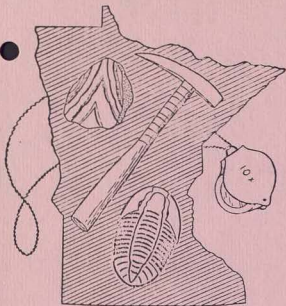


November 1971

Geological Society
of Minnesota



NEWS



Geological Society of Minnesota

FIRST CLASS

Mr. & Mrs. R.M. Gunville, Editors
1110 Gardena Ave.
Minneapolis, Minn. 55432



RETURN REQUESTED

TIME VALUE

SWANSON, ETHEL N.
4944 GIRARD AVE. NO.
MINNEAPOLIS, 55430

The GEOLOGICAL SOCIETY OF MINNESOTA is an amateur group that accepts Geology as an absorbing hobby. We solicit and welcome the help and direction of membership from professional ranks, but by and large our approach to the subject is that of the layman. Most of us are not true rockhounds, although we do collect minerals, rocks and fossils. Our main purpose is to promote interest in the study of Geology of the state of Minnesota.

OFFICERS

PRESIDENT	Sam Mayo Box 270, Route 6 Excelsior, Minn. 55331	474-4038
VICE PRESIDENT	Dr. Valentine O'Malley 942 Lowry Medical Arts Bldg. St. Paul, Minn. 55102	222-4421
SECRETARY	Dr. Bert Carlson 3034-46th Ave. S. Minneapolis, Minn. 55406	724-1486
TREASURER	Mrs. Don Tepel 1269 S. Cleveland Ave. St. Paul, Minn. 55116	699-1793
DIRECTORS	Elmer Brown 5225 Zenith Ave. S. Minneapolis, Minn. 55410	922-2438
	Robert Leacock 1235 Brighton Square New Brighton, Minn. 55112	636-2473
	Michael Vaclavek 3904 Joppa Ave. Minneapolis, Minn. 55416	926-0185

MEMBERSHIP

TYPE OF MEMBERSHIP:

ADULT	\$ 7.00
HUSBAND & WIFE	\$10.00
STUDENT	\$ 2.00

MEMBERSHIP CHAIRMAN:

Miss Martha Peterson
3527 Pleasant Ave.
Minneapolis, Minn. 55408
Phone: 825-1147

Annual Meeting

Highlights

The Annual Meeting, held Sept. 27 at the Viking Village for dinner, was attended by about 80 Club members. The main business of the evening, in addition to the president's and treasurer's reports, was the election of new members to the Board of Directors. The following people were elected to a two-year term: Dr. Harold E. Harbo, Dr. Valentine O'Malley, Martha M. Peterson, Lorraine Stone, Ethel Swanson, and Paul J. Vogt.

Bart spoke to the members, summarizing last year's lecture series and reviewing the four field trips, illustrating his discussion with slides taken this summer on the trips. Dr. Webers gave an introduction to his upcoming series of lectures on historical geology.

The meeting concluded with Paul Vogt, Chairman of the Planning and Evaluation Committee, reviewing the purpose of the questionnaire mailed to all Club members. Those present divided into small groups for a dialogue and discussion of some key questions. Each group then gave its opinion to the group at large. The Planning and Evaluation Committee will use this information in developing future activities.

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RIDES NEEDED

There should be no need to miss meetings for lack of transportation. The following people would appreciate rides to the meetings.

Mrs. Elsie Berge
2708 Victory Memorial Drive
Minneapolis (522-0800)

Leone Knox
20 East Exchange St.
St. Paul (227-9058)

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NEW OFFICERS

The Board of Directors has elected its new officers for 1972. They are:

President - Paul Vogt
Vice President - Dr. Valentine O'Malley

Secretary - Lorraine Stone
Treasurer - Bernice Tepel

Other Board members for 1972 are:

Dr. Harold Harbo
Sam Mayo
Martha M. Peterson
Ethel Swanson
Michael Vaclavak

Thanks

A SPECIAL THANKS to the following members of the Board of Directors who are completing their term of service. They will be leaving the Board Dec. 31.

Elmer Brown
Dr. Bert Carlson
Robert Leacock

The Society appreciates all the time and effort you have given, and is looking forward to your continued active interest in other capacities.

WELCOME NEW MEMBERS

The following people have recently joined the GSM. We'd like to extend a special welcome.

Mrs. Nancy Preeahl
Christine E. Sturtz
Richard C. Davis
Mr. and Mrs. Fred Richter

Mr. and Mrs. James Holcomb
Harold O. Riechter
Janet Sue Kenney
Dr. and Mrs. Mark K. Kim

Mr. and Mrs. David Sims
Geraldine Casey
Elmer J. Mangney
Mr. and Mrs. John Laughy

Volunteer

Mrs. George R. Becker, a long-time member of the Geological Society of Minnesota, recently was given special appreciation by the Minnesota Historical Society. In their August, 1971 "Minnesota History News", she was recognized for her volunteer work. Under the heading, "The Society is Grateful for Its Volunteers", appears the following text:

"Work amounting to thousands of hours per year is done for the Minn. Historical Society by volunteers. . .

"Typical of these people is Mrs. George R. Becker of 514 Humboldt Ave., St. Paul, who has been donating at least one day a week to the Society since 1964. Mrs. Becker, a member of the Society and a former teacher in the St. Paul School system, first became interested in our volunteer program in 1958 when participated in most of our tours. She arrives by taxi (which she pays for herself) each Friday morning and spends the entire day doing whatever has been lined up for her by the administrative office. Often the work she does has to do with membership promotion - an important aspect of the Society's operation. . ."

Our thanks go to the Minnesota History News for permission to republish this news item, and to Martha M. Peterson for securing it, and sending the story to us.



MINNEAPOLIS SCHOOLS NEED HELP

Do you have a little time to devote to a worthwhile cause? The Minneapolis Schools need people to work in their Community Resource Volunteer Program. The GSM Education Committee is organizing a group of speakers to give talks to school children. If you are willing to do this, call Beverly Vogt, 920-3339. The Minneapolis Schools also need people who can serve as telephoners from the Community Resource Volunteer Office, and as drivers of volunteer speakers to their school assignments. This last job includes the opportunity to meet some very interesting people. If you think you might be available, contact Miss Betty Jand Reed at the Volunteer Office, 348-6152.

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SLIDES NEEDED

Alice Nelson (tel. 724-3578) is looking for 35 mm slides of geological interest taken in the Quetico Superior region. She wants to use them to illustrate talks to the Minneapolis school children. If you can lend her such pictures, she would like to hear from you

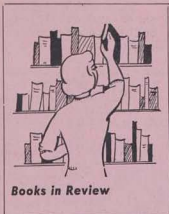


RICKERT ROCKS

A number of rock specimens have been purchased by the GSM from the George Rickert collection. The Society wanted to obtain a variety of both interesting specimens and representative samples of Minnesota rocks. Plans are to use these rocks in GSM display booths, and to make them available to its speakers giving school presentations.

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GEOLOGY TEXTBOOKS



1. Physical Geology 4th Edition, by L. Don Leet & Sheldon Judson. Prentice Hall.

This textbook is well balanced in its treatment of physical geology. Although there is some tendency for the book to be encyclopedic, the advanced amateur will find this a very useful textbook and source book. This book is available in the University bookstores.

2. Geology Illustrated, by John S. Shelton. Freeman & Company.

Although "Geology Illustrated" is not a textbook, it affords the amateur many, many hours of enjoyable reading. One is usually unable to read only one selection. Splendid full page photographs are used by the author throughout the book. Strongly recommended for both physical and historical geology.

3. Introduction to Geology, by Stokes & Judson. Prentice Hall
This textbook for both physical and historical geology is very readable. Excellent line-drawings and photographs as well as the style of writing makes this textbook the most useful for Society members.
4. Physical Geology, by Longwell, Flint & Sanders. Wiley.
Another well balanced textbook, very similar to Leet & Judson's book.

by Richard Bartels

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COMMITTEE HELP WANTED

Committees for 1972 are forming their membership now, and are looking for help. If you would be willing to serve your Society, please contact next year's president, Paul Vogt (920-3339).

These are the committees of the Geological Society:

Program	Planning and Evaluation
Field Trips	Education
Social	Public Information
Picnic	Publicity
Coffee and Hostess	Newsletter
Banquet	Shows and Exhibits
Annual Meeting	History and Archives
Membership	Finance and Budget
Badges and Buttons	
Telephone	

SUMMER FIELD TRIPS

The summer field trips were generally well attended and excellently led by Bart. Geology of the Twin City area was studied in several one-day trips, but in many ways the weekend trip to Baraboo was the culmination of a fine summer's activities.

No attempt at a comprehensive review will be made here, but I wish to discuss, somewhat randomly, a few things that I found very interesting, perhaps to invite comparison with your own favorite impressions.

I learned that those beautiful lakes that grace the Twin Cities, generally lie in chains which trace old, preglacial or interglacial river channels long since buried by glacial debris.

In reconstructing the last two thrusts of Wisconsin glaciation through this area, I understand better now where I live. The earlier Superior lobe moved generally down from the Lake Superior region, transporting its characteristic reddish drift, clues to its origin. But it was the last ice, the Grantsburg sublobe of the Des Moines, flowing over Minneapolis, which gave the form of our present landscape. This Grantsburg ice, moving in from Manitoba with grayish drift about 12,000+ years ago, created the hill (moraine) upon which I live. This moraine is on the margin of the Anoka Sand Plain lying north of the Twin Cities, a feature created by the melting of this last ice.

Bart helped us to look at the field evidence, prodding with gentle questions--"What happened here?"--"What hypotheses best account for all the evidence?"--etc. School was never such fun!

At Taylor's Falls, going way back in geologic time to the Precambrian, it was fun to observe the very ancient basalt, to try to figure separate lava flows, etc. We made a nearby stop which in Cambrian times (about 500 million years ago) was a sea cliff. When the sea encroached to the base of this cliff, basaltic boulders accumulated, and were incorporated into the conglomerate we saw here. Fossils of the marine brachiopod, Lingula, in addition tell us this was a Cambrian sea.

The transgressive and regressive movement of the seas during Cambrian and Ordovician times were recorded in the sediments which lie exposed in the St. Croix and Mississippi river valleys. One field trip was devoted to reconstructing the geologic column of this area.

The weekend spent in Baraboo, Wis. was enhanced by good weather, relaxed amiability, and pleasing accommodations. Bart and his two geology student assistants helped us reconstruct from the evidence of many stops, how Wisconsin farmland long ago was a group of tropical islands enclosing a peaceful lagoon. It challenges the imagination to think that 500 million years ago the Baraboo islands lay in the trade wind belt, 10° south of the equator (Cambrian time) and were subjected periodically to severe tropical storms, yet the rocks tell us so.

It was fascinating to study the Van Hise rock, one outcrop the size of a large room, which contains all the clues necessary for deducing what essentially happened here--Precambrian shallow seas (1.5 billion years ago) laying down thick beds of sandstone during subsidence, followed by deformation into a syncline, and metamorphism to quartzite. This single specimen tells the story of the great syncline produced, which resulted in the hard quartzite beds standing up as islands, surrounded by tropical Cambrian seas. We could visualize these islands as they once were--ripple marks in the quartzite laid down horizontally, now dipped vertically; adjacent sand beaches, now sandstone; boulders of all sizes washed toward the sea by occasional hurricanes, now recorded as conglomerate.

The evidence came together, bit by bit, each piece adding to the story.

by Bob Gunville

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SURVEY RESULTS GIVEN

The results of the survey sent to all GSM members by the Planning and Evaluation Committee are now tabulated. Forty-five people responded, about a third of the membership. This was the first time that the Committee and the Board had obtained tangible evidence of the members' feelings about Society activities. They want to thank those who responded. If you still have your questionnaire, it is not too late to send it in and make your opinions heard.

Members generally seemed satisfied with the present system for lecture meetings, field trips, and social activities. They thought that the State Fair exhibit should continue, and that the Society should work with schools and environmental agencies. They favored low-cost geological materials, and low membership dues.

Here are some of the results as tabulated.

	strongly approve	approve	don't know	disapprove	strongly disapprove
The past year's lecture series	28	9	4	0	0
Coffee/Discussion hour	15	20	3	1	1
Movies before lectures	23	11	5	2	1
Location of lecture presentations	18	15	2	1	0
The past year's field trips	15	10	11	0	0
Cars as means of transportation	8	14	10	3	3
5-7 trips via bus transportation	8	10	14	4	4
Annual 1-2 week field trip by bus	3	15	12	6	2
Number of Society members should be limited	0	3	7	15	17
Present schedule of weekly meetings during the fall, winter, and spring, with lectures, laboratories, and/or field trips	19	14	3	5	0
Annual picnic	6	14	13	8	1
Present system of electing directors and officers who, in turn, elect the officers	8	14	11	5	0
Current social activities of the Society	4	22	12	1	0
The Society should work with the schools	11	20	8	1	0
GSM should offer low-cost geological materials to members and others	16	19	6	3	0
GSM should continue to have an exhibit at the State Fair	11	24	8	1	0
GSM should keep its dues as low as possible	11	21	0	2	0

Need we say more?

The Planning and Evaluation Committee would like to share with you an important point brought out on the recent questionnaire.

One member found labs "interesting and very

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lonely, especially when doing problems totally alone." With the beginning of another year, old-timers should be especially alert for newcomers at lectures and labs. They should be ready to welcome them, both intellectually and with friendship.



GEOLOGICAL PLAQUES

TABLET INSCRIPTION # 18

Geology of Minnesota

Redwood Falls Region

About 1200 million years ago the earth's crust in this vicinity consisted of a dark, crystalline rock which was intruded at great depth by a mass of molton granite. The older, dark part of the rock was melted and partly assimilated by the pink granite. During the cooling process, the plastic mixture, subjected to movement and distortion, formed a banded rock with a swirling pattern of contrasting colors. Technically it is named Morton Gneiss, after the village of Morton where it is well exposed. Commercially it is known as Rainbow or Tapestry Granite and is the stone used for the pedestal of this tablet.

North of the tablet, across the Redwood River, is a bank of residual clay, 75 feet high, all that remains of granite now completely decomposed. This is a classic example of deep weathering and is one of the few such exposures known to exist in North America.

Location: In Park, Low by River

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A REMINDER

Annual dues for 1972 are payable NOW. Please contact Martha Peterson (see cover page) or see her at one of the lectures. Dues must be paid by Dec. 31 to have your name included in next year's roster.

TABLET INSCRIPTION # 19

Geology of Minnesota

Willmar Region

The agricultural land of the Willmar region has a history which dates back 60 million years, to a time when an inland sea covered the great plains, from the Gulf of Mexico to the Arctic Ocean. As the adjacent land was eroded, sandstones, shales and limestones were accumulated in that sea. Much later, great earth movements caused the seas to withdraw by raising the sea floor of newly formed sedimentary rocks above the ocean level.

Thousands of years later during the great ice ages, glaciers sweeping southward, pushed up and carried from Canada and northwestern Minnesota great quantities of these marine deposits. The rock fragments, crushed by the moving ice, were left, when the ice melted, as a thick mantle of glacial drift throughout the state. Rich in lime, magnesia and potash, this drift - a great natural resource - became the parent material for the fertile soil of the state.

Location: Willmar Lake, S. End

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And some rin up hill and down dale knapping the chucky stones to pieces wi' hammers, like sae many road makers run daft. They say it is to see how the world was made.

SIR WALTER SCOTT