

interesting presentation for the lay reader, but Dr. Humphreys has made them interesting. Still, "Ways of the Weather" is not for the lay reader alone; it is a book that every professional meteorologist should

have, if for no other reason, because it presents the old and familiar substance of meteorology in a new and fresh garb.

C. W. THORNTHWAIT

## SOCIETIES AND MEETINGS

### THE ILLINOIS STATE ACADEMY OF SCIENCE

THE Illinois State Academy of Science held its thirty-sixth annual meeting on May 7 and 8, at Jacksonville, Illinois, with MacMurray College and Illinois College as hosts. Attendance, although smaller than in recent years, was larger than had been expected, with 329 persons registered.

On the morning of May 7, a general session in Jones Chapel on the Illinois College campus featured two timely addresses. The retiring academy president, F. M. Fryxell, Augustana College, spoke on "American Science in the Development of the Philippines," and Dr. Edson S. Babson, professor of geology, University of Chicago, spoke earnestly of our natural heritage, its benefits and its menace.

During the afternoon of May 7, ten sections of the academy met separately under the direction of section chairmen, in quarters provided by MacMurray College, for the reading of papers by academy members. The Agriculture Section, Dr. O. L. Whalin, University of Illinois, chairman, heard nine papers and had an attendance of nineteen persons. The Anthropology Section, Mr. Ben Nussbaum, Fairbury, chairman, heard ten papers and had an attendance of sixty-five persons. The Botany Section, Dr. K. Richard Johnson, National College of Education, chairman, heard eight papers and had an attendance of twenty-two persons. The Chemistry Section, Dr. H. W. Gould, Northern Illinois State Teachers College, chairman, heard ten papers and had an attendance of twenty. The Geography Section, Dr. L. A. Holmes, State Normal University, chairman, heard four papers by four attendants. The Geology Section, Dr. William E. Powers, Northwestern University, chairman, heard thirteen papers and had thirty-one in attendance. The Zoology Section, Dr. Herbert H. Ross, Illinois National History Survey, chairman, heard seven papers and had an attendance of twenty-six persons.

The Social Science and Psychology and Education sections, with Dr. M. R. Goodson, University of Illinois High School, and Dr. V. Dake Jolley, Wheaton College, as co-chairmen, heard four papers and had an attendance of forty-five persons. These sections also held a special noon luncheon, with Dr. Sylvanus M. Duvall, George Williams College, speaking on the subject, "Wanted, A West Point for Peace Leader-

ship," and a morning session on May 8 to view the University of Iowa's motion picture, "The Effects of Social Climate on Behavior," and to discuss implications of this film for classroom management.

The new Collegiate Section of the Academy, which spans the gap between the Junior Academy of Science and the Senior Academy, with Miss Marjory Merrill, senior in biology, and Miss Eleanor Garvin, senior in chemistry, both of MacMurray College, as chairmen, and Dr. H. R. Wanless, University of Illinois, as coordinator, heard a program of fifteen papers presented by college students from five colleges and universities before an attendance of forty persons.

The Physics Section, Dr. O. L. Railsback, Eastern Illinois State Teachers College, chairman, in recognition of the demands made by war on physicists, asked none of its members to prepare papers but, with twenty-five persons in attendance, devoted its time to a discussion of the preparation and certification of science teachers.

The annual banquet of the academy, held on the evening of May 7, was well attended. The short program included the introduction of new officers and, as the outstanding annual highlight, the awarding by the academy of American Association for the Advancement of Science grants in aid of research to Dr. I. A. Koten, Dr. H. J. Eigenbrodt and Dr. C. L. Bieber, jointly, of North Central College, and to Dr. C. W. Bennett, of Western Illinois State Teachers College.

The banquet was followed by the annual public lecture provided by the academy. Dr. Carl T. Russell, head of the department of research and interpretation of the National Park Service, spoke on the national parks during the war and in the future, illustrating his remarks with lantern slides and with a colored motion picture film.

The morning of May 8 was devoted to tours of inspection of the State School for the Blind, State School for the Deaf and State Hospital for the Insane, all of which are located in Jacksonville. At these institutions the managing officers had arranged special demonstrations of methods and displays of equipment and facilities, by means of which the membership of the Illinois Academy might better understand both what is being done towards the rehabilitation of the blind, the deaf and the insane and also how it is being done.

Officers elected for the coming year were:

*President:* L. J. Thomas, University of Illinois, Urbana.  
*First Vice-President:* A. E. Emerson, University of Chicago, Chicago.

*Second Vice-President:* H. W. Gould, Northern Illinois State Teachers College, DeKalb.

*Secretary:* L. R. Tehon, Illinois Natural History Survey, Urbana.

*Treasurer:* John Voss, Manual Training High School, Peoria.

*Librarian:* Gilbert Wright, Illinois State Museum, Springfield.

*Editor:* Grace Needham Oliver, Illinois State Geological Survey, Urbana.

*Junior Academy Representatives:* Allen R. Moore, J. Sterling Morton High School, Cicero.

*Southern Division:* Mrs. Mary Creager, Chester High School, Chester.

Delegate to A. A. A. S.: R. F. Paton, University of

Illinois, Urbana. Delegate to Conservation Council: V. O. Graham, 4028 Grace Street, Chicago. Publicity Director: Paul Street, Northern Illinois State Teachers College, DeKalb. General Chairman Local Arrangements for 1944: H. W. Gould, Northern Illinois State Teachers College, DeKalb.

Unless unforeseen difficulties arise, the Illinois State Academy of Science will hold its thirty-seventh annual meeting on May 5 and 6, 1944, at DeKalb, Illinois, with the Northern Illinois State Teachers College acting as host. Dr. H. W. Gould, professor of chemistry at that institution, will act as chairman of the committee on local arrangements and already has his committee for the next year's meeting well organized and at work.

L. R. TEHON,  
*Secretary*

## SPECIAL ARTICLES

### ISOLATION AND PROPERTIES OF CHICKEN ERYTHROCYTE NUCLEI<sup>1</sup>

LASKOWSKI recently has published an improved method for the isolation of undamaged chicken erythrocyte nuclei.<sup>2</sup> This method is undoubtedly much superior to the previously existing methods, but a disadvantage of the procedure is that lysolecithin must be used, which is not a convenient substance to prepare and which might not be desirable in case lipid studies were to be made with the isolated nuclei.

We have found that if washed chicken erythrocytes are laked in 0.9 per cent. sodium chloride by means of saponin, the nuclei are rapidly liberated and can be readily isolated by centrifugation followed by washing in 0.9 per cent. sodium chloride solution. The concentration of the sodium chloride solution is very important, since for example if one uses 0.85 per cent. instead of 0.9 per cent. sodium chloride, the nuclei almost invariably form a gel as the result of agglutination while they are being washed.

Our procedure was as follows: Fresh chicken blood was collected at the slaughter house and was defibrinated. The erythrocytes were centrifuged and were washed in 0.9 per cent. sodium chloride solution according to the procedure of Laskowski,<sup>2</sup> except that we have washed only twice. Then they were suspended in sufficient 0.9 per cent. sodium chloride solution to make a volume equal to that of the original volume of blood. To one hundred cc of erythrocyte suspensions was added 5 cc of 0.11 molar phosphate buffer of pH

6.8 to 7.0 containing 0.3 gm of Merek's purified saponin. Practically complete laking occurred in five minutes. The nuclei were then washed four or five times with 0.9 per cent. sodium chloride solution. Usually we have added two or three cc of 0.11 molar phosphate buffer of pH 6.8 to 7.0 to the centrifuged nuclei without stirring, immediately before adding the sodium chloride solution.

Nuclei prepared by this method were found to be of even better microscopic appearance than those prepared by us according to the method of Laskowski. However, we used snake venom to prepare our lysolecithin instead of bee venom as employed by Laskowski. Although upon first examination nuclei prepared using lysolecithin or saponin appeared to be free from stroma, heavily stained preparations examined under high power were found to contain a certain amount of extremely tenuous stroma attached to the nuclei. It appears possible that complete removal of this stroma causes agglutination of the nuclei.

The total lipid content of our nuclei is about 14 per cent., of which a considerable fraction appears to be phospholipid. The desoxyribonucleic acid content of the nuclei, determined by the Dische reaction<sup>3</sup> according to the procedure of Seibert<sup>4</sup> is in the neighborhood of 45 per cent.

The respiration of the nuclei without added substrate was compared with the respiration of nuclei prepared by the method of Laskowski,<sup>2</sup> and also with that of nuclei prepared at pH 6.0 by laking with very dilute citric acid. In the latter preparation much stroma appeared to remain attached to the nuclei,

<sup>1</sup> From the Department of Biochemistry and Pharmacology, University of Rochester School of Medicine and Dentistry, Strong Memorial Hospital, Rochester, New York.

<sup>2</sup> M. Laskowski, *Proc. Soc. Exp. Biol. and Med.*, 49: 354, 1942.

<sup>3</sup> Dische, *Z. Mikrochemie*, 8: 4, 1930.

<sup>4</sup> F. B. Seibert, *Jour. Biol. Chem.*, 133: 593, 1940.