

MINUTES OF THE FIFTY-THIRD ANNUAL MEETING OF THE SOUTH DAKOTA ACADEMY OF SCIENCE

The Fifty-third Annual Meeting of the South Dakota Academy of Science was called to order by President Walter Morgan at 10:00 a.m., Friday, April 26, 1968, in the Auditorium of Voorhees Hall at Huron College, Huron, South Dakota.

The Academy was welcomed to the campus by President D. E. Kerr, Huron College.

The Presidential address entitled, "Impressions, Investigation, Involvement," was presented by President Walter Morgan and follows.

The following committees were appointed by President Morgan:

Auditing Committee: W. G. Long, University of South Dakota; Ralph Huntsinger, South Dakota School of Mines and Technology.

Resolutions Committee: Morton Green, South Dakota School of Mines and Technology; Leo Spinar, South Dakota State University.

Academy Symposium Committee: Loren Hills, Dakota Wesleyan University; Charles Estee, University of South Dakota; Lee Johnson, Augustana College.

The Annual Academy Address was presented by Dr. John W. Dudley in the Huron Senior High School Auditorium at 8:00 p.m., Friday evening following the banquet in the basement of the Hickory House Inn. Dr. Dudley is an Associate Professor of Plant Genetics at the University of Illinois. His talk was entitled, "Biochemistry, Mathematics, and Hunger."

The Annual Business Meeting was called to order by President Walter Morgan at 10:35 a.m., Saturday, April 27 in the Auditorium at Voorhees Hall.

COMMITTEE REPORTS

Conservation Committee

The report of the Conservation Committee was given by Morton Green. Motions were made and carried for accepting the report and the two resolutions presented by the committee. It was noted that the *ad hoc* Committee mentioned in the first resolution refers to the Conservation Committee. The purpose of this resolution was to

assure that members of the Academy act as individuals and not in the name of the Academy. The report and resolutions follow.

Resolutions Committee

Morton Green presented the report of the Resolutions Committee. The report was accepted and follows.

Auditing Committee

W. G. Long and Ralph Huntsinger of the Auditing Committee found the treasurer's report correct and offered their approval. The report was accepted and follows.

Nominating Committee

The report of the Nominating Committee was presented by Charles Estee. The following list of officers nominated and elected are:

President: Charles Sidlo, Sioux Falls
 President-Elect: C. L. Hills, Mitchell
 1st Vice-President: R. Kintner, Sioux Falls
 2nd Vice-President: Ray Dillon, Vermillion
 Editor: W. O. Read, Vermillion
 Secretary-Treasurer: T. Van Bruggen, Vermillion

Executive Council Members-at-large:

Sister M. Veronica Fasbender, Yankton
 Everett Follette, Spearfish
 William Houk, Mitchell
 Dilwyn Rogers, Sioux Falls

Membership Committee:

Robert Stoner, Chmn., Vermillion
 Robert Hempel, Springfield
 Arie Gaalswyk, Sioux Falls
 A. L. Lingard, Rapid City

Collegiate Section Committee:

George P. Scott, Chmn., Vermillion
 Gerald Boos, Yankton
 Les Kamstra, Brookings
 Mrs. Gertrude N. Miller, Aberdeen
 Larry Tieszen, Sioux Falls

Junior Academy Committee:

Rudolph Eslick, Chmn., Vermillion
 Alfred Halsted, Yankton
 Elmer Johnson, Brookings
 Keith Morrill, Sioux Falls
 Joel Padmore, Vermillion

Membership Committee

Mr. Robert Stoner reported the approval of 58 new members in the senior academy bringing the total senior membership to 396.

It was suggested that the secretary include a request for nominations for Honorary Life Members when the call for papers goes out next year. These nominations would then be submitted by the secretary to the membership committee for their consideration. The secretary would include the names of Academy members who are likely to be recommended. The qualification for life membership is twenty-five years as an Academy member.

It was also noted that any obituaries should be reported to the secretary who would then pass on the information to the membership committee. The report was approved as read and follows.

Collegiate Section Committee

Norman Tigner of Huron College presented the Collegiate report. A total of eighteen papers were presented. Thanks were extended to the following judges.

Biological Section: Dale Brockmeyer, South Dakota State University; Keith Morrill, Sioux Falls College; James Schmulbach, University of South Dakota.

Physical Science and Mathematics: W. J. Doescher, Dakota Wesleyan; Edna Grieb, Black Hills Teachers College.

Elisa Fernandez of Mount Marty, Vice-Chairman of the Collegiate Section, gave the report of the winning papers and the election of next year's officers. The report follows.

Junior Academy Committee

Mr. Gerald Konsler presented the Junior Academy report. The report follows. Thanks were extended to the following judges:

Biological Section: Harold Cone, Lead High School; Keith Baldwin and Lowell Stanley, University of South Dakota; Larry Tieszen, Augustana College.

Physical Science: Edna Grieb, Black Hills Teachers College; R. Nelson and J. D. Thompson, Augustana College; Charles Sidlo, Parker High School.

OLD BUSINESS

Secretary-Treasurer's Report

The Treasurer's Report of last year's Annual Meeting (Proceedings, V. 46, 1967) was corrected by the secretary-treasurer as follows:

1. Balance on hand April 22, 1967 should read
Balance on hand April 22, 1966.

2. Under total assets the savings account is listed as \$7,801 and should read #7801, which is the account number.

The minutes and treasurer's report were approved as corrected.

The treasurer's report was given for the year ending April 18, 1968. The report was approved as read and follows.

The treasurer reported that the Academy did not spend the entire amount of money that was budgeted as proposed for 1968. By raising the dues to \$4.00 per annum last year it was possible to build up a reserve for the coming year. The proposed expenditures for 1969 will be approximately the same as those in 1968.

Bell Telephone Award

Mr. Guy Karnes reported on the Bell Telephone Award awarded last year to Jim Duffey, a junior at Brookings High School. This was the first year for the award in this area. The 1967 minutes authorized three students and three instructors to go on the trip. The president noted that the new Junior Academy committee members should look into the possibilities for continued aspects for next year. Mr. Marvin Hanson of Huron College has the details on the present plans for this award. Next year there will be three competitions in Aberdeen, Sioux Falls, and Rapid City. This would not be connected with the Academy. The following year the next three larger high schools would enter competitors for the award with other high schools furnishing competitors for the award in future years.

Editor's Report

Dr. Read reported that June 15 would be adhered to as the Proceedings deadline. The copy would then be sent to the printers by July 1 and should be out by November 1. By December 1 the Proceedings should be in the mail to the members. It was noted that the executive council wished to stress the following points:

1. Papers which are not presented at the meeting should not be accepted for printing in the Proceedings. The section chairmen were asked to report back to Dr. Read if there were delinquencies of people who did not appear.
2. Persons who present papers and publish are to be Academy members. However, an invited paper of a non-member would be published.

NEW BUSINESS

Academy Symposium Committee

The Academy Symposium Committee report was accepted and follows. Roy Kintner noted that the President-elect (Loren Hills)

was to be the chairman of such a committee and that the current president appoint the committee with this man as chairman. This committee would report back next spring.

Academy Consultation to the State of South Dakota

Dr. Kintner moved the adoption of the statement on Academy Consultation to the state of South Dakota. His report follows. The statement was accepted by the membership.

It was noted that this project should probably be carried out through the secretary-treasurer's office with the secretary-treasurer as a permanent contact. It was also noted that the Academy should avoid committing itself to one particular person in State government, and that the project should be viewed as exploratory in nature at this time.

Succession of President Sidlo

President Morgan turned the gavel over to the new president, Charles Sidlo. President Sidlo appointed the following committees:

Conservation Committee

Byron Harrell, Chmn., University of South Dakota
Jack Saunders, Northern State College
David Holden, South Dakota State University

Nominating Committee

S. G. Froiland, Chmn., Augustana College
Charles Estee, University of South Dakota
Willis Kommes, Hot Springs High School
Alexander McHugh, South Dakota School of Mines and
Technology
W. J. Doescher, Dakota Wesleyan University

INVITATION FOR FUTURE MEETINGS

Roy Kintner reported on the invitation for next year. His report follows. A motion was made and seconded to accept Augustana's invitation for 1970. The president then read the invitation from President Moulton of the University of South Dakota to hold the annual meeting for 1969 on April 25-26.

ADJOURNMENT

The meeting adjourned at 12:10 p.m.

Respectfully submitted,
Theodore Van Bruggen, Secretary

Report of the Conservation Committee

The committee notes that it has been referred to as the Nature Conservancy Committee. Since the term is the continuance of a misconception which arose at the time of the committee's origin and since it is confused with a national organization by that name which has an active South Dakota chapter, we suggest that the name of this Academy committee be the Conservation Committee.

The committee has considered the statement of the *ad hoc* Committee for the removal of Bounties in South Dakota and present a resolution on this matter for consideration by the Academy.

The committee has also taken note of the lack of an organized biological station supported by the state. The committee therefore present a second resolution for the consideration of the Academy.

Respectfully submitted,
Jack Saunders
David Holden
Byron Harrell, Chairman

Resolution Presented by the Conservation Committee

Be it resolved that the South Dakota Academy of Science invites the *ad hoc* Committee for the Removal of Bounties in South Dakota to submit their material to the membership of the Academy for their individual consideration.

Resolution Presented by the Conservation Committee

Be it resolved that the South Dakota Academy of Science go on record in support of developing a Biological or Science Field Station in the Black Hills Region in the near future. The purpose of such a station would be to provide students with a more meaningful experience in field courses than is possible from college or university campuses, and to provide a basis for thesis or other research by students and faculty in this interesting biological region. It is therefore requested that those departments and institutions make their support or interest known by contacting one of the following: Dr. Gerald Myers, Biology-Botany Department, South Dakota State University; Dr. Theodore Van Bruggen, Botany Department, University of South Dakota; or Dr. Jack Saunders, Biology Department, Northern State College, so that progress can be made toward planning a station.

Report of the Resolutions Committee

"Be it resolved that the South Dakota Academy of Science gratefully acknowledges the welcome extended by Dr. Daniel Kerr, President of Huron College. Thanks are also extended to the host institution, Huron College, its staff, students, and all others for

their part in helping to make the meeting of the Academy, the Collegiate Section, and the Junior Academy a success."

We move that this resolution be adopted and the secretary be instructed to convey it to Dr. Kerr by letter.

Resolutions Committee:

M. Green

L. Spinar

Report of the Auditing Committee

The Auditing Committee found the accounts of the treasurer to be correct and in proper order.

Respectfully submitted,

W. G. Long

Ralph Huntsinger

Report of the Membership Committee

The Membership Committee reports the approval of 58 new members in the senior division. The Academy now has a membership of 396 members.

The membership committee recommends that, prior to the next meeting, the secretary of the Academy distribute a request to the members for nominations to life membership in the Academy with supporting statements.

Respectfully submitted,

M. Robert Stoner, Chairman

Academy Symposium Committee

The *ad hoc* Committee on the Academy Symposium is composed of Loren Hills, Charles Estee, and Lee Johnson. The report on this symposium was given by Roy Kintner in the absence of the chairman, L. Hills.

The committee was constituted at the suggestion of the executive council to explore the possibility of having a second Academy meeting in the fall, said second meeting to be in the nature of a symposium.

Some of the suggestions entertained by this committee were:

1. A second meeting in the early fall would be highly desirable because:
 - a) it might serve to heighten interest in the Academy by extending our participation.
 - b) by adding another dimension to the Academy the prestige and service of the Academy should be extended.

2. Were this second meeting to be in the nature of a symposium (and this committee felt that it should be), said symposium must be well done and must involve a top flight scientist in an area of interest to the majority of Academy members. Invited papers by members or area non-members could support the main speaker and symposium topic.
3. The second meeting probably should be held on "neutral" ground, *i.e.*, not on a member campus. Holding such a symposium in Pierre for instance, might enhance the Academy's stature if it were well done.
4. To put on a symposium as just described would be expensive—probably exceeding our present abilities to pay. In addition making local arrangements on a neutral site might prove difficult.

This committee therefore recommends that a longer lived committee be appointed to pursue what we feel to be the highly desirable objective of a second Academy meeting to be in the nature of a Symposium. Such committee to be chaired by the President-elect, and to report back to the spring 1969 business meeting concerning the solution of the financial and other problems associated with a second symposium meeting.

Mr. President, I move the acceptance of this committee's recommendation and urge the Academy membership to make comments at this time relative to this suggestion.

Respectfully submitted,

L. Hills, Chairman

Academy Consultation to the State of South Dakota

Mr. President, in the Executive committee meeting Thursday evening considerable discussion centered around the possibility of our Academy offering to assist State and local government when they have questions or problems which lie substantially within the expertise of our membership.

To bring the question before the membership for their consideration I offer the following motion:

The president and executive committee are instructed by the membership of the South Dakota Academy of Science to actively make known to the proper state and civic officials within South Dakota the scientific personnel resources available in the State Academy and their willingness to serve in an advisory capacity to local and state government. The membership requests that this be done very soon and interprets active to mean both written and personal contact.

Respectfully submitted,

R. Kintner

Invitation for Future Meetings

Mr. President, it has been brought to my attention that Northern State College, Aberdeen, has expressed a desire to trade rotation meeting dates with Augustana College. Because of the brevity of notification I do not have a letter of invitation in my pocket but Dr. Charles L. Balcer of Augustana has notified me *via* phone that a letter of invitation for the last weekend in April of 1970 will be in the mail shortly. I therefore extend to the Academy an invitation to meet on the campus of Augustana College, Sioux Falls, in the spring of 1970 rather than 1972 as listed in the rotation plan, page 8, 1966 Bulletin.

Respectfully submitted,
R. Kintner

Report of the Collegiate Section Committee

The business meeting of the Collegiate Section of the South Dakota Academy of Science was held in 406 Voorhees Hall on Saturday at 9:30 a.m.

It was reported that 18 papers were given at the meeting of the various sections.

The following awards were presented:

Earth Science

"Supercooling of Droplets of Water and Dilute NaCl Solutions with and without AgI Nuclei," Janet Wood and Donald N. Blair, South Dakota School of Mines and Technology.

Biology

"A Balanced Biological Life Support System Utilizing Algae and Bacteria," Roderick McNeil, South Dakota State University.

"Temperature Adaptation in the Hill Reaction of *Deschampsia Caespitosa*," James A. Helgager, Augustana College.

"The Effect of Light Intensity on Growth and Photosynthesis in *Deschampsia Caespitosa*," Tom Burkhart, Augustana College.

Physical Science

"Hydrogen Exchange and Deuterium Isotope Effects in the Fermentation of Glucose by *Lactobacillus Leichmannii*," Shirley Skrdla, Mount Marty College.

"Mononitration of Pentamethylbenzene," Donna Tramp, Mount Marty College.

"Artificial Intelligence Using Simulated Evolutionary Programming," Noel L. Rickard and Dennis Olsen, South Dakota School of Mines and Technology.

Mathematics

"A Computer Test for Convergent Sequences," Jean Paulson, Augustana College.

"A Cauchy Sequence in a Hilbert Space," Susan Montague, Augustana College.

Norman Tigner,
Chairman

Report of the Junior Academy Committee

Twelve papers in the life sciences and eleven papers in the physical sciences were presented by members of the South Dakota Junior Academy of Science on Friday, April 26, 1968 during the annual meeting. Awards were given to the following outstanding papers:

Physical Sciences

\$200 scholarship award of the Senior Academy—Greg McCarty, Brookings, "A Study of Four-Substitute Pyridine N-Oxide Complexes with Zinc."

AAAS \$50 award—Dennis Fox, Brookings, "Dependence of Viscosity on Temperature."

AAAS \$50 award—David Graen, Vermillion, "The Effects of Externally Applied Energy on Transistor Functions."

Biological Sciences

AAAS \$50 award—Randy Mollet, Vermillion, "The Transplantation of Fertilized Mouse Ova."

AAAS \$50 award—David Rieger, Rapid City, "Light Factors of Photosynthesis."

Honorable Mention—Randy Rogers, Huron, "The Effects of Benzene Hexachloride on the Bacterium *Rhizobium meliloti*."

Honorable Mention—Kathy Wagner and Sally Thompson, Lincoln High School, Sioux Falls, "LSD and Chromosome Change."

Highlighting the banquet held at the Plains was an address on "Upper Atmosphere Studies" by Mr. Frank Heidelberg, Raven Industries, Sioux Falls. A laser demonstration was given by members of the Bell Telephone Company on Saturday morning.

Limited funds were available to help in defraying costs of attendance. This is the final year of NSF funding.

No newsletter was published during the year. I wish to thank the judges for their cooperation.

Gerald R. Konsler,
Chairman

TREASURER'S REPORT**For Fiscal Year Ended April 18, 1968**

Balance on hand April 18, 1967\$2,157.79

Receipts:

Membership:

Senior Academy	\$963.00
Collegiate Academy	27.00
Junior Academy	90.50
	<u>1,080.50</u>

Interest of Certificates	81.00
AAAS Award	100.00
	<u>181.00</u>

1,261.50

TOTAL RECEIPTS\$3,419.29

Disbursements:

Expense of 1967 Meeting,	
Secretarial	\$ 44.58
AAAS Awards to Students	100.00
Broadcaster Press (membership	
tickets)	18.10
Broadcaster Press (letterhead	
stationery)	57.45
Nature Conservation	5.00
AAAS (Academy Conference)	7.34
AAAS Contribution	7.70
AAAS 1968 Membership	10.00
Scholarship Award—Mr. David	
Slama—payable to S. D.	
School of Mines & Tech.	200.00
Addressograph Multigraph Corp.	8.09
U. S. Postmaster (Bulk	
Mailing Permit)	30.00
Visiting Scientist expense	13.92
Bank charges	1.60
	<u>503.78</u>

TOTAL DISBURSEMENTS\$ 503.78

Balance on hand, April 18, 1968\$2,915.51

TOTAL ASSETS

Cash Balance on Hand	\$2,915.51
Certificate of Deposit #2283	\$600.00
#2282	600.00
#1395	600.00
	<u>1,800.00</u>
Savings Account #7801	1,654.87
	<u>\$6,370.38</u>

MINUTES OF THE SOUTH DAKOTA JUNIOR ACADEMY OF SCIENCE

Registration

Registration for the 1968 annual meeting of the South Dakota Junior Academy of Science began at 8:00 a.m. on April 26, 1968, in Churchill Hall at Huron College in Huron, South Dakota.

General Meeting, April 26

A general meeting was held in the library on the Huron College campus starting at 10:35 a.m. Tom May, president of the South Dakota Junior Academy of Science, welcomed the students and teachers to the 1968 meeting. The schedule and schedule changes were announced. G. R. Konsler, chairman of the committee which supervises the South Dakota Junior Academy of Science, made several announcements and comments. The meeting was dismissed.

Presentation of Papers, April 26

Twenty-three papers were given at the Huron Arena. The speakers, as well as titles of their presentations, are listed as follows:

1. Dave Lundeen, "Environmental Pollution on Wildlife and the Human Race." Senior, Huron High School.
2. David E. Rieger, "Light Factors of Photosynthesis." Rapid City High School.
3. Randall J. Mollet, "The Transplantation of Fertilized Mouse Ova." Vermillion High School.
4. Landon, Nusy, "The Effects of Magnetism on Trees."
5. Robert Kirschenman, "A Nephrectomy." Menno High School.
6. David Graen, "The Effects of Externally Applied Energy On Transistor Functions." Vermillion High School.
7. Gene Nelson, "Tomorrow Transportation." Vermillion High School.
8. Daniel Tobkin, "A Solar Heated Greenhouse." Veblen High School.
9. Alan J. Strohfus, "A Study of the Presence of Diplococcus in Saliva and the Effects of this Bacterium on White Laboratory Mice." O'Gorman High School, Sioux Falls.

10. Catherine Brzica, "The Effect of Two Steroid Sex Hormones on the Growth, Development, and Behavior of Baby Chicks." O'Gorman High School, Sioux Falls.
11. Randy Rogers, "The Effects of Benzene Hexachloride on the Bacterium *Rhizobium meliloti*." Huron High School.
12. Roberta Sandstedt, "Drosophila wing mutations." Rapid City High School.
13. Karen Aukerman, "The Effects of Gibberellin Acid on Plant Growth." Rapid City High School.
14. Sue Davies, "Regeneration and Learning Increase by Cannabilism in *Euplanaria*."
15. Kathy Wagner, "LSD and Chromosome Change." Lincoln High School, Sioux Falls.
16. Gordon Gerry, "Chromatographic Separation of Plant Pigments," Lincoln High School, Sioux Falls.
17. Dennis Fox, "Dependence of Viscosity on Temperature." Brookings High School.
18. Bob Hayes, "Spectroscopic Analysis." Vermillion High School.
19. Dale Baity, "Space Soil Analyzer." Vermillion High School.
20. Raymond Johnson, "Simple Life on Other Planets? How Could We Find Out?" Vermillion High School.
21. Deane Pease, "Mineral Content of Water from Caves in the Black Hills Region." Rapid City High School.
22. Mark Eastwood, "Auto Call: Transmit System for Radioteletype." Lincoln High School, Sioux Falls.
23. Greg McCarty, "A Study of Four-Substitute Pyridine N-Oxide Complexes with Zinc." Brookings High School.

Banquet, April 26

A banquet was held at a ballroom across from The Plains starting at 6:30 p.m. The Huron College Singers provided the entertainment at the banquet. The speaker was Frank A. Heidelbauer from Sioux Falls who worked for Raven Industries. He gave a speech entitled, "The Recovery of Stratospheric Balloon Research in Northern Canada." Several announcements were made and the banquet ended.

Demonstration, April 27

A demonstration on the laser was given by Mike Evans, a representative of Northwestern Bell Telephone Company.

Business Meeting, April 27

The business meeting was called to order at 11:30 a.m. on April 27, 1968, in Huron High School. Old business included the secretary's report on the minutes of the 1967 meeting of the South Dakota Junior Academy of Science read by Barb Scott. David Moberly, secretary-treasurer of the South Dakota Junior Academy of Science, was not present on the second day of the annual meeting due to a

mathematics contest in Vermillion, South Dakota. In his absence, most of his duties were taken over by Roberta Stevenson and Barb Scott of Vermillion High School.

New business included reports by the Resolutions Committee and Nominations Committee, election of new officers, discussion and voting on a motion to create a new standing committee, and the presentation of awards.

The Resolutions Committee's report was given as follows:

"We of the Resolution Committee resolve to thank these people for their work and co-operation:

1. G. R. Konsler from Huron College who organized the entire meeting
2. The Senior Academy and members especially responsible for our successful meeting
3. Judges

Larry Tieszen	Edna Grieb
Lowell Stanley	J. D. Thompson
Harold Cone	Charles Sidlo
Ken Baldwin	V. Ronald Nelson
4. Huron College for the use of its facilities
5. Huron High School for the teachers and the use of the Huron Arena
6. The Huron College Singers at our banquet
7. To Mr. Frank Heidelbauer for his speech at the banquet, and to Mr. Mike Evans for his interesting talk on the laser
8. The Plains, for the use of their ballroom
9. The Junior Academy of Science officers

Tom May—president
Steve Larson—vice president
David Moberly—secretary-treasurer
10. All the members of the Junior Academy, their teachers, and everyone that made this such a successful meeting."

The members of the Resolutions Committee were Leon Larson, Barb Scott, and Roberta Stevenson.

The Nominations Committee suggested the following people as officers:

- | |
|------------------------------------|
| President—Randy Mollet |
| Vice President—Rich Nelson |
| Secretary-Treasurer—Karen Aukermen |
| Editor—Roberta Sandstedt |
| Nominations from the floor were: |
| President—Gorden Gary |
| Vice President—Mark Eaton |

Tom May made some comments on the meeting and then the vote was started. The new officers are:

President—Randy Mollet

Vice President—Rich Nelson

Secretary-Treasurer—Karen Aukermen

Roberta Sandstedt accepted the post as editor of the South Dakota Junior Academy of Science Newspaper.

A motion was made (various people worked on it although the final form was presented by David Graen):

“. . . to appoint a standing committee whose job it would be to promote interest and membership in the South Dakota Junior Academy of Science. Of five members to be appointed, two from each half of the state and the fifth from either half, no two would come from the same high school and all would be chosen by the executive committee.”

The motion was voted in by a show of hands by the members.

Randy Mollet and Greg McCarty presented their papers to the South Dakota Junior Academy at 10:30 a.m.

The meeting was adjourned at 11:45 a.m.

Respectfully submitted,
Secretary-Treasurer

BELL TELEPHONE TRIP

James Duffey, a Junior at Brookings High School was selected by Northwest Bell Telephone Company as the 1967 recipient of the Bell Telephone High School Science Student Trip to the Murray Hill Research Laboratories. He was accompanied by his science instructor, Mr. Guy O. Karnes.

The trip was most enjoyable and both Mr. Duffey and Mr. Karnes reported that they had never received such “red carpet” treatment. They were picked up at their homes by a Northwest Bell car and taken to the Sioux Falls Airport where they were seen off by Bell Telephone officials, including Mr. John H. O’Gara, District Manager of Northwestern Bell. They flew by jet to New York City and there joined the other Bell Telephone award recipients at the Algonquin Hotel. Following a luncheon on Monday, May 15, they were taken by bus to the Research Laboratories at Murray Hill, New Jersey.

The following two days were spent listening to talks by Bell Telephone scientists and visiting research laboratories where the scientists explained the current research and the students and teachers asked questions. On Monday evening the group was housed at the Governor Morris Inn and were guests at a dinner where Dr. William Keister spoke on “Making an Art a Science.” During the

two-day period several other excellent addresses were heard, including “Evolution of the Touch-Tone Telephone,” by Dr. L. Schenker; “Computerized Speech,” by Dr. P. B. Denes; and “Through the Looking Glass,” by Dr. K. G. Van Wymen.

James Duffey comments on the trip as follows: “The trip to the Murray Hill Research Laboratories was most enlightening and very educational. The particular research visited was tailored to each boy’s individual interests. I was interested in electronics. Among the research facilities I visited were those dealing with the development of semiconductor material, evolutions of various telephones, and computerized speech. One of the most interesting parts of the Murray Hill visit was the dinner with a number of the research scientists, some of whom we had heard speak earlier. Here we had the opportunity to visit with these men and ask them questions. This trip was most interesting, and I sincerely hope The Bell Telephone Company continues this program so that many other boys may have the opportunity to visit the Murray Hill Laboratories.”

MEMBERSHIP LIST

The letters in parentheses following the names indicate: A, Mathematics; B, Physics; C, Chemistry; E, Geology; D, Biology (including Zoology, Botany, Physiology, Psychology, Bacteriology, Health, Biochemistry, Wildlife, Nutrition, Philosophy); F, Agriculture (including Agronomy, Poultry Science, Dairy Science, Animal Husbandry); G, Engineering (including Metallurgy); H, English; J, Administrative; *Life Member.

Augustana College

Forman, Richard W. (A)
Foss, Harold (D)
Froemke, John A. (C)*
Froiland, S. Gordon (D)
Gaalswyk, Arie (A)
Gildseth, Wayne M. (C)
Glendinning, William J. (D)
Hanson, Milton P. (C)
Johnson, Leland G. (D)
Kintner, Robert (C)
Landborg, Richard John (B)
Nelson, V. Ronald (B)
Rogers, Dilwyn J. (D)
Rosine, Willard N. (D)
Thiessen, Carolyn (D)
Thompson, J. Darrell (B)
Tieszen, Larry L. (D)
Viste, Arlen E. (C)

Black Hills State Teachers College

Berry, Charles E. (A)
Coacher, Joe B. (C)
Durgin, Max (AD)
Follette, Everette LeRoy (D)
Grieb, Mrs. Edna (C)
Hauck, William C. (D)
Hilpert, Marion M. (D)
Judson, Mrs. Garry (D)
Richmond, Mark G. (C)*

Dakota Wesleyan University

Barca, Robert H. (C)
Dewey, Charles S. (C)
Doescher, Wilmer J. (A)
Hills, Carroll Loran (BC)
Westra, Marlin (A)
Wingfield, Frank J. (D)

General Beadle State College

Brashier, Clyde K. (D)
Buckman, Robert (D)
Hinkley, Richard G.

Huron College

Baribeau, Michael F. (D)
Hanson, Marvin (B)
Konsler, Gerald Ray (D)
Strong, Ralph K. (C)*
Tigner, Norman L. (C)
Weidner, Larry D. (A)

Mount Marty College

Fasbender, Sister M. Veronica (D)
Harris, W. H.
Kilzer, Sister M. Laetitia (C)
Kranz, Sister M. Gemma (B)

Northern State College

Fors, Elton (A)
Miller, Gertrude N. (D)
Oines, Ronald K. (B)
Roberts, R. Evelyn (D)
Saunders, Jack K. (D)
Stolle, Louise C. (D)
Williamson, Grace H. (D)
Wood, J. Edmund (B)

Sioux Falls College

Burney, Gilbert M. (A)
Butler, John L. (D)
Christensen, Jon E. (D)
Klawiter, W. I. (B)
Mills, C. N. (A)
Morrill, Keith (D)
Peterson, Everett E. (C)
Petheran, Harry H. (C)
Zimmerman, Kenneth O.

Southern State College

Dunbar, Edwin C. (D)
Foss, Michael D. (B)
Hemple, Robert D. (D)
Stanley, Lowell (D)
Strong, Robert S. (C)

South Dakota School of Mines & Technology

Aldrich, Douglas E.
Anderson, Paul H. (G)
Ballard, Bruce J. (G)
Barber, Gary Raymond (G)
Blair, Donald N. (A)
Boldt, Charles E. (D)
Chase, Wallace T. (D)
Chen, Peter Cheng-Yu (B)
Cope, Joseph H. (G)
Crooks, Thomas J.
Davis, Briant L. (A)
Dieter, Lowell H. (C)
Feisel, Lyle D. (G)
Garske, David H. (E)
Gilbertson, Lyle I. (C)
Goodell, Harold B. (D)
Green, Morton (D)
Gries, John Paul (EG)
Hanson, Clifford Bruce (G)
Heckart, Harold A. (A)
Heizer, Richard Edwin (CG)
Huntsinger, Ralph C. (CG)
Jonte, J. Haworth (C)
Kernaghan, James S. (G)
Lingard, Amos L. (G)
Lutter, Bernard E. (CG)
Lutz, Carl F. (JG)
Martens, Allen R. (B)
Martin, W. J. (C)
McHugh, Alexander E. (G)
Mickelson, John C. (EG)
Morris, Robert G. (B)
Niven, David William (E)
Osterhof, Gerard G. (C)
Partlo, Fay L. (J)
Patterson, James D. (B)
Redin, Robert Daniel (B)
Russell, James E. (G)
Sandvig, Robert L. (CG)

Schilz, Carl E. (C)
Stedman, Earl A. (C)
Swanson, Edgar L. (A)
Ting, Chen-Wel
Trowbridge, Bruce Douglas (B)
Tsutsumi, Seichi (CG)
Tullis, Edward L. (E)
Wadhvani, Harkishin K. (CG)
Wallace, Carl J. (CG)
Warborg, Thomas E. (CG)
Willard, John W. (C)

South Dakota State University

Acker, Duane (DF)
Balsbaugh, Edward, Jr. (D)
Bentley, Orville G. (F)
Boddicker, Major L. (D)
Brage, B. L. (F)
Brandwein, Bernard J. (C)
Briggs, H. M. (J)
Bryn, Milo F. (A)
Carlson, Charles W. (F)
Dahlgren, Robert B. (D)
Farr, Frank R. (C)
Fox, Alfred (F)
Gejrle, Henry, Jr. (C)
Geise, Harry A. (F)
George, Boyd W. (D)
Graetzer, Hans G. (B)
Greb, Magnhild Torvik (C)
Greb, Raymond J. (D)
Greichus, Algirdas (D)
Greichus, Yvonne A. (D)
Guild, Louise (D)
Halverson, Andres W. (D)
Holden, David J. (D)
Huggins, Ernest (D)
Hutcheson, H. L. (D)
Jensen, William P. (C)
Johnson, Elmer (C)
Jones, Phillip A. (D)
Kamstra, Leslie D. (F)
Kieckhefer, Robert W. (D)
Klug, Harlan L. (C)
Koepsell, Paul L. (G)
Kohlmeyer, William
Linder, Raymond L. (D)
Lund, Lillian O. (D)

S. D. State Univ. (Cont'd)

Luther, Richard M. (F)
 Lynch, Robert H. (B)
 McDaniel, Burruss (D)
 McMullen, Charles (D)
 McRoberts, Donald (C)
 Manning, Melvin L. (G)
 Masteller, Vances (D)
 Miller, Ward L. (D)*
 Mohanty, Guru Prasad (F)
 Moore, Raymond A. (F)
 Morgan, Walter (F)
 Musson, Alfred L. (F)
 Myers, Gerald A. (D)
 Nickum, John G. (D)
 Olson, Edward S. (D)
 Olson, Oscar E. (D)
 Parker, Floyd W. (B)
 Pengra, Robert M. (D)
 Plumart, Phillip (F)
 Progulske, Donald R. (D)
 Raney, James A.
 Roller, M. (D)
 Rue, Rolland R. (C)
 Schmidt, Edward A. (C)
 Schneeweis, James C. (D)
 Schneider, Kenneth C. (D)
 Semeniuk, George (D)
 Spinar, Leo H. (C)
 Taylor, Charles (D)
 Thibideau, Gary A. (D)
 Tunac, Josefino B. (D)
 Turner, Jack A. (D)
 Veal, Jack T.
 Voelker, Howard (F)
 Wadsworth, William S., Jr. (C)
 Walstrom, R. J. (D)
 Webster, V. S. (C)
 White, Everett M. (F)
 Wnuk, Milosz (G)
 Worman, James J. (C)

University of South Dakota

Appelt, Arnold W. (D)
 Beaty, Mrs. Marjorie H. (A)
 Bergstrom, Wils (C)
 Bhatti, Iftikhar H. (D)
 Bierle, Donald (D)

Call, Daniel (D)
 Carraher, Charles, Jr. (C)
 Choudhuri, G. N. (D)
 Churchill, Edward P. (D)*
 Coker, E. Howard (C)
 Connors, Howard William (A)
 Davis, Roger T. (D)
 Delzell, Mark W. (J)
 Dillon, Raymond D. (D)
 Dobson, Gerard R. (C)
 Duffey, Lowell M. (D)
 Dunlap, Donald G. (D)
 Dunstan, Thomas (D)
 Ekman, W. E. (A)
 Estee, Charles R. (C)
 Faber, Gary C.
 Frary, Guy G. (C)*
 Fuller, Thad L. (D)
 Gaush, Charles R. (D)
 Gurzman, Wayne E. (J)
 Haines, A. L. (C)*
 Hampshire, Alan A. (C)
 Harksen, J. C. (E)
 Harrell, Byron E. (D)
 Hasse, Merten M. (A)
 Hoffman, George R. (D)
 Hoffman, William L. (B)
 Huff, Lawrence Russell (A)
 Ideker, Joe
 Johnson, Allen D. (D)
 Kawatski, Joseph (D)
 King, Gary T. (C)
 Long, William G. (D)
 Lufkin, Nathaniel (E)
 Mead, Richard J. (D)
 Miller, Frank D. (D)
 Miller, Norman (C)
 Mitchell, Donald J. (C)
 Moller, Gottfried I. (B)
 Moller, Marget L. (D)
 Moulton, Edward Q. (J)
 Namminga, Harold (D)
 Neuhaus, Otto W. (D)
 Padmore, Joel M. (C)
 Raab, Wallace A. (A)
 Randall, Janet (D)
 Raszkowski, Robert R. (D)
 Read, Willard O. (D)

Univ. of S. D. (Cont'd)

Ross, Earl P. (C)
 Rothrock, E. P. (E)*
 Schulmbach, James C. (D)
 Schoon, Robert A. (E)
 Scott, George P. (C)
 Shaw, Edwin H., Jr. (D)*
 Shimamura, Tetsuo
 Small, Gary D. (D)
 Smith, Gary B. (D)
 Smith, Harold L. (D)
 Smith, Paul F. (D)
 Spencer, Joseph N. (D)
 Spiegel, Douglas K. (D)
 Stene, John W. (A)
 Stevenson, Robert E. (E)
 Stoeckmann, James A. (D)
 Stoner, M. Robert (C)
 Tacker, Robert S. (D)
 Timken, Richard L. (D)
 Tipton, Merlin J. (E)
 Van Bruggen, Theodore (D)
 Vitters, Richard (C)
 Walsh, Gary (D)

Westmar College

Hershberger, A. R. (C)

Yankton College

Boos, Gerald J. (D)
 Evans, Gregg M. (C)*
 Giverod, Douglas S.
 Howell, S. W. (A)
 Jobs, Frank W. (D)
 Kleibacker, Wilson McA. (C)

High School Teachers

Albin, Roy W., Cockeyville, Md.
 Bell, Thomas N., St. Paul Park,
 Minnesota
 Burden, Harry Robert, Hill City

Carlson, Dale R., Worthington,
 Minnesota

Cheadle, James, De Smet
 Cone, Harold D., Lead
 Dale, Lloyd, Lemmon
 Eslick, Rudolph, Vermillion
 Gentry, Robert L., Chelan, Wash.
 Gross, Erwin R., Freeman
 Halsted, Alfred A., Yankton
 Hansen, Muriel, Kimball
 Haynie, Suzanne, Vermillion
 Hiaring, Merlin E., Madison
 Houk, William F., Mitchell
 Jorgensen, Spike, Buffalo
 Karnes, Guy O., Brookings
 Koeniguer, Paul A., Aberdeen
 Kravig, Mrs. C. N., Liad
 Krogman, Franklyn, Winner
 Landegent, John, Jr., Sioux Falls
 Marmion, Sister M., O.S.B., Rapid
 City
 Martin, James M., Jr., Belle
 Fourche
 Moody, Oletta J., Garretson
 Olwell, J. F., Lemmon
 Petzoldt, Herman, Menno
 Pribyl, Darell, Milbank
 Rissky, Roy W., Mitchell
 Selnes, Marvin D., Sioux Falls
 Sidlo, Charles, Sioux Falls
 Stalcup, Rex C., Rapid City
 Stalheim, William, Sioux Falls
 Stanhope, Russell H., Worcester,
 Massachusetts
 Thaddea, Sister M., Sioux Falls
 Thurston, Marion, Page, Arizona
 Tichy, Jerome J., Northridge,
 California
 Vitters, Richard D., Huron

General Classification

Ackroyd, Earl A. U. S. Geological Survey, Huron, S. D.
 Baldwin, Kenneth Briar Cliff College, Sioux City, Iowa
 Belzer, Norbert Washington State Univ., Pullman
 Benson, Norman G. Fisheries Research, Yankton, S. D.
 Biesterfeldt, H. J., Jr. Univ. of Wisconsin, Milwaukee, Wisc.
 Brummel, Cletus Bemidji State College, Bemidji, Minn.

General Classification (Cont'd)

Chace, G. EarlCurator Reptile Gardens, Rapid City
 Dugle, Drs. David L. and
 Janet R.Pinawa, Manitoba, Canada
 Ellis, Michael J.Lincoln, Nebr.
 Friesen, Lorne W.Freeman Junior College, Freeman
 Gnirk, Paul F.Rice University, Houston, Texas
 Hargett, Emil RetzTexas A&M, College Station, Texas
 Heemstra, John G.Yankton Clinic, Yankton, S. D.
 Jobs, Frances A.Yankton, S. D.
 Johnson, James WaltersCivil Engineer, Huron, S. D.
 Jones, Lloyd D.Fitzsimons General Hospital, Denver
 Kazmierski, Mrs. RuthWashington State Univ., Pullman
 Kume, JackU. S. Geological Survey, Huron, S. D.
 Leroux, Edmund F.U. S. Geological Survey, Huron, S. D.
 Lillegraven, Jason A.University of California, Berkeley
 Lutt, Franklin D.Wayne, Nebr.
 Martin, JohnKansas University, Lawrence, Kansas
 Petersen, Robert L.Oregon State University, Corvallis
 Pettyjohn, Wayne A.Geological Survey, Bismarck, N. D.
 Roberts, Willard LincolnRapid City, S. D.
 Steece, Fred V.S. D. Geological Survey, Rapid City
 Tario, RexLead, S. D.
 Thomas, Howard M.University College at Cape Coast,
 Cape Coast, Ghana
 Throckmorton, Carl R.Hastings, College, Hastings, Nebr.
 Van Deusen, JamesRapid City, S. D.
 Vaughan, Kenneth D.Sioux Falls
 Vaughn, Charles M.Upham Hall, Miami University,
 Oxford, Ohio
 Westerdahl, Wm. GowenWood Treating Plant, Rapid City
 White, Stewart N.Rapid City, S. D.
 Wieb, JackUniversity of Minnesota, Minneapolis
 Wilson, Mrs. Robert W.Rapid City, S. D.

Collegiate Section

Aspaas, KennethAugustana College
 Baribeau, MikeHuron College
 Battey, James HaroldUniversity of South Dakota
 Boeckermann, Gordon L.Southern State Teachers College
 Boschert, MargaretAugustana College
 Burkhardt, TomAugustana College
 De Roos, Fred LynnYankton
 Drewes, CharlesAugustana College
 Egger, Janet E.Mount Marty, Yankton
 Erickson, VerlynAugustana College
 Euridge, VirginiaSt. Onge
 Fernandez, ElisaMount Marty, Yankton

Collegiate Section (Cont'd)

Giusti, Sister Maria
 ConsueloMount Marty, Yankton
 Helgager, JamesAugustana College
 Kreber, Robert A.Southern State Teachers College
 Lardinois, Claude K.Huron
 Lawrenz, NancyAugustana College
 Mack, StanleyHuron College
 Martinmaas, LindaMount Marty, Yankton
 Masteller, Vance J.South Dakota State University
 McDermott, KathyMount Marty, Yankton
 McNeil, RoderickSouth Dakota State University
 Montague, SusanAugustana College
 Nemmers, TheresaMount Marty, Yankton
 O'Keefe, TerryAugustana College
 Olsen, DennisSchool of Mines
 Paulson, JeanSioux Falls
 Petersen, RonaldAugustana College
 Rickard, NoelSchool of Mines
 Skrdla, ShirleyMount Marty, Yankton
 Snyder, LaurenceSpearfish
 Sorensen, BillAugustana College
 Stubbe, Marlyn C.School of Mines
 Summers, CaroleMount Marty, Yankton
 Talsma, BobSouthern State Teachers College
 Tramp, DonnaYankton
 Veal, JackBrookings
 Weimer, JerrySioux Falls
 White, Rolland E.School of Mines
 Williams, GilbertHuron College
 Wood, JanetRapid City
 Wyatt, RickAugustana College

Junior Academy Section

Arneson, BruceFaulkton
 Aukerman, KarenRapid City High School
 Bachmeyer, KurtFaulkton
 Baity, DaleVermillion High School
 Banks, BobbyArtesian High School
 Barnett, MarySioux Falls
 Benson, CarlaNotre Dame High School, Mitchell
 Benson, MaryNotre Dame High School, Mitchell
 Berndt, KarenCheyenne-Eagle Butte
 Bidwell, DonOrient
 Bilka, KearyArtesian High School
 Blitliff, DonNotre Dame High School, Mitchell
 Boehnen, DanNotre Dame High School, Mitchell
 Bock, LindaArtesian High School