



THE MINNESOTA GEOLOGIST

OFFICIAL BULLETIN
OF
THE GEOLOGICAL SOCIETY OF MINNESOTA

VOL IV

NOVEMBER 15, 1947

NO 6

"OF ALL GEOLOGICAL AGENTS, WATER IS THE MOST OBVIOUS,
AND APPARENTLY THE GREATEST...THE HISTORICAL RECORD
OF GEOLOGY IS VERY LARGELY DEPENDENT UPON THE FACT
THAT THE WATERS HAVE BURIED, IN SYSTEMATIC ORDER,
RELICS OF THE LIFE OF SUCCESSIVE AGES."

THOMAS C. CHAMBERLIN,
ROLLIN D. SALISBURY,
UNIVERSITY OF CHICAGO.

GEOLOGICAL SOCIETY OF MINNESOTA

831 SECOND AVENUE SOUTH
MINNEAPOLIS 2, MINNESOTA

The Society is devoted to the study of GEOLOGY
and MINERALOGY for their cultural value.

OFFICERS

Dr. Edward H. Mandell, President	Fred L. Wunderlich, Director
Hal E. McWethy, Vice-President	Leone Patricia Knox, Director
Mary Lupient, Treasurer	George A. Rickert, Director
Loretta E. Koppen, Sec'y & Ass't Editor	Charles H. Preston, Director
Alger R. Syme, Editor	

FOUNDER

Edward F. Burch

PAST PRESIDENTS

Junior F. Hayden
Alger R. Syme
Charles H. Preston
Joseph V. Zalusky

MEETINGS: October to May inclusive, 7:30 P.M. every Monday,
not a holiday, large auditorium, 4th floor, Public Library,
Hennepin Avenue and 10th Street, Minneapolis, Minnesota.

FIELD TRIPS: June until September inclusive. Visitors are
very welcome, always.

ANNUAL DUES: Residents of Hennepin and Ramsey Counties \$3.00
plus \$1.00 additional for husband, wife, or dependant fam-
ily members; for students and non-residents, \$1.00.

Member of
MIDWEST FEDERATION OF GEOLOGICAL SOCIETIES

PUBLICITY; Our committee on publicity, its chairman Mr. Ara P. Richmire, Associate Editor, Loretta E. Koppen, Mrs. Helen Sommers and Miss Gretchen Waara, have earned our deepest gratitude. Mrs. Koppen, before appointment of the committee, secured considerable radio publicity for us. She participated in a six-minute interview by Arleth Haberle over WTCM. Your Editor was interviewed on the Polly and Perry Martin program over WLOL. Dahnra Aldrich discoursed on our Society and Geology for three minutes over WCOO, and our President, Dr. Mandell, our lecturer, Dr. Bell, and the Editor and Associate Editor participated in a fifteen-minute round table discussion over WDCY. Our lecture course was mentioned in George Grim's column in the Minneapolis Morning Tribune through the efforts of Mrs. Koppen, and in Paul Light's column in the St. Paul Dispatch through the efforts of Mrs. Helen Sommers. Gretchen Waara saw to it that notice of Dr. Bell's lecture course was sent to the science department of 27 schools, and Mr. Richmire has secured weekly announcements of our lectures in the Minneapolis Star Journal. Congratulations to you all. On behalf of our Society, we express our sincere appreciation to the radio commentators, the columnists and the newspapers.

MINERAL SOCIETY HISTORY AND COLLECTING; We have included in this issue the address of Mr. Ben H. Wilson, President of the National Federation, given before the Midwest Federation Convention last summer on the subject, "History of Mineral Societies". We are part of this great movement, and we know you will be interested in its history. We have included, also, an address by Dr. A. N. Goddard, before the Convention on the subject of collecting, which contains many helpful suggestions. Dr. Goddard's private collection is magnificent and is valued at many thousands of dollars. The delegates entertained at his home were thrilled and awed by it. We have also included the minutes of the Convention business session, verbatim.

FINANCIAL STATEMENT; For the past three years, Past-President Charles H. Preston, who by profession is a Certified Public Accountant, has audited the Treasurer's books, and we have printed herein his comparative statement and certificate. We sincerely appreciate his professional services and congratulate our Treasurer, Mrs. Mary Lupient, upon keeping her records "in excellent condition". In connection with this report, we would like to point out that while the balance on July 1, 1946, showed a substantial increase over the previous year, there was practically no increase for the year ended July 1, 1947. Our income from dues was practically the same for each of the three years. In other words, we have not increased our income from memberships during the last three years. We had 30 family memberships at \$4.00 each, 92 single memberships at \$3.00 each, 38 non-resident memberships at \$1.00 each, and 14 complimentary memberships. This produced a total membership income of \$384.00. During the past year, our expenses exceeded, by \$45.00, our income from dues. Proceeds from the auction and miscellaneous sales made up the difference so that we were in the black at year's end. In view of the demand of the Minneapolis Science Museum Society that we pay \$1.00 per member for the privilege of meeting in the auditorium, it is quite obvious that to meet this demand, the additional amount would have to be added to the dues, or members will have to contribute \$1.00 per member directly to the Museum Society. To take this additional expense from our reserve funds would be very unwise, would provide no solution of the problem, except a very temporary one, and would deplete our treasury in three years. We do have the offer of the use of a very excellent auditorium, without charge. Although not quite as central as the library, it would serve our purpose well. The Board of Directors is struggling with this problem and all hope that it will be adjusted to the satisfaction of all concerned, but above all, and in any event, to the best interests of our Society.

Jay Cooke State Park consists of 3,000 acres of wooded and rugged land on both sides of the St. Louis river, from the village of Thomson to the Duluth city limits at the pioneer village of Fond du Lac.

The St. Louis river has eroded a considerable gorge through the glacial lake sediments and glacial drift, and into the slates. The slate belongs to the Thomson formation named from its abundant exposures at and near the village. They are very old and belong to the great assemblage of rocks referred to in a general way as pre-Cambrian.

To just what portion of the pre-Cambrian the Thomson formation should be assigned is a matter of debate; but perhaps we may compromise and say that the sediments were deposited in the early part of the last half of the pre-Cambrian--or perhaps 800,000,000 years ago. The formation consists of slate and graywacke. They are easily distinguished as the slate is thin-bedded and has well-developed slaty cleavage whereas the graywacke is massive. The slate was originally deposited as a mud; the graywacke as an impure sand. Both have been converted to their present state after deep burial by the deposition of cementing material and the action of heat, pressure and movement. The original material has partly recrystallized to form a very fine-grained minerals table under the conditions prevailing at depth. Long erosion has worn away the rocks above and exposed to view the rocks which were changed by deep burial.

The effects of pressure and movement caused the slate and graywacke beds to fold and fracture so that the beds are rarely horizontal. Sometime after the original deformation masses of molten rock forced their way into fractures, or pushed the beds aside and on cooling, formed the black dikes that may be observed at places, particularly in the river bottom when water is now flowing over the dam.

In the lower portion of the St. Louis River valley, within the park, and at the village of Fond du Lac, beds of sandstone lie on the eroded edges of the slate beds. These sandstones have not been changed much by heat and pressure and are, therefore, younger than the Thomson formation but still a part of the pre-Cambrian. Between the deposition of these beds and the glacial period there is no record of events in the region except the gradual wearing away of the rocks.

In the last big event preceding the present, the glaciers scoured off the rocks and left scratches and grooves to indicate the direction of movement of the ice. On melting, the ice deposited a considerable load of clay, sand, and boulders in the low places. During the late stage of the last glaciation of the Superior area, a large lake was ponded in front of the retreating ice of the Superior basin and filled the valley of the St. Louis and overflowed past Carlton and southwest to join the Kettle river, and then to the St. Croix and Mississippi. A great deal of clay was deposited by the glacial lake and now forms steep banks along the St. Louis river. These banks often become unstable when wet, and form landslides into the river or even across the park roads.

Perhaps the most useful information for the visitor to the park is a description of specific phenomena with their location. There are so many details of geologic interest that only a few can be described within the available space. Careful observation will reveal many others. Slate always has a well-developed parting or cleavage. This cleavage is a result of parallel orientation of the minute mineral grains that formed when the rock was under pressure. This may be observed in most outcrops. Cutting across the cleavage at many places is a series of parallel fractures known as joints. These are particularly well developed in the railroad out just east of the river near the west entrance, but may be seen in a less diagrammatic fashion in most exposures.

Another feature shown in many beds of the slate are rounded concretions composed mainly of calcium carbonate. These have often dissolved out leaving rounded depressions in the rocks. It is probable that the concretions developed in the mud on the sea bottom.

Folds in the slate and graywacke beds may be easily observed in the gorge from the bridge at the west entrance to Jay Cooke Park to the dam about 700 feet to the north. Directly beneath the bridge on the west cliff is an open fold in the graywacke beds best seen from the east bank. Between the bridge and dam the beds alternate in dip from north to south, thus showing folds, but the crests have been eroded so that the complete fold is not well shown. About 100 feet above the bridge is a large white quartz vein which evidently filled a sheer zone in the slate.

The dam above the bridge diverts all of the water in normal times to the canal and powerhouse some distance downstream, thus leaving a long stretch of the river bed nearly devoid of water. This permits observation of many features that would otherwise be inaccessible. The diabase dikes may be best observed in the vicinity of the park footbridge across the river. One extends from beneath the north end of the bridge somewhat west of south, across the river bed just east of the rock island. A double dike crosses the river bed about 400 feet east of the bridge. The west dike is 65 feet wide and the other, about 50 feet to the east, is 10 feet wide. About 250 feet farther east is another dike about 100 feet wide. Several other dikes occur downstream around the bend.

The channel of the river becomes much wider at the bend below the main park building and wooded islands appear on the higher portions. Between the south end of the first large wooded island and a series of islands in the broadest part of the channel, is a somewhat narrower channel that is crossed by a confusion of dikes and irregular intrusions of diabase. At this wide place in the channel the outcrops thin out and end altogether near the southern tip of the islands. The last exposure to the south shows a small outcrop of conglomerate and sandstone lying nearly horizontally on the eroded beds of slate. Beyond this point the river is entrenched in red lake clay to the east boundary of the park, and landslides are a fairly common feature along the steep banks in the dissected glacial lake plain.

In following the river from the west entrance downstream, it may be noted that at most places the river tended to flow parallel to the strike of the slate and graywacke beds which form a series of reefs in the abandoned river channel. This tendency is clearly a result of the ease of erosion of some of the beds forming reefs and channels that guided the water parallel to their trend. Cross joints guided erosion of narrow channels from one depression to another.

On the upland in and near the park, it may be noted that the rock outcrops occur as ridges elongated in an east-west direction because of the prevailing strike of both bedding and cleavage in that direction. These ridges usually slope off gradually at each end and such outcrops are called "rochas moutonnees," a term used by the French to describe the fact that the ridges look like the backs of a flock of sheep lying in a pasture.

Reprinted from "The Conservation Volunteer"

BULLETIN BOARD

EDITOR'S NOTE: Dr. Bell's lecture course is only nicely started and there is still plenty of time to begin the study of Geology with Dr. Bell. We can think of no other subject which will broaden your cultural horizon as much as even a very elementary knowledge of Geology. You will understand the weather, the landscape, the rocks, the heavens, and the earth much better if you have some knowledge of this subject. You will probably notice it most when you travel. When a strange scene intrudes upon our view, we are apt to try and account for what we see, whereas the familiar scene is accepted without question. We feel certain that all will find pleasant associations and some enduring friendships in our Society. You will also find a certain amount of satisfaction in acquiring some knowledge of this interesting subject. Please pass this page on to a friend whom you think might be interested.

1947

MONDAY, NOVEMBER 17:	IV	GROUND WATER
MONDAY, NOVEMBER 24:	V	LAKES AND SWAMPS
MONDAY, DECEMBER 1:	VI	GLACIERS
MONDAY, DECEMBER 8:	VII	WIND EROSION AND DEPOSITION
MONDAY, DECEMBER 15:	VIII	MARINE EROSION AND DEPOSITION

1948

MONDAY, JANUARY 5:	IX	SEDIMENTARY ROCKS
MONDAY, JANUARY 12:	X	IGNEOUS ROCKS
MONDAY, JANUARY 19:	XI	VOLCANOES
MONDAY, JANUARY 26:	XII	DEFORMATION OF EARTH CRUST
MONDAY, FEBRUARY 2:	XIII	EARTHQUAKES
MONDAY, FEBRUARY 9:	XIV	METAMORPHISM
MONDAY, FEBRUARY 16:	XV	ORIGIN AND HISTORY OF MOUNTAINS
MONDAY, FEBRUARY 23:	XVI	LAND FORMS

MINUTES
OF
GENERAL MEETING OF THE CONVENTION
August 23rd, 1947

After enjoying a delightful lunch at Devon Gables, the general meeting of the convention convened in the Auditorium of the Science Building at Cranbrook Institute at 1:00 P.M. Saturday, August 23rd, 1947, and the following proceedings were had.

BUSINESS SESSION

President John P. Nihelcic presided.

Secretary Loretta E. Koppen acted in that capacity.

The President stated that the Directors had held their business meeting in the forenoon and that he thought it proper to have the proceedings of the Directors meeting reviewed for this meeting so that the delegates might take such action as they deem necessary.

At the request of the President, the Secretary read the minutes of the Directors meeting, motion by motion, and the following action was taken thereon:

1. MEETING PLACE OF 1948 CONVENTION: The Secretary read the minutes of the Directors meeting on this subject and thereupon it was moved by Frank L. Fleener and seconded by Leslie R. Bacon that we accept the invitation of the Chicago Rocks and Minerals Club to hold the 1948 annual meeting of the Midwest Federation of Geological Societies in Chicago. The motion was unanimously carried.
2. INSIGNIA: After reading the action of the Directors it was moved by Arthur O. Gardner and seconded by James W. Bay that the Federation adopt the insignia designed by Vincent Kaptur Sr. as our permanent emblem. The motion was duly carried.
3. DUES: The Secretary reported that the Directors had decided to establish a sliding scale of dues, proportionate to membership of each Society, at the rate of ten cents per member with a minimum of five dollars. It was moved by James W. Bay and seconded by Joseph Vuckovitch that we adopt the foregoing scale of dues, as proposed by the Directors. The motion was unanimously carried.
4. NEW MEMBER SOCIETIES: The Secretary reported applications for membership in the Federation by the following Societies:
The Heart of America Geological Club
of Kansas City, Missouri
The Missouri Valley Mineral Club
of St. Joseph, Missouri
The Oklahoma Mineral & Gem Society
of Oklahoma City, Oklahoma
It was moved by Frank L. Fleener and supported by James O. Montagne that we accept these Societies into membership. The motion was unanimously carried.

5. NATIONAL FEDERATION: The President called on Mr. Ben H. Wilson to give a report on the formation of a National Federation. Mr. Wilson reported that at a meeting held in Salt Lake City on June 13th, 1947, representatives of the Midwest Federation of Geological Societies, the Northwest Federation, the Rocky Mountain Federation and the California Federation met and did the preliminary work necessary to organize a National Federation to be called, "The American Federation of Mineralogical Societies." Temporary officers elected were as follows: Ben H. Wilson, President, Dr. Richard Pearl, Vice-President, and Chester R. Howard, Secretary.

A Constitution and By-Laws were prepared by Alger R. Syme of the Midwest Federation which were unanimously adopted. The first meeting of the National Federation is to be held in Denver in June, 1948, at which time the organization will be completed.

6. MEMBERSHIP IN NATIONAL FEDERATION: The Secretary reported that the Directors had unanimously ratified the Constitution and By-Laws of the National Federation and had determined to become a member thereof.

It was moved by Ben H. Wilson and seconded by Alger R. Syme that the action of the Directors be approved. The motion was unanimously carried.

7. ELECTION OF OFFICERS: The nominating committee reported the following slate of candidates: President - George Anderson of Chicago, Illinois, Vice-President - Benedict P. Bagrowski of Milwaukee Wisconsin, Secretary - Loretta E. Loppin of Minneapolis, Minnesota, Treasurer - E. Lillian Mihelcic of Detroit Michigan. Members of the Council of the American Federation of Mineralogical Societies - Alger R. Syme and Ben H. Wilson, Alternate delegates to the Denver meeting in June, 1948 - James O. Montague and John F. Mihelcic.

The President then inquired if there were any nominations to be made from the floor. There being none, it was moved by Mrs. Hugh Aughey and seconded by Miss Anne Procter that the nominations be closed and the candidates as nominated be elected to their respective offices. The motion was unanimously carried.

It was moved by Mr. Arthur O. Gardner and seconded by Mr. Rudowski that the Constitution be amended to read as follows: "That all business, including the election of Officers, be transacted by an assembly composed of delegates from each Society."

Mr. Syme suggested that the matter be referred to a Committee for study and recommendations and that such committee report at the 1948 meeting, in view of the fact that the Constitution could not be amended until a thirty day notice had been sent to all member Societies of the Federation. He suggested also that to amend the Constitution is a serious matter which should be given careful thought and that as no notice of the proposed amendment had been given, there was not sufficient time now to consider it properly. He stated also that it was his opinion that the amendment was unnecessary for the reason that the Constitution already provides for a legislative body composed of delegates from each Society to transact the business of the Federation. The President upheld the latter objection, and Mr. Gardner with the consent of Mr. Rudowski as supporter of the motion, withdrew the proposed amendment.

It was then moved by Mr. Gardner and seconded by Mr. Syme that at future Conventions all business shall be transacted by the board of Directors. The motion was unanimously carried.

During the afternoon session a series of lectures was given in accordance with the previously announced program. Dr. George V. Cohee of the U. S. Geological Survey gave a very interesting talk on "The Search for Oil in Michigan". Miss Helen W. Martin, research Geologist of the Michigan Geological Survey and well known author, talked on the subject, "The Relation of Michigan Geology to United States History". Dr. Willard Parsons of Wayne University concluded the afternoon program with a most interesting talk on, "The Mineralogy of Michigan".

The afternoon meeting adjourned at 4:00 P.M. A banquet was served at the Rackham Building at 6:30 P. M. Approximately 100 members and guests attended. Mr. John F. Mihelcic acted as master of ceremonies, and Dr. Leslie R. Bacon as toastmaster. Society reports were given by Frank L. Fleener of Joliet, Alger R. Syme of Minneapolis, James O. Montague of Milwaukee, Dr. Leslie R. Bacon of Detroit, and Mrs. George Sanger of Chicago. Reports were read from the "Heart of America Geological Club" of Kansas City, Missouri, and the "Minnesota Mineral Club" of Minneapolis.

Dr. A. N. Goddard of Detroit gave a very interesting talk on "Mineral Collecting". Mr. Ben H. Wilson talked on, "The Growth of Geological and Mineralogical Societies during Recent Years".

On Sunday most of the delegates enjoyed a very fine field trip to Clay Center, Ohio, where they collected specimens of fluorite, celestite, and other minerals. On Monday the group divided, part made a tour of the Ford Motor Plant and Greenfield Museum, while the others went to the plant of the Champion Spark Plug Co. In the evening, delegates were entertained at the homes of various members of the Detroit Society.

It was the unanimous opinion of those in attendance that the Convention was a big success and thoroughly enjoyed by all.

(Mrs.) Loretta E. Koppen
Secretary

Whenever any movement becomes important enough that it begins to exert some influence upon the cultural life of the nation, it is well to set down, at least an outline, of the events leading up to its present status, with a view to "help keep history straight." We have in mind here only a resume of the movement as a whole, rather than that of any individual club or organization. We are particularly concerned with its past, present, and projected influence upon the cultural welfare of its devotees, as well as the impact which the whole movement may have upon that dense wall of ignorance which seems so prevalent, concerning detailed or even general knowledge of a mineralogical, or geological, character.

Widespread interest in minerals and mineral collecting first made its appearance in the United States towards the close of the third quarter of the nineteenth century. During this period, numerous clubs were founded throughout the East, especially in New York and Pennsylvania, which were for a time actively supported by many eminent professional and "amateur" mineralogists. Only a few of these, however, such as the New York and Philadelphia societies have remained intact until the present day.

This first wave of interest developed several magazines, numerous dealers, innumerable traders and very many, most excellent private collections, some of which are yet in existence. One need only visit the Geological Museum of Milwaukee Downer's College, and other similar institutions to witness concrete evidence of this fact. In spite of a rapid and ever increasing mass of mineralogical information and materials accumulating during this period, this first movement, it seems, waned early, and for nearly fifty years Earth Science remained dormant.

Popular interest in geology and mineralogy has, however, been revived. Several important factors, we believe, have added their influence to this and account for the reversal of the trend, so unusual in the cultural life of America. A few of the principle factors are:

(1). Among certain of the clergy, geology early fell into such ill-repute over interpretation of such broad controversial subjects as geologic time and the matter of evolution, and a thumbs down policy was adopted by the faculties of many of our church controlled denominational colleges. By some it was actually looked upon as the work of the Devil, and strange to relate, the subject has not yet reappeared in the curriculum of some of these colleges.

(2). Professional and professorial geologists, even in the great universities, did not deem it necessary to encourage and devote their time to popularizing, or otherwise fostering the cause of amateur geologists, but for the most part willingly remained in their cloisters and wrote articles upon the subject, frequently so dry as to quench the thirst of even the most intelligent readers for further knowledge of the subject. As a result, biological, chemical, and other scientific departments grew to great size and importance, while the geology departments in many of these schools attracted but few students, and in turn required but few instructors. Happily this situation is rapidly passing and geology is beginning to assume its rightful position as a cultural force in American collegiate education.

(3). As a result of this lethargy, principally due to a lack of adequately trained teachers, Earth Science as a part of the curriculum of the Secondary Schools, that is below college level, hardly existed. For this reason but little interest in the subject was created in the early life of the student. This situation in turn created little demand for college courses in Geology, by those seeking higher education. It was a vicious cycle which did the subject no good, and, we regret to say, probably retarded its development and popularization for more than a generation. Even today, there has been but slight advancement toward bettering this situation in so far as the secondary schools are concerned, due almost wholly to lack of instructors properly trained in the subject. We would say that the matter rests largely

upon college and Normal Training School authorities, and their awakening to their responsibility in the training of many new teachers who are capable of successfully presenting Earth Science.

(4) Finally, narrowness of vision, on the part of the leaders of local clubs, due partly to lack of modern transportation and other means of communication, together with a feeling of self-sufficiency within their organizations, caused them to live largely unto themselves--and we might also remark, that it appears that many of them also disintegrated in the same manner. Local and inter-sectional jealousies sometimes interfered with mutual cooperation, and regional and national federations stimulating and correlating the growth of the movement were absent altogether.

We hope that the present generation may be able to visualize and avoid some of the pit-falls which caused the deterioration of the original movement which caused it to all but disappear as a cultural influence at the very moment it should have made most rapid strides toward advancement. Whether my readers agree with all I have said, or not, is not so essential, as it is that their minds be stimulated into devising ways and means of keeping our present efforts going and growing into a healthful and ever broadening influence touching and enriching the lives of thousands of individuals throughout the years to come.

With respect to the history of the present reawakening of mineral and geological club activity, I shall attempt simply to tell of it as I have seen it grow rapidly from the side line, and as I, too, may have been able to give it an occasional boost from the field. It has been a wholesome, cooperative movement wherein a great many individuals have all pulled together, wholeheartedly, to bring it up to its present high level of development. The many fine local organizations, and the workers responsible for them, deserve much of the credit for the present success of the movement, and, although one seldom sees their names in print, they have been the unseen force behind it all.

Possibly, we would be correct in saying that the recent revival of geological and mineralogical activity was a child of the depression. At any rate, as we have the story, Mr. Peter Zodac, a young mining engineer in the eastern coal fields, found the going during the early twenties becoming increasingly rough. Being a mineral hobbyist with a vision, he finally resigned his position, and in 1926 began publishing "ROCKS AND MINERALS MAGAZINE" as a Quarterly Journal. In 1934 it became a monthly magazine. There being then no publication of its kind in the field, catering to the needs of the mineral fraternity, it sprang into instant favor, and interest in geology and mineralogy on the part of the layman was greatly stimulated thereby.

In 1928, the present writer, then, as now, an Earth Science teacher in the Joliet, Illinois, Township High School and Junior College, recognizing the need of bringing the Earth Sciences more directly to the attention of students in the secondary schools of the country, organized the Joliet Junior Mineralogists Club from members of his own classes. Being pleased with the local interest shown, a nationwide campaign was suggested, in cooperation with Editor Zodac and ROCKS AND MINERALS MAGAZINE, in an attempt to induce others to sponsor similar activities in their own schools. The writer, becoming National Director of the movement, prepared monthly articles, proposed programs, and otherwise lent aid and assistance to those interested in the movement. Considerable interest was shown, and about a dozen such clubs were organized, with greater or less success, scattered rather widely throughout the country.

Somewhat to the surprise of the promoters, however, their efforts veered off in a different direction from what they had anticipated, not unlike fireworks which sometimes go off in an unexpected direction. These articles, it seems, inspired or were at least partially responsible for a similar effort among adults, which have exceeded the fondest expectations of everyone connected with them.

On the West Coast, California early took the lead in the movement, and has maintained it ever since. The Mineralogical Society of Southern California was the first organized, at Pasadena on June 23, 1931. This was followed the succeeding year by the Los Angeles Mineralogical Club, which was organized September 23, 1932. Today

there are more than forty active clubs in California, associated together in the California Federation of Mineralogical Societies which is the largest in the country.

The third club to be organized on the Pacific Coast was the Oregon Agate and Mineral Society of Portland, Oregon, on January 14, 1933. This was one of the most important events in mineral club history, for Dr. H. C. Duke was elected to serve as the first president. Dr. Duke, being an indefatigable worker, in one year built the club membership to, what is said to have been, the largest in the World. A quarterly bulletin, "Oregon Mineralogist", was also published the first year. At the beginning of the second year, January, 1934, it was changed to a monthly magazine. Beginning with the 3rd Volume, January, 1935, full responsibility of the editorship was assumed by Dr. Duke, and the name was changed to "The Mineralogist Magazine". Since then, it has been ably edited by the same staff, and the magazine has become a great force in the building up of the entire mineralogical and geological activity.

More than one hundred and fifty clubs have been organized in various parts of the country during the past twenty years, which now have a total membership of over 10,000. Most of these are still active, and are showing healthy growth. At least two other ably edited magazines, "Mineral News and Notes" and the "Earth Science Digest", have appeared which in addition to a number of conducted columns in other magazines, give great support to the movement. The commercial and equipment activities have also grown to huge proportions, and many publish their own price lists and bulletins which in themselves are quite informative. There is now no dearth of literature upon the subject for those who wish to read.

In an editorial in the June, 1935, Mineralogist, Dr. Duke wrote, "The wide spread correspondence, visiting and exchanging, between members of the mineral societies throughout the country is an excellent indication of the fine spirit of fraternalism existing among mineral collectors." That same year a preliminary meeting was held at San Diego, California, to discuss the feasibility of organizing the California clubs into a Regional Federation. This was accomplished and the first convention of the California Federation was held January 4th and 5th, 1936, at Riverside. This marked another mile post in Mineral Club history. A similar meeting was held late in 1937, with the view of organizing the clubs of the Northwest States into a Federated group. This was accomplished and the first meeting of the Northwest Federation was held February 5, 1938, at Olympia, Washington. Following a preliminary conference held earlier in the fall, the Midwest Federation was organized at a meeting held December 7, 1940, at the Field Museum in Chicago. On August 9th and 10th, 1941, a meeting was held in Denver, at which time the Rocky Mountain Federation was organized. So far the Eastern seaboard and Southern sections of the country have no organizations similar to our western Federations. It is hoped, however, that both of those regions will soon come to enjoy the fellowship and other benefits of such organizations.

During the war years, of course, all further advancement in organization was necessarily held in abeyance. In 1946, however, an earlier suggestion for the organization of a National Federation was revived. This idea met with instant approval, not only on the part of the magazine editors, whose periodicals act as the sounding board of the fraternity, but also from Regional Federation and local club leaders as well. An organizing committee was constituted, in 1946, which was composed of two delegates, and alternates from each Federation, with delegates at large, to investigate carefully, not only the need for a National Federation, but also the feasibility of organizing it. It was agreed that the ultimate purpose of such an organization should be to act primarily as a clearing center, and to assist both specifically and in a general way in promoting the welfare of those interested in geological and mineralogical subjects throughout the nation. It should exercise absolutely no control, paternal or otherwise, over the existing Federations, and should strive in every way possible to avoid unnecessary duplication or overlapping of functions.

This committee met as planned, at Salt Lake City, Utah, in June, 1947, in conjunction with the annual meeting of the Rocky Mountain Federation, who served as

very gracious hosts. As a result the American Federation of Mineralogical Societies was formed. A tentative Constitution, drafted by Alger R. Syme, Past President of the Midwest Federation, was adopted, and will no doubt be ratified at the first annual convention of the American Federation to be held in Denver in June, 1948, again in connection with the annual meeting of the Rocky Mountain Federation. In 1949, the second convention will be held, with the California Federation as hosts, at the site of the "mother lode". The theme of both of these conventions will be the celebration of the 100th anniversary of the discovery of gold in California, which was, in many respects, the most important event in the mineralogical history of this Country. Geologists and mineralogists from every section of the country are planning to attend these conventions, great preparations are being made and two very memorable occasions are assured.

It is much too early to comment on the work of the American Federation, except to say that a splendid feeling of optimism prevails concerning its possibilities, its usefulness, and the service it can well render to those interested in the subjects of rocks and minerals. The situation is being carefully studied by the leaders, and great plans are being made, as to which everyone will be informed in due time. The officers will always welcome correspondence and any suggestions you care to make.

For those who care to pursue the history of this movement further and in greater detail, we refer you to an excellent Mineral Club History, written and published by Dr. H. C. Duke, Editor of the Mineralogist Magazine in 1943. It may be purchased for a very nominal sum.

AFTERMATH

MINNIE NELSON has long been a member of our Society, and at one time served it well, as Secretary. This summer she had an experience while on the field trip to Winona which serves to keep our faith in humanity and the general honesty of strangers.

Through some inadvertence, Miss Nelson lost her purse which contained, among other things, her glasses and a sizeable sum of money. She didn't know just where she lost it, but thought it might have been in front of or near a certain house. She didn't know the name of the people who might live there, but addressed a letter as follows: "The First Farm House, North of the Road, West of the Crest of Stockton Hill, U. S. Hwy 14, A little ways out of Winona, Winona, Minn." Three days later, she received the following letter from Mrs. George Bronk:

"I received your letter addressed to our farm home about the purse.

Shortly after the group left our yard Sept. 7th my twelve year old son Franklin and his father were going after a load of hay. As they approached the highway Franklin noticed the purse beyond the center line of the road, just southeast of the house.

"At first glance they thought it was a paper bag. After stopping to investigate, it was the purse you described in your letter. To us it sure seems funny that some motorist didn't happen to pick it up because traffic was heavy that day.

"The purse is at our home now just as the boy found it. We looked through it for a name and couldn't find any. So we were looking for an ad in our local paper.

"The glasses are O.K. and the purse had not been driven over by a car. So please inform us what we should do with the purse."

Miss Nelson immediately phoned Mrs. Bronk with the result that the purse, money and glasses were returned by mail to Miss Nelson, neatly and very well wrapped.

Mineral collectors are simply one group of individuals having a common hobby, which is interest in that branch of natural phenomena having to do with the structure of the earth and its various manifestations of mineralization.

With this common interest, however, there are widely divergent angles of interest.

1. Some collect for the reason of chemical composition.
2. Some collect for the critical study of crystallography, i. e., the mathematical laws which govern the marvelous and intricate forms of expression in the rock structure of the earth.
3. Some collect with not too much study or research behind their thought, but rather a devout and reverent attitude toward this wondrous manifestation of God's creative work in the Universe. As for example, a good preacher friend of mine who has a very fine collection. Although he hardly knows the name of many of his specimens, and cares little for the location from which they come, nor the physical conditions in which they occur, nor does he know even the simplest rudiments of the chemistry of minerals, nevertheless he preaches many sermons from the inspiration he draws from his collection.

4. I suspect, however, the larger group of mineral enthusiasts today find their chief attraction in the transcendent beauty of form and color in that which comes from the hidden depths of earth. This phase of mineralogy is of first and generally lasting attraction. Most of us having an inquiring mind, try after a time to learn something of the various characteristics of minerals by which they are scientifically classified: Their chemical composition, their physical structure, their degree of hardness, their reactions in chemical analysis, their location in different parts of the earth, their variety of coloring, something of their formation and the different formations of the same mineral from widely varying localities.

So then, while our prime attraction may continue to be, beauty of form and color, we begin to get a scattering knowledge of the earth sciences, and thus find not only beauty, but a cultural development that is a real enrichment of life.

Well, how does one begin this hobby? Sometimes from a childhood interest, aroused by father or mother or a schoolteacher that in early life taught us to use our eyes and observe some of the marvels of Nature all about us and under our feet. Sometimes in later life a friend who has become enthusiastic arouses first our curiosity, then our lively interest, and we begin to look at the ground under our feet and to pick up a few stones. Sometimes a friend shows us a beautifully polished stone, which had little attraction until someone decided to polish it, to reveal a storehouse of treasure. And then, suddenly we are aroused and begin looking at every rock and paving stone, wondering what it really is--where it came from--how it would look if polished, and we begin to collect!

Those who live in interesting, wide open or mountainous country, will find no end of material. Those who live in a crowded city begin to inquire about mines or quarries and plan trips to collect. They soon get acquainted with others having a kindred interest, and then begin to exchange or trade stones. Pretty soon they get hold of a hobby magazine and note ads of those in various parts of the Country who have minerals for sale and then they are stung--like the lover of flowers pours over the glorious seed and plant catalogs and sees the colored pictures of flowers that could only grow in Heaven and yet are advertised to be very easy to grow.

Well thus, in these varied ways, does one begin to collect. The first few specimens are put on the living-room mantle, or best table, then more follow. They are put about in cases, or if too many, in boxes in the basement, or under the bed, till one can find time to sort and choose. If this procedure continues, as it is very apt to, the time is not far distant when Mary is apt to say, "John, you're just

filling this house with your rocks, they are everywhere, on every shelf and table and in the bureau drawers. I've just got to have some place to live, John." Often it may be John and Mary, and in that case they both, in time, come to their senses and then sit down and try to decide whether they will move into the garage and make their home into a museum, or whether they will begin to discriminate, learn values, become intelligently selective, get a book or two on collecting--there is nothing better in the whole field of mineralogy than George English's, "Getting Acquainted With Minerals"--and begin to learn how to build a real collection.

Often they will fix up a place in the basement with shelves and lights. Sometimes they will get a pretty good chest of drawers at a very nominal sum from a second-hand furniture dealer, or better yet, find at the same source a second-hand glass front china cabinet. In time they will even get a second cabinet. I presume it is needless to say this, but right here is the time to really review the situation carefully and to draw on the experience of others. Don't crowd your specimens! You and I have both seen collections, not only in private homes, I'm sorry to say, but in public museums where the specimens are arranged about like material on a Woolworth Store bargain counter, actually piled one on top of another. If you don't stop right at this point and review your specimens and begin to discriminate, to discard and to refine, you will never have a collection that will bring pleasure to you or your friends. Learn what and why a specimen is worth keeping. Be more careful in what you take in exchange or what you purchase. In your cabinets give each specimen room to display its own intrinsic worth. Let each specimen attract your attention and say, "Look at me!" not "Look at us!"

One can acquire a very fine mineral collection and not freeze too much money in the process, one gets the idea of quality, rather than quantity. So many, many people have said to me, "I haven't enough money to purchase good specimens". My invariable reply is, "If you have decided to spend \$10 on your collection, don't try to buy ten specimens at \$1 each or twenty at 50¢ each. Buy one fine one for the \$10 and really study and enjoy that one until you can again make another good purchase or don't buy over two or three at the most with your \$10. Just here let me suggest that when you read some of the alluring ads in a hobby magazine about a "grab-bag lot" for the marvelously low price of \$1, just remember you will probably get ten, 10¢ specimens that you wouldn't look twice at in the field, nor even pick up. Even when you purchase definite items from an ad, ask to have them sent on approval with the privilege of returning, which you will do at your own expense, and give a bank or dependable financial reference so the dealer will believe you are honest as you want him to be.

Well, now you are well on the way to the enjoyment of a very worthwhile hobby. You have a fair number of specimens and you have a good display cabinet which you will want to show to your many friends. If you are like the great majority of us, however, you will have little time, except week-ends, to see your material by daylight, hence you should provide a good lighting system in your cabinet for evening display. To my mind, nothing is better than the "3500 white" fluorescent tube. These are many types of fluorescent tubes, but this one gives the full natural daylight, and thus, there is no color distortion to your specimens. For an ordinary china cabinet, one 24 inch tube attached to the under side of the top will do very well. If a stronger illumination is desired or more uniformity of lighting on all shelves, use one or two vertical tubes inside the frame, either side of the door. Often, china cabinets have a mirror at the rear in which case, this should be covered with a beige crash material pasted on to kill the brilliant light reflections.

Next, as to arrangement of your specimens; you may wish to follow the Dana system, as is customary in most public museums. I prefer to throw this to the winds and arrange my material from the standpoint of size and color harmony entirely. Unless you know your Dana very thoroughly and also have a considerable amount of room, you will surely be disappointed in trying to follow it.

It might be well here to speak of size of specimens. Unless you have a lot of room, or several cabinets, it is far better to confine yourself to what is known

as cabinet size, that is, the largest specimens should not be over 3" x 4", and 2" x 3" is better. You will find quite as good crystalization and color quality in these sizes as in larger, and large pieces are certainly out of place in a moderate home-size cabinet. Again, seek quality, not size. Often entire collections are composed of not larger than 1-1/2" size called "thumb-nail collections." Some again, will prefer crystal formation only, and some, the massive or nodular formations that must be cut and polished to reveal their beauty. Some will want to collect and display cut material only, cabochons or faceted stones, or both. Some will prefer the material that only reveals its richness by use of the ultra-violet light. In differing mood, some will find the enchantment of micromounts all absorbing. I believe frequently the perfection of form and the delicacy of color is more pronounced under the 25 power microscope than in the larger specimens. Personally, I have displays in all these classifications and upon occasion find a peculiar joy in each. I happen to be fortunate, however, in being able to devote an entire room in my home to my hobby and have built special cases about the walls for the purpose.

I'm afraid the above remarks have been exceedingly dull to those of you who have collected for years. They are simple and primary to say the least, but, possibly, some of you have not been at the game too long to have gotten a thought or two out of this talk. The twenty years that this has been a common hobby with Mrs. Goddard, who gave me the first inspiration, and myself, have brought not only a distraction from business, but a wealth of joy and culture into my life that would not have otherwise been there. If you will collect with discrimination, by original field trips, by exchange or by purchase, if you will keep your specimens small and choice, if you will display them well in a correctly lighted cabinet, if you will avoid crowding in your cabinet, giving each specimen sufficient room to express itself, if you will post yourself to a reasonable extent on both the physics and chemistry of mineralization, you will find this hobby greatly worthwhile because you are getting an inside glimpse of God's great Universe and with Shakespeare you will find "books in running brooks, sermons in stone, and good in everything."

GEOLOGICAL SOCIETY OF MINNESOTA

831 Second Avenue South
Minneapolis 2, Minnesota

APPLICATION FOR MEMBERSHIP

NAME:

ADDRESS:

PHONE:

BUSINESS:

I ENCLOSE HEREWITH MEMBERSHIP FEE OF \$ _____

GEOLOGICAL SOCIETY OF MINNESOTA

COMPARATIVE STATEMENT OF RECEIPTS AND DISBURSEMENTS

FISCAL YEARS ENDED JULY 1, 1945, JULY 1, 1946 AND JULY 1, 1947

	Year Ended 7-1-45	Year Ended 7-1-46	Year Ended 7-1-47
<u>Balance on Hand Beginning of Year</u>	\$ 297.37	\$ 395.72	\$ 524.74
<u>Receipts</u>			
Membership Dues	\$ 374.80	\$ 393.25	\$ 384.00
Sale of Books	80.00	110.00	6.70
Auction and Miscellaneous Sales	62.90	91.10	42.80
Miscellaneous Receipts & Contributions	113.06	18.95	2.90
<u>Total Receipts for Year</u>	\$ 630.76	\$ 613.30	\$ 436.40
<u>Total Credits for Year</u>	\$ 928.13	\$ 1,009.02	\$ 961.14
<u>Disbursements</u>			
Paid for Lectures	\$ 216.87	\$ 262.50	\$ 210.00
Bulletin Expense	119.16	80.80	80.71
Postage and Stationery	61.28	48.48	63.66
Annual Dinner	7.00	19.00	28.95
Midwest Association Dinner	-	-	38.30
Science Museum Society	38.25	-	-
Miscellaneous	3.35	5.00	8.10
<u>Total Expenses</u>	\$ 445.91	\$ 415.78	\$ 429.72
Paid for Books for Resale	86.50	68.50	-
<u>Total Expenditures</u>	\$ 532.41	\$ 484.28	\$ 429.72
<u>Balance in Bank End of Year</u>	\$ 395.72	\$ 524.74	\$ 531.42

CERTIFICATE

This certifies that I have examined the records for the fiscal year ended July 1, 1947, and that the above is a true copy of the Comparative receipts and disbursements for the three years ended on that date in accordance with the records. I find the records mentioned in excellent condition.

Respectfully submitted,

(Signed) C. H. Preston
CHARLES H. PRESTON, C.P.A.

**CONSTITUTION OF
AMERICAN FEDERATION OF
MINERALOGICAL SOCIETIES**

ARTICLE I
NAME: The name of this organization shall be "AMERICAN FEDERATION OF MINERALOGICAL SOCIETIES."

ARTICLE II
PURPOSE: The purpose of this organization is, (a) to promote education and popular interest in the subjects of Geology, Mineralogy, Paleontology, Lapidary and related subjects, with special emphasis upon the cultural values of such subjects, and, (b) to sponsor and provide means of coordinating the work and effort of all persons and groups interested therein.

ARTICLE III
MEMBERSHIP: (1) Membership herein shall be open to the following upon such terms and conditions as may be prescribed by the By-laws governing this organization, within the limits hereof, namely:
(a) Federations or other groups of societies.
(b) Individual societies.
(c) Individuals.

(2) Application for membership shall be made only in writing and applicant shall give such information as may be required by the By-laws, or officers.
(3) The By-laws may also prescribe additional classes and conditions of membership, as well as provisions for honorary membership, withdrawal from membership, etc.

ARTICLE IV
GOVERNING BODY: The Government of this organization shall be vested in a "COUNSEL" composed and elected as follows: Each Federation member shall elect from among the members of their Societies, two (2) members of the Counsel, for a term of four years and so elect that one of the first two members elected shall be elected for a period of two (2) years. The Counsel shall elect one (1) member at large, who shall represent all individual members and Societies who may be members of this organization.

ARTICLE V
OFFICERS: The officers of this organization shall consist of (a) President, (b) Vice-President, (c) an assistant Vice-President for each section or division of activity hereby or hereafter created, (d) Secretary, (e) Treasurer, (f) Historian-Custodian. All such officers shall be members in good standing of a Federation or Society, or a member of this society, and shall be elected by the Counsel for such term as the By-laws may prescribe, and until their respective successors are elected and qualify. The Counsel shall have power to elect any one eligible to office to fill any vacancy in any office for the remainder of the unexpired term.

ARTICLE VI
SECTIONS AND DIVISIONS: For practical working purposes, the activities of this organization shall be departmentalized and the following sections or divisions of interest are hereby created, provided, however, that additional sections or divisions may be created by the adoption of a suitable By-law, namely, (1) DIVISION OF GEOLOGY, (2) DIVISION OF MINERALOGY, (3) DIVISION OF PALEONTOLOGY, (4) DIVISION OF GEMS AND LAPIDARY, (5) DIVISION OF DEALERS AND PUBLISHERS. The Chairman or head of each such Division shall be an assistant Vice-President, elected by the Counsel.

ARTICLE VII
MEETINGS: (1) This organization shall hold a general meeting at least every two years. Special meetings may be held at any time and place prescribed by the Counsel. All meetings shall be held at such time and place as may be fixed by the Counsel.
(2) The Counsel may prescribe the time and place of its meetings but shall meet immediately preceding each general or special meeting of the Society for the purpose of formulating recommendations to the Federation members and coordinating the work of the organization for such meeting. The Counsel shall meet during the an-

nual or biannual meeting of the Society for the purpose of selecting officers and formulating plans for the interim between meetings and for such other purposes as they deem advisable. The Counsel may prescribe necessary rules and regulations for its own government, and request herewith, or with the By-laws. Any action taken by the Counsel when reduced to writing and signed by all of its members shall be deemed to be the action of the Counsel, without a meeting provided that all members of the Counsel shall have reasonable opportunity to vote on any proposed action.

ARTICLE VIII
MISCELLANEOUS: (1) Dues. The By-laws may provide reasonable dues or fees for each class of membership.
(2) Address. The Counsel may establish and maintain a Post Office address for the organization.

(3) Committees. The following permanent committees are hereby created, namely: (a) Education, (b) Membership, (c) Publicity, and (d) Convention. The President may constitute and appoint such temporary committees as he or the Counsel deem necessary or expedient.

ARTICLE IX
BY-LAWS: As soon as practicable, after the Counsel shall have been elected, it shall adopt suitable By-laws and may prescribe any rule or regulation for the government and management of this organization and its work, not inconsistent herewith or with the purpose hereof, provided that any such By-law may be repealed, altered or amended at any general or special meeting of this organization when four weeks notice thereof has been given prior to such meeting. Temporary By-laws as adopted by the Federations named in Article X, shall govern this organization until permanent By-laws shall have been adopted by the Counsel as in this Article above provided.

ARTICLE X
ADOPTION, RATIFICATION AND AMENDMENT: (1) Voting Power. (The voting power of this Organization shall be, and be exercised, as follows: Each Federation may elect one or more delegates to attend any general or special meeting. Such delegates need not be members of the Counsel, and all such delegates shall vote as a unit. The majority of such delegates shall control the unit vote. If any Federation does not elect delegates to attend any general meeting, then the members previously elected by such Federation to the Counsel shall act as delegates to the meeting. Individuals and individual societies not represented in any Federation likewise shall be constituted and vote as a unit.)
(2) Adoption. This Organization shall be deemed to be created and fully established upon ratification hereof by a majority of the following Federations acting by or through their respective Boards of Directors, or at any general meeting of such Federation, after each such Federation shall have indicated in writing its desire to become a member hereof, namely:

- (a) California Federation of Mineralogical Societies, Inc.
- (b) Midwest Federation of Geological Societies.
- (c) Northwest Federation of Mineralogical Societies.
- (d) Rocky Mountain Federation of Mineral Societies.
- (3) Ratification of this constitution shall be a prerequisite of membership herein by any individual, group or Society.

(4) Amendments: Any article or provision of this constitution may be altered, amended, supplemented or repealed by the affirmative vote of two-thirds of the voting power of the Federations forming this organization at any general or special meeting provided that notice of any proposed change therein shall be first given in writing to the Counsel and the Counsel shall within sixty (60) days thereafter formulate such change in writing and submit the same to each Federation member of this Organization who shall within sixty (60) days thereafter indicate to the Counsel its action thereon.

REPRINT FROM SEPTEMBER, 1947 ISSUE

MINERAL NOTES AND NEWS

Bakersfield, California



WILMA HONSRUD
908 22NDST EAST
MINNEAPOLIS 4, MINN