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GEOLOGICAL SOCIETY OF MINNESOTA

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MEETINGS: October to May inclusive, 7:30 P.M. every Tuesday not a holiday, Auditorium, Minnesota Museum of Natural History, University of Minnesota, 17th Ave. S. E. and University Avenue. Visitors welcome.

FIELD TRIPS : May until October inclusive.

Annual dues: Residents in a 50 mile radius of the Twin Cities \$ 3.00 plus \$ 1.00 additional for husband, wife, or dependent family members; for students and non-residents, \$ 1.00.

AFFILIATE MEMBER

MINNEAPOLIS FEDERATION OF MINERALOGICAL AND GEOLOGICAL SOCIETIES

and

THE AMERICAN FEDERATION OF MINERALOGICAL SOCIETIES

* Deceased

EDITORIAL

L.K.

We wish to welcome the following members who were elected to the Board of Directors for a two year term: Mr. Lawrence V. King, who was also unanimously elected President for the ensuing year, Mr. L. D. Hargrove, Miss Margaret Paschke, Mr. Arthur D. Boney and Mr. Arn P. Rickmire. We also wish to thank the retiring members of the Board, Mrs. Dorothea McCoy, Mr. Reuben Nordberg and Mr. Hazen T. Perry for their cooperation.

As of October 1, the membership dues will be \$ 3.00 for all members living within a fifty mile radius of the Twin Cities. Family members, students, and members outside the fifty mile radius of the Twin Cities will be \$ 1.00 per member. This action was taken by the Board of Directors at the May 3rd Board meeting.

Dr. Sloan has graciously agreed to conduct another series of lectures next fall and winter. The lecture series will pertain to General and Historical Geology. This is an excellent opportunity to bring your friends and introduce them to the interesting aspects of Geology.

Delegates to the Midwest Convention are Elmer and Loretta Koppen, Geo. A. Rickert, and Chas. Preston. Two of these members are alternates.

MIDWEST CONVENTION NEWS: The dates of the Midwest Federation Convention are June 23, 24, 25. There is every indication that this will be a happy gathering of all collectors, gem cutters, and information seekers of the Mississippi Valley region who can get to the convention. This is the schedule in brief:

- THURSDAY:** 9:00 - Registrations. Setting up of displays.
1:30 - Combined geology and paleontology meeting, with three competent speakers covering local information of interest to both. (Tuller)
4:00 - Old Timers Meeting. (Tuller)
8:00 - General meeting at nearby Wayne University. An opportunity to see the famed Goddard Collection.
- FRIDAY:** 9:15 - Business meeting. (Tuller)
10:30 - Mineralogy meeting. (Tuller)
2:00 - Lapidary meeting at Cranbrook Institute of Science. Two top notch speakers.
3:30 - Archeology meeting. Same place. Usually good spot for both meetings, for the museum and the lapidary class rooms are excellent.
- SATURDAY:** 9:30 - Business meeting. (Tuller). Free time for visits to Greenfield Village, Ford Plant.
1:30 - Auction. (Tuller)
6:30 - Banquet. (Tuller)
- SUNDAY:** Field trip choices of Arkona, Canada, or Pugh Quarry, Ohio. Free time has been allowed for visits to the homes of local members having unusual exhibits.

ACCOMMODATIONS:

We have a number of hotel reservation cards. (Tuller). Anyone wishing more information about motels etc. may write to the Chairman, Mrs. Charles Reinowski, 1200 Roslyn, Crosee Pte. 36 Michigan. She will give you a prompt and pleasant report on where to make your reservations. There are several parking lots in the immediate vicinity of Hotel Tuller, the more reasonable ones are north (not south). Maps are being prepared that will indicate the major routes leading to the Hotel Tuller, to Cranbrook Institute of Science and other points.

OVER THE ERUPTION IN HAWAII

(From a letter written by Helen James Sommers to her children at the end of a ten weeks trip to the islands of the South Pacific)

Honolulu, March 26, 1955 - Such comfort, such ease, such luxury, such food, such bright electric light, such coolness in the air. Quiet, leisurely, well-dressed people. Is it the same world?

March 27 - We hope to take night flight over the volcano at Hawaii. Cracks have opened on the sides of Kilauea. Observers saw the beginning of a crack and in fifteen minutes lava was shooting up from it. Every few days fresh cracks appear, working up toward the crater of Kilauea, which is sinking in the centre as the lava is released lower down through the cracks. The lava flows in streams down to the ocean, destroying homes, penning in cattle, burying coffee plantations. Just now all is quiescent. We wait in hopes.

March 28 - A fresh outburst last night so the plane leaves here tonight at 6:30 to fly to Hawaii, one hour, twenty minutes away, and there to fly over the eruption. What a final experience.

6:30 P.M. - We are off and a strange feeling it is. I wonder how Ed Murrow felt when he started to fly to the centre of the hurricane. This plane has a passenger with kodachrome film at every window! I decided to use eyes and words instead. The pilot tells us he will circle the eruption six times, always, because of traffic regulations, to the left. After three circlings, passengers must change sides. We are over a solid mass of cloud but the report from the island of Hawaii is of no cloud and the eruption active. Up here is only the sunset light and we.

7:05 P.M. - The clouds have gone and below is an island with scattered lights - Molokai where the lepers are?

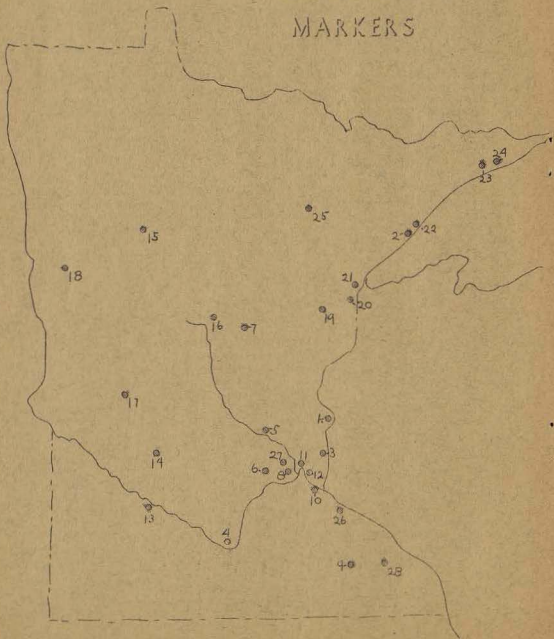
7:30 P.M. - Over Hawaii with scattered cloud masses. Over Mauna Launa is the Southern Cross. Below are the lights of Hilo-Hilo, the city volcanologists say is eventually doomed. A red glow - everyone rushing to the left side, and I fist on my back in the aisle, but I didn't stay there. The air is on fire - We're in it - lava flow going right into the sea.

8:30 P.M. - We've left it. How can I tell you its beauty and its awfulness? From two openings close together, pouring out in golden showers, rising and falling in jets, rose two fountains of red-gold, flung up to six hundred feet. Around the base of each was a cup-like wall of lava, open at one end. From these two openings flowed two rivers of gold, winding in tortuous curves till at the end of three miles they joined and fell as a glowing Niagara into the sea. Great clouds of steam rose higher than the plane. Scattered over the blackness of the earth below were lines and patches of fainter red-gold and winding lines of smoke, all telling of recent flows, now cooling. We circled six times, each time passing so close to the fountains the wing seemed to touch them and we could feel their hot breath through the window-glass, then curving out over the sea through the moving clouds of steam and over the glowing Niagara. The rivers of molten gold flowing from the flaming fountains became flecked and shadowed as they flowed and cooled but when they fell into the sea they again showed their very heart of molten rock, white-hot. As I looked from the sea up the rivers leading to the fountains they seemed golden roads to an enchanted castle of a hundred golden spires.

The power behind those leaping fountains! A hydrogen bomb is a puny thing beside it. How strange to think what lies beneath the crust that seems so quiet. What an ending to our trip. It stands next to the flight over the Himalayas - in some ways more tremendous.

" For thine is the kingdom and the power and the glory, forever and ever, Amen."

LOCATION OF
GEOLOGICAL
MARKERS



GEOLOGICAL MARKER PROJECT

by

Lawrence W. King.

The second stage of the marker project which the Society started in 1949 is nearing completion. It consists of the 20 tablets obtained with the grant of the Hill Family Foundation, which followed the first 8 tablets purchased by the Society. The Flour City Ornamental Iron Co. has promised delivery of the 12 tablets, that constitute the 1955 work, early in June. The Minnesota Highway Department has a schedule of installations prepared and fully expects to have all work completed for the coming tourist season. The tablets for Lake Harriet, Redwing, Hibbing and Whitewater State Park will be delivered last. The Society may be asked to participate in a presentation ceremony at Alexander Ramsey State Park near Redwood Falls. It is the opinion of U. W. Hella, Superintendent of State Parks, that such an affair, if it can be arranged, will create interest in the work being done by the Division of Parks.

The interest of public officials in the project is in no way diminished. The difficulty confronted by the Society is not lack of cooperation by others but rather its own inability to find other suitable locations of geological interest and prepare texts for them against the time when money is available to continue the construction part of the program.

1949	1. Taylors Falls	1954	15. Itasca
1949	2. Gooseberry State Park	"	16. Long Lake
1951	3. North Stillwater	1955	17. Glenwood
1951	4. North Menkato	"	18. Hawley
1953	5. Elk River	"	19. Moose Lake
"	6. Minnetonka	"	20. Wrenshall Overlook
"	7. Mills Lacs	"	21. Duluth Harbor
"	8. Minnehaha	"	22. Split Rock
1954	9. Rochester	"	23. Good Harbor Bay
"	10. Hastings	"	24. Grand Marais
"	11. Indian Mounds, St. Paul	"	25. Hibbing
"	12. Battle Creek, St. Paul	"	26. Red Wing
"	13. Ramsey, Redwood Falls	"	27. Lake Harriet, Mpls.
"	14. Willmar	"	28. Whitewater State Park

In selecting the three following plaque texts for publication we took into consideration that the Duluth area and the Mesabi Range district were well known, not only to us, but to many of our out of state friends and Society members. If you would like other plaque texts published please notify the editors.

TEXT OF THREE GEOLOGICAL MARKERS

ST. LOUIS RIVER (20)

The broad valley of the St. Louis River, visible from this point, is a western extension of the Lake Superior basin. The rounded banks are composed of red clay deposited in Glacial Lake Duluth during the centuries in which it flooded the St. Louis valley. The scenery at this time is due to the partial removal of that clay by the river as the lake surface fell to its present level.

The St. Louis River today is the result of stream piracy and now comprises parts of two river systems. The Prairie River, which rose 30 miles north of Two Harbors, ran southwest from its source to the Mississippi, while the turbulent St. Louis flowed southeast to Lake Superior. The St. Louis River, falling rapidly in its steep descent, extended itself by erosion toward its source until it intercepted the Prairie River and, by an act of river piracy, diverted the headwaters of that stream to its own channel. The main stream of these headwaters is now the Cloquet River.

DULUTH HARBOR (21)

Lake Superior occupies a great syncline or downfold in the rocks of the earth's crust. Its normal surface level is 602 feet above -- and at its deepest point is 700 feet below -- sea level. The folding which produced this huge trough occurred during extensive volcanic activity more than 600,000,000 years ago. Eventually this depression was filled by material washed in from surrounding heights and much later was partly cleared of those sediments by glacial ice which pushed its way along the trough.

As the ice melted about 10,000 years ago, the basin was filled by Glacial Lake Duluth almost to the level of this tablet. Then the earth's crust in the north, relieved of the weight of ice, was elevated by internal forces, thereby tilting the lake basin toward the southwest and flooding the mouth of the St. Louis River.

The harbor formed by this submergence has been enlarged by the formation of Minnesota Point, an unusually good example of a sand deposit washed up by waves and shore currents.

MESABI REGION (25)

The dramatic history of the Mesabi Range dates back one billion years to a period when the Algonian Mountains -- the Genta Range -- lifted their towering peaks from Minnesota to Hudson Bay. That mountain range had been eroded down to its granite core and the region submerged in the Archaean sea before the chemical sediments, after which the sea again withdrew and the sediments became solid rocks.

Then came volcanic activity during which thousands of cubic miles of lava were poured forth, the basin of Lake Superior was depressed and all the rocks in the Mesabi region were tilted toward the lake. During the ensuing 500 million years the chemical precipitates of parts of the Bivebik formation were altered from hard rock to soft ore. The tilting of the rocks hastened the erosion of the Virginia slates. This in turn uncovered the Bivebik formation and made it possible for circulating ground waters to leach out the silica at favorable locations and leave the concentrations of iron oxides to form the iron ores of this famous range.

FINANCIAL REPORT
GEOLOGICAL SOCIETY OF MINNESOTA

RECEIPTS

Oct. 1954 from Mr. Engen for general fund	¢ 190.35
Oct. 1954 from Mr. Engen for field trip fund	77.52
Jan. 4, 1955 from Mr. Brown field trips	27.45
April 26, 1955 from banquet dinners	10.75
Membership fees to May 1, 1955	<u>298.38</u>
Total	704.57

Disbursements

1954 Spring banquet speaker Henry Borrow	12.50
Nov. 2, 1954 to Dr. Schwartz	12.50
to Dr. Goldich	12.50
to Dr. Sloan	37.50
Dec. 7, 1954 to Dr. Sloan	62.50
Dec. 13 1954 to Crook & Hanley, supplies	7.91
to Koppen, stamps	5.00
Jan. 11, 1955 to Dr. Sloan	50.00
Flowers	4.00
Midwest Federation dues	14.40
Mar. 1, 1955 to Dr. Sloan	50.00
Mar. 14 to Dr. Sloan	37.50
Mar. 15 to Dr. Borchert	12.50
Mar. 22 to Clarence Allen	12.50
Apr. 1 to Dr. Sloan	12.50
April 31 to Gile Letter Service (Koppen)	11.98
April 13 to Gile Letter Service (Dr. Carlson)	9.35
April 26 to Dr. Glock	12.50
May 3 to Koppen, stamps, envelopes	28.54
May 3 to McGraw-Hill Book Co., books	42.00
May 3 to Madsen's Floral Co.	6.45
May 3 to Crook & Hanley, supplies	2.68
Bank service	<u>2.40</u>
Total	459.71

Balance on hand \$ 244.86

Ara P. Rickaire,
Treasurer.

Mr. Hal E. Kowethy
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St. Paul, Minn. 8



IN USE