TABLE III

Summary showing Relative Effect of Fineness of Division of Pulverized Limestone and CaO on the Decrease (in Per Cent.) of the Original Lime Requirement of Four Typical Soils

Treatment	Norfolk (Va.) Sandy Loam	Wooster (O.) Silt Loam	Carrington (Iowa) Silt Loam	Cumberland (Tenn.) Silt Loam	Av.
Check	0	0	0	0	0
20–40-mesh limestone	35	34	32	33	34
60–80-mesh limestone	54	95	58	58	66
100–200-mesh limestone	62	95	97	73	81
200+-mesh limestone	65	88	97	80	83
CaO	62	51	89	65	67

tion of limestone increasing in fineness of division as shown in Table III. The calcium oxide does not appear to be quite as valuable as the 200-M. limestone, which may possibly be due to the fact that the former proved initially superior in neutralizing the acidity, but allowed a subsequent accumulation of acidity to take place, while the latter neutralized the acidity more gradually and in a more progressive manner.

The writer has experiments in progress which indicate that increasing the fineness of division of pulverized limestone is responsible for increasing the biological activities such as ammonification, nitrification and nitrogen-fixation. A study is also being made of the effect of leaching upon the relative efficiency of different finenesses of division of pulverized limestone, with and without ammonium sulphate. This is carried out in galvanized iron tanks (containing 130 lbs. of soil) which have stopcocks permitting the collection of drainage water. In a sandy soil the growth of four successive crops indicates that the 60-M. is superior to the 20-M. or the finer grades of limestone, probably because in such deep pots (17 in.) and such a light soil, the finer material is washed down below the root zone.

NICHOLAS KOPELOFF

RUTGERS COLLEGE,
NEW BRUNSWICK, N. J.,
November 3, 1916

ILLINOIS STATE ACADEMY OF SCIENCE

THE tenth annual meeting of the Illinois State Academy of Science was held at Knox College in Galesburg on February 23 and 24. About one hundred members and delegates and some two hundred citizens of Galesburg attended the various sessions. Over forty new members were elected. Four sessions were held, as follows:

Friday afternoon, a general session at which the following papers were read:

"Safeguarding the Food and Water Supply, a Function of the State," by E. H. S. Bailey.

"Wireless Transmission of Messages in the Olden Time," by Francis E. Nipher.

"Botanical Installation in the Field Museum of Natural History," by Chas. F. Millspaugh.

"The Purpose of Science Teaching in a University," by W. A. Noyes.

"Plant Ecology and its relation to Agriculture," by Warren G. Waterman.

"Activated Sludge Process of Sewage Treatment," by Edward Bartow.

"Contribution of the College to High-school Science Teaching," by John C. Hessler.

On Friday evening, the members of the academy and delegates present and over a hundred citizens of Galesburg enjoyed a banquet at the Galesburg Club. A special session, marking the tenth anniversary of the academy, immediately followed the dinner. At this session, remarks suitable to the occasion were made by the following delegates from other organizations: Professor F. E. Nipher, St. Louis, American Philosophical Society, Academy of Science of St. Louis; Dr. W. A. Noyes, Urbana, National Academy of Sciences; Professor J. E. Wells, Beloit, Connecticut Academy of Arts and Sciences; Professor H. S. Conard, Grinnell, Iowa Academy of Science; Professor E. H. S. Bailey, Lawrence, Kansas Academy of Science; Professor W. H. Hobbs, Ann Arbor, Michigan Academy of Science; Dr. H. S. Pepoon, Chicago, Chicago Academy of Science; Dr. C. W. East, Springfield, Illinois State Board of Health; Dr. F. W. DeWolf, Urbana, Illinois State Geological Survey; Dr. A. R. Crook, Springfield, Illinois State Museum; Mr. E. B. Vliet, Champaign, Chemical Club, University of Illinois; Professor Edward Bartow, Urbana, Illinois State Water Survey; Professor F. L. Stevens, Urbana, Bacteriological Club, University of Illinois.

The following had accepted invitations to be present at this program but were unable to be pres-

ent and responded by letters or telegrams: Dean C. H. Eigenmann, Bloomington, Indiana Academy of Science; Dr. J. B. Shaw, Urbana, Mathematics Club, University of Illinois.

In addition to the greetings brought by these delegates, the American Academy of Arts and Sciences, the California Academy of Sciences and the Ohio Academy of Sciences presented their felicitations by letter regretting that these could not be offered personally.

Dean Eigenmann's message was in the form of an eight-page telegram in which he reported a dream which he had lately experienced. He dreamed that he and his neighbor, Billy Sunday, had died and presented their credentials to his Satanic Majesty at the same time. It appeared that Billy's credentials were not good for permanent admission to the place, but he was allowed to look in and was greatly amazed to find that the numerous men of science whom he had condemned to the place were all there and having a thoroughly good time. They were carrying on all kinds of scientific experiments for which the high temperature was especially suitable, and had so improved the place that Billy longed for permission to remain.

This program lasted until a late hour, and President William Trelease was compelled to forego the reading of the presidential address which he had prepared on the suggestive title: The Producer, the Distributer and the Consumer.

The program for Saturday morning consisted of a symposium on the topic Public Health Problems. The following were the speakers and topics of this program:

Opening of the Symposium, by Dr. J. H. Beard.

"Infant Mortality as a Public Health Problem," by Miss Emma Duke.

"The Control of Infectious Disease," by Dr. C. W. East.

"Rural Sanitation," by Surgeon M. J. White.

"Relation of Water Supplies and Sewage Disposal to Public Health," by Mr. Paul Hansen.

"Cancer, as a Public Health Problem," by Dr. J. F. Percy.

The symposium was followed by a special lecture, complimentary to the people of Galesburg, on the topic "Earth Genesis," by Dr. T. C. Chamberlin, of Chicago University.

On Saturday afternoon, the academy was divided into three sections for the presentation of papers as follows:

SECTION I

Papers on Botany and Allied Subjects

"The Chestnut in Illinois," by William Trelease.

"Dwarf Shore Floras," by H. Walton Clark.

"The Primrose Rocks of Illinois," by H. S. Pepoon (lantern).

"A Dipterocarp Forest," by Frank C. Gates.

"Elementary Teaching of Stem Structure," by Henry S. Conard.

"A Contribution of Knowledge of Porto Rican Fungi," by F. L. Stevens.

"*Phyllachora* on Corn and a General Consideration of the Genus *Phyllachora*," by Nora E. Dalbey.

"*Alternaria* in Apple Spots, an Apple Rot caused by *Gliocladium viride*," by Frances Jean MacInnes.

"Notes on *Cephaleuros Virescens*," by Ruth Higley.

"New or Noteworthy Fungi from Porto Rico," by Ernest M. R. Lamkey.

"Two Porto Rican Plant Diseases," by L. E. Miles.

SECTION II

Papers on Zoology, Physiology and Allied Subjects

"Selection, Regression and Parent-Progeny Correlation in *Aphis avenae* Fab.," by H. E. Ewing.

"Collecting Snails in the Southwest," by James H. Ferriss.

"Amphibians and Reptiles of the Charleston Region," by T. L. Hankinson.

"Crane Town on the Spoon," by Dr. W. S. Strode.

"Mechanism regulating the Laying on and Loss of Flesh."

"The Cause of Exophthalmic Goiter," by W. E. Burge.

"The Effect of Starvation on the Catalase Content of Tissues," by Alma J. Neill.

"Recent Research in the Department of Household Science, University of Illinois," by Ruth Wheeler.

"The Content of a General Science Course," by J. F. Groves.

SECTION III

Papers on Physics, Chemistry, Geology and Allied Subjects

"The Origin of Desert Depression," by William Herbert Hobbs.

"The Thebes Sandstone and Orchard Creek Shale, and their Faunas," by T. E. Savage.

"The Physical History of the Upper Mississippi Valley During the Late Paleozoic," by Francis M. Van Tuyl.

"The Climatic History of Alaska, from a New Viewpoint," by Eliot Blackwelder.

"An Improved Form of High Vacuum, High Speed Mercury Vapor Air Pump" (lantern).

"A Simple Demonstration Tube for Exhibiting the Mercury Hammer, Glow by Mercury Friction and the Vaporization of Mercury at Reduced Pressures" (demonstration).

"Visible Color Effects in a Positive Ray Tube Containing Helium" (demonstration, lantern), by Chas. T. Knipp.

"A Study of Indoor Humidity" (lantern).

"The Rate of Combustion of Some Illinois Coals" (lantern), by F. D. Barber.

"Derivatives of Iso-Camphoric Acid," by Glen S. Skinner.

The officers elected for the ensuing year are as follows: Dr. J. C. Hessler, James Millikin University, Decatur, President; James H. Ferris, Joliet Vice-president; Professor T. L. Hankinson, State Normal School, Charleston, Treasurer; Professor J. L. Pricer, State Normal University, Normal, Secretary.

J. L. PRICER,
Secretary

NORMAL, ILL.

SOCIETIES AND ACADEMIES

THE BIOLOGICAL SOCIETY OF WASHINGTON

THE 564th meeting of the society was held in the assembly hall of the Cosmos Club, Saturday, January 27, 1917, called to order at 8 P.M. by President Hay with 45 persons present.

Under the heading of brief notes, Messrs. W. L. McAtee and A. Wetmore made remarks on certain misconceptions as to the notes of some common species of birds and as to a theory of the migration of birds.

Under the heading exhibition of specimens, Dr. O. P. Hay showed a metacarpal of a horse with well-developed lateral metacarpals, and three fused metacarpals of a cow each with well-developed digits.

Dr. L. O. Howard commented on an enthusiastic antimosquito convention, which he had lately attended in New Jersey.

The regular program consisted of two communications:

Exploitation of Neglected Aquatic Resources: H. M. SMITH.

Dr. Smith called attention to many forms of fishes not used as food by the American public, but which are of pleasing taste and good food value. Many of these have long been used for food by Europeans, especially about the North Sea. He gave a brief résumé of the discovery, disappearance, rediscovery of the tilefish and of its successful introduction to the consumer through exploitation by the Bureau of Fisheries. He then described the dogfish and its habits destructive to other fish and the losses caused by it to fishermen. He told of the efforts now being made by the Bureau of Fisheries to market the dogfish as a food. Under the name of grayfish it is now being successfully canned and marketed by some of the New England fisheries and by some of the salmon canneries on the Pacific coast during the winter months when salmon are unattainable. The canned meat not only constitutes one of the cheapest forms of protein now available, but the livers of the dogfish yield a valuable oil; the oviducts, eggs; and the skin a leather which has many possibilities. Discussion by Messrs. Ames, Bean and Doolittle.

Showers of Organic Matter: W. L. MCATEE.

Under this heading Mr. McAtee gave a review of the various apocryphal and authentic instances in which hay, grain, various insects, encysted animalcules, worms, frogs, toads, fishes and birds had fallen from the sky. The explanation was offered that the objects had been carried aloft by violent currents of air.

THE 565th meeting of the society was held in the assembly hall of the Cosmos Club, Saturday, February 10, 1917, called to order at 8 P.M., by President Hay with 30 persons present.

Two formal communications were presented:

A Mortality of Fishes on the West Coast of Florida: H. F. TAYLOR.

During the months of October and November, 1916, vast numbers of fishes were killed in the region mentioned, by some obscure cause. It appears to be a recurrence of the phenomenon observed in 1844, 1854, 1878, 1880, 1882, 1883, 1908. Of the dead fishes 63 species, representing 37 families, were identified. The animals killed were confined, with the exception of king crabs, sea urchins and sponges to the class Pisces. Various suggested causes were examined; foul Everglade water, diseases and volcanic eruptions are inadequate explanations. Evidence at hand seems rather to show that the cause of mortality was the release of occluded bottom gases by small seismic disturbances, or possibly by abnormally large numbers of Peridinii. Mr. Taylor's paper was illustrated by lan-