amounts from 5 parts to 1,800 parts per million of water, was investigated, using the Kubel, Schultz, Tidy or English, and the Association methods.

Another paper by the same authors considered the chemical investigation of a well which was the probable cause of an epidemic of typhoid fever.

Dr. J. B. Weems and Mr. H. N. Grettenberg presented a paper on 'A Study of Some Cotton-seed Oils' in which the analytical results of nine samples of cotton-seed oils were given and the results compared with the usual standards for oils of this class. Professor Alfred N. Cook discussed the 'Diphenyl Ether Derivatives,' being a summary of our present knowledge of the subject, as well as some original work on the diphenyl ether derivatives.

Zoological papers were presented as follows: Professor H. M. Kelly, 'Notes on the Time of Sexual Maturity in Certain Unios.' He believes that the period of sexual maturity does not always recur every year. Professor H. W. Norris in a paper on a 'Combination of Chromic Acid, Acetic Acid and Formalin as a Fixative for Animal Tissue,' gave excellent results for fixing mammalian tissues—in some tissues better results than he has been able to obtain with any other fixing fluid; it is especially good for glands and mucous epithelium. It is not satisfactory for nervous tissue. In his paper on the 'Morphology and Function of the Amphibian Ear,' Professor Norris stated that in this transition class of vertebrates, the Amphibia, the organ of hearing originated from an organ of equilibration which latter function is always retained. Professor H. E. Summers presented a paper on the 'Generic Synopsis of the Nearctic Scutelleridæ and Cydnidæ.' Professor E. D. Ball presented a monograph on 'A Review of the Tettigonidæ of North America North of Mexico.' Of the 500 or more described species the great majority are found in the region between Mexico and Brazil. Seven genera are represented in America north of Mexico.

Bacteriological papers were presented as follows: C. H. Eckles, 'A Comparison of Media for the Quantitative Estimation of Bacteria.' It was noted that ordinary peptone agar is not suitable for the development of a large number of bacteria, especially the lactic acid species. Both lactose gelatine and lactose agar gave much better results than either peptone agar or peptone gelatine. L. Russell Walker, in a paper on 'Sewage Disposal,' with special reference to the number of bacteria found in the sewage and effluent of the Iowa State College sewage plant from September 1, 1899, to September 1, 1900, stated that it was found that the percentage of gas-producing bacteria was greatest in the manhole and least in the effluent, while the number in the tank lies between. L. H. Pammel, in 'Notes on the Bacteriological Analysis of Water,' gave the results of an examination of the water supply of the Iowa State Col-

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 '*Cupuliferæ* and *Juglandaceæ* 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.