similar unsuccessful attempts to extract pancreatic insulin.

Suffice it to say in conclusion that attempts by various new methods are now being made by a small group of the most expert and practical insulin workers of the country, to extract this insulin, although its existence must be considered as already proven by other indisputable facts.

GEO. H. TUTTLE, M.D.

SOUTH ACTON, MASS.

SOCIETIES AND ACADEMIES

THE ILLINOIS STATE ACADEMY OF SCIENCE

THE twenty-fifth annual meeting of the Illinois State Academy of Science was held at the University of Chicago on May 6 and 7, 1932. General addresses were given on the following subjects: "Twenty-five Years of the Academy of Science," M. M. Leighton, chief, State Geological Survey, Urbana; "Glacial History of the Chicago Area," J. Harlen Bretz, University of Chicago; "The National Forest Movement in Illinois," L. E. Sawyer, State Natural History Survey, Urbana; "The Coming of Man," Fay-Cooper Cole, University of Chicago, retiring president.

Resolutions were adopted protesting against the contemplated action of Congress in reducing so severely the appropriations for scientific research, and in support of the establishment of National Forest purchase units in southern Illinois.

There were ten sectional meetings held, including the organization meetings of sections in anthropology and agriculture. The programs of three sectional meetings were devoted to symposia on the following subjects: Agriculture—"Recent Changes in Food Habits and Their Causes"; Anthropology—"Illinois Prehistory"; Economics—"Taxation." The section of physics and chemistry voted to organize separate sections in the two sciences for the 1933 annual meeting.

The meeting was attended by about 700, including about 200 delegates of high school science clubs, who attended the meeting of the junior section. Exhibits prepared by members of high school science clubs were shown, and prizes awarded. Opportunities were afforded for those attending the meeting to visit the Belfield Experimental Museum of Physics, the New Oriental Institute at the University of Chicago, the Adler Planetarium, the Shedd Aquarium and the Field Museum of Natural History.

The officers elected for 1932–33 were:

President: Harry F. Ferguson, State Department of Public Health, Springfield.

First Vice-President: A. C. Noe, University of Chicago.

Secretary: Harold R. Wanless, University of Illinois.

Treasurer: George D. Fuller, University of Chicago.

Librarian: A. S. Coggeshall, State Museum, Springfield.

Editor: Dorothy E. Rose, State Geological Survey, Urbana.

The following were chosen as chairmen of committees:

Membership: D. L. Carroll, State Geological Survey, Urbana.

Affiliation: J. C. Hessler, Knox College, Galesburg.

Ecological Survey: A. G. Vestal, University of Illinois.

Conservation: H. C. Cowles, University of Chicago.

State Hall of Fame: M. M. Leighton, State Geological Survey, Urbana.

Sectional chairmen selected for the 1933 annual meeting are:

Agriculture: H. W. Mumford, University of Illinois.

Anthropology: A. R. Kelly, University of Illinois.

Botany: H. S. Pepoon, State Natural History Survey, Urbana.

Chemistry George C. Ashman, Bradley Polytechnic Institute, Peoria.

Geography: Ruby Harris, Eastern Illinois State Normal School, Charleston.

Geology: J. E. Lamar, State Geological Survey, Urbana.

Junior: A. E. Cockrum, West Chicago.

Medicine and Public Health: N. O. Gunderson, Rockford.

Physics: Otis B. Young, Southern Illinois State Normal School, Carbondale.

Psychology and Education: Ralph W. Pringle, Illinois State Normal University, Normal.

Zoology: W. P. Hayes, University of Illinois.

HAROLD R. WANLESS,
Secretary

THE NEW HAMPSHIRE ACADEMY OF SCIENCE

THE thirteenth annual meeting of the New Hampshire Academy of Science was held on May 27 and 28, 1932, at Wolfeboro, New Hampshire.

On Friday night, May 27, the academy was addressed by Professor Charles Proctor, of Dartmouth College, on "Duck Hawks." The lecture was illustrated by many slides and by moving pictures showing the nesting habits, the rearing of the young and the day-by-day life of the parents and the young. The pictures were secured from a blind that was

lowered from the top of a steep high cliff to within eight feet of the nest.

On Saturday morning papers were read and discussed by members of the academy, and a visit was made to the Libbey Museum. In the afternoon the papers remaining on the program were read, and the retiring president, Professor J. W. Goldthwait, delivered the presidential address, "The Destruction and Preservation of Nature in New Hampshire."

At the business meeting the officers elected for 1932–33 were:

President, Professor Norman E. Gilbert, physics department, Dartmouth College.

Vice-president, Mr. Samuel P. Hunt, New Hampshire Public Service Company, Manchester.

Secretary-Treasurer, Professor Thomas G. Phillips, department of agricultural and biological chemistry, University of New Hampshire.

Member of Executive Council, Professor J. W. Goldthwait, geology department, Dartmouth College.

GEO. W. WHITE,
Retiring Secretary

SCIENTIFIC APPARATUS AND LABORATORY METHODS

A MODIFIED MEDIUM FOR PLATING L. ACIDOPHILUS

In a previous communication,[1] a special agar medium was reported for the routine plating of *L. acidophilus.* Within the past year a modification of this medium has been developed which has proved more efficient.

In preparing this modified medium, 1 per cent. Difco peptonized milk is added to the original formula. Since the original medium was first reported, several details of preparation have been changed for reasons not evident at the time of the previous report. Because these have a pertinent bearing on the quality of the medium, the detailed method for the preparation of the new modified medium follows.

Mixture A: Add ten grams Difco peptone and 10 grams Difco peptonized milk to 400 cc of juice filtered from a good quality of canned tomatoes. Heat this mixture gently to dissolve the peptone and peptonized milk. Unnecessary heating of the tomato juice should be avoided. The reaction of the solution is changed to pH 6.0–6.2. There should be little deviation from this suggested reaction.

Mixture B: Add 11 grams dried agar to 600 cc distilled water and autoclave this mixture to dissolve the agar.

Just previous to the removal of Mixture B from the autoclave, bring Mixture A to the boiling point. Then mix A and B while both are hot and filter through a thin layer of absorbent cotton. Distribute the filtered medium in containers (test-tubes preferred) and sterilize by heating in the autoclave at 120° C. for eight minutes.

The properly prepared medium at this point is a clear agar, of a light brown color, having a final reaction of pH 6.0–6.2.

The reaction of the finished medium must not deviate very much from pH 6.0. When this medium was first developed, the reaction before autoclaving was adjusted to pH 7.2–7.4. During the sterilizing process, there was a decided drop in the pH, the final reaction sometimes being as low as 6.0. LaMer, Campbell and Sherman,[2] quoting the work of Nef, have reported that during the heating of an alkaline tomato juice the acidity increases considerably, due to the decomposing action of the hydroxyl ions on the sugars, resulting in the formation of organic acids. In an acid medium this analysis does not take place when this material is heated and, hence, the reaction remains quite stable. In our experimental work the pH of an acid tomato agar (pH 6.0) did not change after being held at 120° C. for 20 minutes.

Recently we made the interesting discovery that some strains of the X-type *L. acidophilus* develop very poorly in the tomato medium if the finished product has a reaction of pH. 6.8–7.0, especially when only a small amount (5 per cent.) of CO_2 is added to the incubation atmosphere. A method for incubation of agar plating of *L. acidophilus* in an atmosphere containing from 5 to 20 per cent. of CO_2 has been previously described by the senior author.[3] Further observation brought to light the fact that a tomato medium, which because of its reaction before sterilization (pH 7.2–7.4) had dropped to pH 6.0–6.2, would support a very good development of *L. acidophilus* colonies. Continued study indicated that most strains of X-type *L. acidophilus* will not develop well in a tomato medium with a reaction near the neutral point. When this same medium is acidified to pH 6.0–6.2, it becomes very satisfactory. It is possible that the chief function of added CO_2 in the incubation atmosphere is to lower the pH. This deduction is strengthened by the observation that a tomato medium of pH 6.0 reaction will support a very good growth of *L. acidophilus* without the addition of CO_2 to the incubation atmosphere. However, the development without added CO_2 is not quite as great as when this gas is used. The exact relationship of these two factors (CO_2 and reaction) in this particular case is under further investigation.

The modified medium, prepared as described, has

[1] SCIENCE, lxvi, 1927, pp. 512–513.

[2] *Journal of American Chem. Society,* 44, 1922, pp. 172–181.

[3] SCIENCE, lxiv, 1926, pp. 304–306.