



THE MINNESOTA GEOLOGIST

OFFICIAL BULLETIN
OF
THE GEOLOGICAL SOCIETY OF MINNESOTA

VOL. X

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NO. 1

CONTENTS

BULLETIN BOARD

"MINNESOTA'S FIRST GEOLOGIST"
by Dr. Bert Carlson

"LOOKING BACKWARD"
by Karl Menninger, M. D.

13th ANNUAL MIDWEST FEDERATION CONVENTION

MIDWEST CONVENTION SCHEDULE

MEMORIAL

FINANCIAL REPORT

GEOLOGICAL SOCIETY OF MINNESOTA

EDITORIAL STAFF

Loretta E. & Elmer L. Loopen 3376 Brunswick Ave., Minneapolis 16, Minn.	Editors
Hezen T. Perry	Staff Member
Chas. B. Howard	Staff Member
J. Merle Harris	Staff Member
Ruth Harris	Staff Member

The Society is devoted to the study of GEOLOGY,
Mineralogy, and PALEONTOLOGY for their cultural value.

OFFICERS

Dr. Bert Carlson, President	Lucille M. Brewster, Director
Dr. Edw. H. Mandell, Vice-President	Ara P. Rickmire, Director
Wesley S. Bender, Secretary	Dorthea McCoy, Director
J. Orval Egen, Treasurer	Reuben Nordberg, Director

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Edward P. Burch *

PAST PRESIDENTS

Junior F. Hayden *
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Charles H. Preston

Dr. Edw. H. Mandell
Jos. W. Zalusky
Hal E. McElthey

J. Merle Harris

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 of Hennepin and Ramsey counties \$ 3.00 plus
\$ 1.00 additional for husband, wife, or dependent family members;
for students and non-residents, \$ 1.00.

AFFILIATE MEMBER

MINNEST FEDERATION OF MINERALOGICAL AND GEOLOGICAL SOCIETIES
and
THE AMERICAN FEDERATION OF MINERALOGICAL SOCIETIES

* Deceased

EDITORIAL

ELECTION OF OFFICERS: At the annual banquet, April 28, Wesley S. Bender was re-elected as director for two terms. New directors: Ara P. Rickmire, Dorthea McCoy and Reuben Nordberg were elected to succeed Helene M. Becker, Elizabeth Miner and Dr. Sylvester Koontz. Since the annual meeting the directors have met and re-elected Dr. Bert Carlson, President, and Dr. Edward H. Mandell, Vice-President. Wesley S. Bender was re-elected Secretary and J. O. Engen was re-elected Treasurer. Your board of directors and when their terms expire are as follows:

Dr. Bert Carlson - 1954
Wesley S. Bender - 1955
Lucille M. Brewster - 1954
Reuben Nordberg - 1955

Dr. Edward H. Mandell - 1954
J. Orval Engen - 1954
Ara P. Rickmire - 1955
Dorthea McCoy - 1955

Delegates to the 1953 Midwest Federation Convention are Loretta E. Koppen and Hazen T. Perry.

COMMITTEE APPOINTMENTS: Plaque Committee - Lawrence W. King, Chairman.
Field Trips Committee - John Marshall, Chairman, 127 Lexington Avenue North, St. Paul Minnesota. Phone Dale 6154. Program Committee - Marle and Ruth Harris, Co-Chairman.

BOOKS: A number of geological books from W. C. "Bill" Wilson's library are available to members of the geological society. Please contact the editors for further information.

Bulletin Board

TENTATIVE FIELD TRIPS SCHEDULE SUMMER 1953

- June 7. Red Wing area. Leader - Elmer H. Brown.
- June 13 to June 27. Appalachian Mountains. Leader - Dr. Bert Carlson.
- June 26, 27 & 28. Midwest Federation Convention, St. Louis Mo.
- July 12. Picnic. L. W. King home on St. Croix River.
- July 25-26. Iron Range. Leader - David White, University of Minnesota.
- August 9. Taylors Falls area. Leader - Elsie Hinchley.
- August 23. St. Cloud Minnesota. Leader - Hal E. McWethy.
- September 13. Rochester area.
- September 27. Iowa north border. Leader - Linda J. Bennitt.

FINANCIAL STATEMENT

OF

THE GEOLOGICAL SOCIETY OF MINNESOTA

	Year ending June 30, 1951	Year ending June 30, 1952	Period ending Mar. 1, 1953
Balance on hand beginning	398.52	309.51	263.11
<u>RECEIPTS</u>			
Membership dues	400.50	417.50	304.00
Field Trips	47.38	216.35	4.03
Banquet	5.90		
Misc.	2.35		
Minnesota Mineral Club			100.00
University of Minnesota			50.00
Total Receipts	456.13	633.85	458.03
Total	854.65	943.36	721.14
<u>DISBURSEMENTS</u>			
Lectures	235.93	188.45	125.00
Bulletin and notices	130.39	204.57	34.55
Flowers	28.57	22.00	7.50
Equipment (typewriter)	75.00		
Banquet	5.75	22.85	
Field Trips		240.13	25.00
Midwest Federation dues	9.40		9.00
Wesley Bender (display)			56.00
Bank Service Charges		2.25	1.10
Total Disbursements	545.14	680.25	258.15
Cash Balance on Hand	309.51	263.11	462.99
Total	854.65	943.36	721.14

I certify that I have examined the books and records of the Geological Society of Minnesota and find that the above is a correct statement of its financial condition.

Hazen T. Perry.

MINNESOTA'S FIRST GEOLOGIST

by Dr. Bert Carlson.

Today with our automobiles, good roads and wealth of material in our libraries we have easy access to information and enjoyment of any part of the state of Minnesota. This has not always been so, and when I listen to or read an account of the geology of any part of our state, it makes me think of the tremendous amount of work that was done by the pioneers who had no conveniences such as we have. Considering the great amount of work our first State Geologist accomplished in the face of great difficulties, it seems appropriate to review the biography of our first Minnesota Geologist.

Newton Horace Winchell was born in New York in 1839. He attended the public schools and an academy in Connecticut; was a school teacher at 16, and entered the University of Michigan at 18. After his graduation, he again taught school until he was 30. He began active work in geology under his brother, Alexander Winchell, and served on geological surveys in Michigan, New Mexico, and Ohio for ten years.

President Polwell of the University of Minnesota invited Mr. Winchell, in 1872, to take up the work then recently ordered by the legislature for a survey of the geology of the state. In this work he served 28 years, until 1900, during which for seven years he was professor of geology, and state geologist, and curator of the University Museum.

Mr. Winchell's first work was to organize the Minnesota Academy of Science, in which he utilized a group of kindred scientific men, including physicians, botanists, ornithologists, chemists, public spirited realtors and others interested in some phase of the science of geology. The records of that society are in five bound volumes, beginning 1876 and ending in 1914.

The record of Mr. Winchell's work in the Geological and Natural History Survey of Minnesota from 1872 to 1900 is found in twenty-four Annual Reports, and in six quarto volumes of Final Reports of the Geological and Natural History Survey of Minnesota. According to his principal assistant, Warren Upham, these reports are somewhat more enduring than bronze, and will be consulted and studied during the coming centuries.

Mr. Winchell made surveys outside the state, was a member of learned societies, and was the chief farmer of the American Geologist, 1883-1905, now Economic Geology. He published many bulletins and books and specialized in many geological subjects.

With characteristic generosity he gave his library, the Winchell Library of Geology, to the department of geology at the University. Mr. Winchell died in 1914.

The following are some of Newton Winchell's writings.

- Annual Reports, Geological and Natural History Survey of Minnesota in 24 annual issues, 1872-1895.
- Bulletins on petrology, natural gas, iron ores, igneous rocks, anorthosites, and geology of Mesabi Range 1887-1894.
- Final Report of the Geological and Natural History Survey of Minnesota.
- Vol. 1 28 counties on south border of state 1884.
- 2 39 counties in central part of state 1885.
- 3 Two volumes, on Paleontology, by Ulrich 1892-1896.
- 4 15 counties in northern part of state 1898.
- 5 Petrology of the state 1898.
- 6 Atlas and discussion of each county 1894.
- St. Anthony Falls and the Gorge: Historical review 1885, and numerous other articles and reports on Minnesota.

EDITORS NOTE: The following article is reprinted from a recent issue of "The Land and Land News". We hope you will enjoy it as much as we have. Our thanks to the author, and the editor, and to George A. Rickert for submitting the article to us.

LOOKING BACKWARD.

by Karl Menninger, M. D.

I saw some moving-pictures recently made by the time-lapse method. This technique enables us to study motion too slow to be observed by the human eye. You have seen them, I am sure; a whole season's growth shown in a few minutes, with plants leaping out of the ground, shooting up like sky rockets, exploding into blossom, maturing into seed pods and then withering away. I have recently seen another film - this one concerned with living brain tissue - photographed with this remarkable time-lapse technique, with pictures made every five minutes or so for a period of three months. On the screen I saw seemingly rigid cells moving, pulsating, stretching, struggling - as I had never conceived of them before.

Well, let me ask you to imagine that a film of this type had been made by men of another planet who began their picture 750,000,000 years ago when they first spotted our earth through their telescopes. They decided to make a film history of us, taking a picture every year - not every five minutes, mind you, but once a year.

This was the fancy first proposed in *To Hold This Soil*, issued in 1938, and later developed more fully by a forester, James C. Rettie, writing in the Autumn, 1948, issue of *The Land*. Mr. Rettie's article was originally entitled *A Flash in The Pan*. I have taken many liberties with his version, but the main idea and many of the paragraphs as they stand are his.

The people of that faraway planet, thought Mr. Rettie, had continued to work faithfully in making this time-lapse film. Recently they had become worried at the way things seemed to be going, and had decided to send a copy of the film to the Earth so that we might see what was happening to us. Let us suppose, you and I, that they have made some arrangements for a group of intelligent people, such as ourselves, to sit down and look at this rapid-fire, capsule film of history.

You will have to arrange to take some time out to see it. The picture will begin at midnight, New Year's Eve, and will continue day and night without stopping until midnight of the next New Year's Eve. There will be 24 pictures per second so that time will seem to move at the rate of 24 years per second, which is about 1400 years to the minute, or 36,000 to the hour, and 2,600,000 years to the day. The normal life span of a man will occupy about three seconds. The full period of earth's history will thus be unfolded upon the screen from Pre-Cambrian times to the present.

If you are going to get any sleep during this year-long film, you should do it during the first three months, for that will be a rather dull period. Mostly it will be a desolate, dreary, monotonous picture of violent geologic eruption and erosion, mountains rising and melting away like boiling butter, the land masses constantly changing in size, shape and location.

Early in April, after you have watched the picture for three months, you will see some indication of the presence of single-celled organisms in some of the warmer, sheltered waters, and by the end of the month some

of these organisms will have become multi-cellular, and a few of them encased themselves in shells - the trilobites. By the end of May, the first vertebrates will appear, although they will still be aquatic creatures. In June, about sixty percent of the land area that we know as North America will be under water and one broad channel will occupy the space where the Rocky Mountains now stand. Great deposits of limestone, and of oil and gas may be in the process of formation under shallow seas. On land, there will still be no signs of vegetation. About the middle of July the first land plants will appear and begin the tremendous job of soil-building. Very slowly, the mat of vegetation will spread, battling for its life against the devastation of erosion. The increasing vegetation will pave the way for the land animals which will come much later. Early in August the seas will be teeming with fish, some of them breathing by lungs. Later that month some of these will venture ashore, and the first crude lizard-like amphibians will appear.

If you are not too tired by now, you will see, early in September, the first insects, some of them very large. Heavy vegetation, rapidly growing, is laying down layer upon layer of what we shall later call coal. Now seed-bearing plants and the first reptiles appear. And by the end of the month the first dinosaurs come; they will dominate the animal realm for about two months, and then disappear.

In October the Appalachian mountains will arise. Some small and pretentious animals will feed their young upon milk secreted by the female. The emergence of these animals will be recognized as one of the great events in the total picture.

November will bring pictures of a sea extending from the Gulf of Mexico to the Arctic in space now occupied by the Rocky Mountains. One of the flying reptiles will become conspicuous because of a wingspread of 15 feet. But the dinosaurs will disappear, and there will be a rapid development of modern flowering trees, plants, and insects. Toward the end of the month there will be a tremendous eruption in the west, and the Rocky Mountains will rise out of the sea.

As the picture runs on into December, it will show the mammals in command of animal life. By now seed-bearing trees and grasses have covered most of the land with a heavy mantle of vegetation. Erosion will be confined to localized areas and most of the streams will be crystal-clear.

On Christmas day a stream flowing to the southwest will begin the cutting of what we now know as the Grand Canyon of the Colorado.

Christmas is past. The picture has run on through December and there is still no sign of mankind. We spectators have become alarmed lest somehow man has been left out.

But not so. Around noon, on the thirty-first day of December, there will appear a stooped, massive creature of manlike proportions - Pithecanthropus, the Java ape man. For tools and weapons he uses stones and wooden clubs. He and his children live a precarious existence threatened on the one side by hostile animals and on the other by tremendous climatic changes. Ice sheets - in places 4,000 feet deep - will form in the northern parts of North America and Asia. Four times this glacial ice will push southward to cover half of the continents. With each advance the plants and animal life will be swept under or pushed southward. With each recession of the ice, life will struggle to re-establish itself in the wake of retreating glaciers.

The picture will run on through supper time of December 31, with still very little evidence of man's presence on earth. It will be eleven o'clock at night before the Neanderthal man appears, and half an hour later, will come the Cro-Magnon man, living in caves and painting crude pictures on the walls of his dwelling. Fifteen minutes more will bring the Neolithic man who learns how to chip stone to produce cutting edges for spears and tools. In a few minutes more he has domesticated the dog and the sheep.

The dawn of civilization will not begin until about five or six minutes before the end of the picture. The Egyptians, the Babylonians, the Hebrews, the Chinese, the Greeks and the Romans in turn will arise and recede during the fourth, third and second minutes before the end.

At 58 minutes and 43 seconds past eleven o'clock, just one minute and 17 seconds before the end, Jesus will be born; he will urge men to love one another, and die after $1\frac{1}{2}$ seconds. For the next sixty seconds his adherents will be seen to increase in great numbers to the north and west and with this increase will come much bloodshed over details of doctrine concerning him. Then, less than one-half minute before the end of the film, Columbus will discover the New World. The Declaration of Independence will be signed just 7 seconds before the final curtain.

And now the film is flickering through the last seven seconds! Human beings seep across the face of the North American continent, driving before them the primitive redman who had lived there. The landscape is changing more rapidly than it has ever changed before in a comparable period of time. The great virgin forests disappear before the axe and fire. The soil, covered for aeons by its protective mantle of vegetation, is laid bare to the ravages of water and wind erosion. Streams that have been flowing clear once again take up a load of silt and carry it toward the ocean. Humus and mineral salts vanished at a terrifying rate. Highways and cities spring up in the United States as they did a few seconds earlier on the other side of the globe, where now human being can be seen picking up cow dung and scraps of straw to serve as fuel with which to cook and keep warm; the dense forests formerly there are gone without a trace. Here and there dust storms will darken the landscape; over other wide areas devastating floods wash away billions of acres and many habitations. Men will be seen counting what they call wealth in terms of bits of printed paper, representing a relatively useless metal kept buried in strong vaults. Meanwhile the soil, the only real wealth that can keep mankind on the face of this earth, is being torn loose from its moorings and washed to the seven seas.

It is a few seconds before midnight. These human beings who arrived on earth only a few minutes before twelve o'clock are multiplying at an astonishing rate; their food supply is diminishing. Each second there is an additional half-billion of them! There are now less than two tillable acres for each of them. More than half of them are hungry, some of them are starving. They engage in repeated exhausting wars against one another, which cease only while preparations are made for greater wars. Some of them systematically exterminate others. And all through the mass of struggling humanity, there are cripples and stragglers, hoarders and parasites, vandals and pillagers. There are petty destroyers, and destroyers on a grand scale. Some are playing, some are slaving, some are loafing, some are dying. Many are confined in great prisons and hospitals. But there are also builders, toilers, leaders, repairers. There are soil-savers and soul-savers, as well as destroyers. Forces of construction and conservation and salvation are at work, opposing the forces of waste and devastation and destruction. These little people, these ants, frantically scurrying about in the last few seconds of our year-long picture, are playing a part in a titanic contest. Until they came, the constructive forces of nature were - very slowly - gaining against the destructive forces. When man came his destructiveness turned the tide again; destruction gained ground. The outcome is still in the balance.

It is three seconds before midnight. During these three seconds you and I were born. The Menninger Foundation was born.

And now the thought comes to me; What will the result of our labors look like in this film? Will it be lost in the dreadful scene of destruction? Or will it appear, if only for a second, as a bright flash of light, illuminating and guiding and spreading. Will it grow, or will it be extinguished after a few more seconds?

In Memoriam

It is always a sorrow to lose a friend and a shock to us all, to learn that the last farewell was here and gone before we had warning that it was impending.

Mr. W. C. Wilson, who was affectionately known as "Bill" to his many friends was the essence of geniality, a loyal friend and a real student, one who actually studied a subject intensely.

He was well versed in the subjects of astronomy, botany, ornithology and all phases of geology. On field trips he was untiring in his search for material that was new or of added interest and his enthusiasm was projected to everyone around him.

Mr. Wilson was born in Pennsylvania in 1878 but was a resident of Minneapolis for sixty years. He graduated from Central High in "96" and then attended the University of Minnesota. He was associated with the McClellan Paper Co. for 30 years and with McQuay Inc. just before retiring in 1949.

His wife preceded him in death several years ago. Surviving him are two sons, Donald P. and Harold L., three daughters, Mrs. John Stewart, Mrs. Leroy Haugarud and Mrs. Leonard Vollmer, and eight grandchildren.

All who knew "Bill" Wilson will regret that their little world will not be quite the same with his passing.

As we go to press we are saddened to learn of the untimely death of Lynn Gardiner, a research associate of the University of Minnesota, and a long time friend of the Society.

Many of our members have had Mr. Gardiner as an instructor in mineralogy and geology. He has also lectured before the Society. We extend our sympathy to his widow and family.

THE 13th ANNUAL MIDWEST FEDERATION CONVENTION

EDITORS NOTE - The following summary is copied from a recent issue of the "Pick and Pop Stick", the official bulletin of the Chicago Rocks and Minerals Club.

----- "St. Louis, the crossroads of the U. S. A., is truly the City of a thousand sights and many of these are at their best during the summer. The convention site, St. Louis University High School at 4970 Oakland Avenue, is on a knoll overlooking the southeast corner of Forest Park. It is located in the heart of the city and is easily accessible to all the principal attractions and to the retail shopping district. There is plenty of parking space on the convention grounds, which are out of the heavy traffic area.

"Spacious Forest Park, with its 1400 acres of natural beauty, includes a number of major attractions such as the magnificent Municipal Opera, an incomparable Zoo with its daily animal shows, the Jewel Box and Art Museum. In addition, there are a large number of golf courses, recreational areas and picnic grounds. Forest Park Highlands, immediately adjoining Forest Park on the south, offers a wide variety of entertainment for those who enjoy the carnival theme.

"Other major attractions available to Midwest Federation visitors will be major league baseball games by the Cardinals or the St. Louis Browns at Sportman's Park, for St. Louis, as you know, is the home of these two great teams; boat trips on the Father of Waters in the million-dollar steamer Admiral; and a visit to the world renowned Shaw's Garden. These attractions and many others are in themselves worth a visit to St. Louis. But the lodestar of them all is the Midwest Federation's 13th Annual 3-day Convention.

"----- Field trips during the convention and a two-day post-convention field trip are now assured, as well as program lectures during the convention.

"A convention banquet with an outstanding speaker will be one of the convention highlights. The banquet is being held in response to requests from various persons and the Midwest officers. Another convention highlight will be an auction of fine material specimens and gems. Trailing, of course, is taken for granted. Since this is the first time that a Midwest Federation show has ever been held in St. Louis, local club members from President Headlee down to the newest member are busy doing everything possible to make this conclude the biggest and best of all. Chairman Gibbons says that the gigantic display of rocks, rare minerals, gems, lapidary work and other geological items by the local club and from other clubs and individuals throughout the midwest, will include a number of displays that have never been shown before. All of these exhibits, he believes, will be of unusual interest and well worth a trip to see.

"The convention hall is admirably adapted for display purposes. It is 230 feet long and 72 feet wide. Because of unusually good display set-up, there will be plenty of room for all types of exhibits, - commercial and non-commercial. Members of clubs and the Society or Club itself are urged to exhibit. Lyndell Grosch, 6958 Mardel Avenue, St. Louis, Missouri, is in charge of all non-commercial exhibits and it is suggested that you write him for your space reservations and for all other information concerning the non-commercial exhibits.

"Commercial firms and individuals having commercial displays should write to William A. Vesper, Jr., 109 Gray Avenue, Webster Grove 19, Mo., or to William Neukum, 1012 Kuhn Place, St. Louis, Mo., to reserve display space and for full and complete information concerning rules and regulations for commercial exhibitors.

"The St. Louis Mineral and Gem Society, convention hosts, again extends to your Society a warm hearted, collective invitation to come to St. Louis next summer. Each one of us wants to meet each one of you at the Midwest Federation's 13th Annual "Meet Mo in St. Louis" convention next June 26-27-28--

TENTATIVE PROGRAM

Friday, June 26

- 9:00 A.M. Midwest Federation Business Meeting
(Small Physics Lecture Room)
- 10:45 A.M. "Geology of the St. Louis Area" - Dr. Albert J. Frank,
Professor of Geology, St. Louis University.
- 1:15 P.M. Welcome Address - Elmer L. Howdles, President
St. Louis Mineral and Gem Society -- Carl Miller,
Chemistry Teacher, St. Louis University High School
and Curator, Academy of Science.
- 1:45 P.M. "The Value of Earth Science in Secondary Education"
Dr. Ben Hur Wilson.
- 3:00 P.M. "Mineral Collecting and Collectors" with
Kodachrome slides - John F. Mihalcic, Industrial
Mechanics Teacher, Detroit Public Schools.
- 3:45 P.M. "Lapidary Machine Design" - William J. Bingham,
Lapidary and Gemologist.
- 7:00-9:00 P.M. Auction.
- 9:00 A.M. to 10:00 P.M. Exhibits Open to Registrants Only - No Field Trips.

Saturday, June 27

- 9:30 A.M. "Mineral Localities in Missouri" - Dr. Gerratt A.
Millenberg, Assistant State Geologist, Missouri
Geological Survey.
- 10:15 A.M. "Leaves of Stone" - Dr. Gilbert O. Haesch,
Illinois Geological Survey Division.
- 11:00 - 12:00 Noon Auction.
- 1:00 P.M. Field Trip - Ruppel Mine.

Saturday, June 27 (Cont'd)

7:30 P.M. Convention Banquet - Gatesworth Hotel.

9:00 A.M. to 10:00 P.M. Exhibits Open to the Public.

Sunday, June 28

9:00 A.M. Midwest Federation Business Meeting.

9:45 A.M. Old Timers Club Meeting.

1:00 P.M. Speaker - To be selected.

2:00 P.M. Field Trip - Barite Deposits of Washington County.

9:00 A.M. to 10:00 P.M. Exhibits Open to the Public.

Post-Convention Field Trip, June 29-30,
to the Ozark Mountains.

Snack Bar open at all times - sandwiches,
hot dogs, coffee, ice cream, cold drinks.

Information of all types at St. Louis
Mineral and Gem Society Information Booth.

Many activities are being planned for June 26, 27, 28, 29 at the Midwest Convention and the Reservation Committee has requested that we canvass our members and obtain from them information as to whether or not they intend to attend the convention, and the activities in which they wish to take part.

This will not be a definite commitment, but they do need an approximate figure to make their arrangements. Cut prices are being provided wherever possible.

Check below the activities you think you will attend and how many:

Will you attend the Convention _____

Banquet June 27. Chicken \$ 2.85 _____ Steak \$ 3.90 _____
Three hour boat trip on the Mississippi _____
Municipal Outdoor Opera _____
Baseball Games Sportsman Park _____
Mississippi River Showboat _____
Post Convention Two Day Field Trip _____
Zoo in Forest Park _____

Please return this questionnaire NO LATER THAN June 15-1953, to

Loretta E. Koppen,
3376 Brunswick Ave.,
Minneapolis 16, Minn.



Mr. Hal E. McVetty
277 W. Deschellier
St. Paul 8
Minnesota

Mr