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THE



JASPIILITE

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OFFICIAL PUBLICATION
of the
ISHPEMING ROCK AND MINERAL CLUB

AFFILIATED
with

MIDWEST FEDERATION OF MINERALOGICAL & GEOLOGICAL SOCIETIES

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COMING EVENTS

- June 23-24. Field trip to the Copper Country -
Collecting of agates, datolites, copper,
prehnite, mohawkite, etc.
Leave Secretary's home at 5 A.M. June 23rd.
- July 12, 13,
14, 15. Combined Convention and Exhibition of the
AMERICAN FEDERATION OF MINERALOGICAL SOCIETIES
and MIDWEST FEDERATION OF MINERALOGICAL &
GEOLOGICAL SOCIETIES.
Host Society - Minnesota Mineral Club
St. Paul, Minneapolis.
To be held in Home Activities Building
Minnesota State Fair Grounds
On main highways midway between
St. Paul and Minneapolis.

The Convention will give you an opportunity to:
See other collections and enlarge yours.
Learn more about your hobby.
See excellent workmanship, meet friends
and dealers, and do some trading.
See one of the world's finest jade
collections.
Enjoy a first class educational and enter-
taining program; planned field trips
included.

THOSE PRIZE SPECIMENS: THE CRYSTALS

Every collector appreciates, most of all, a good crystal or crystal group. These crystals, found in every collection, deserve much study. As one delves into the science of crystallography he will find no end of amazing facts.

Nearly every known mineral, when allowed to grow without external interference, crystallizes according to definite and well-known laws. Crystals assume the form of a solid bounded by flat planes which invariably bear a definite geometric relationship to each other.

Most collectors are aware that all crystals may be identified as belonging to one of six crystal systems which are identified by the length and angles of their axes. Five crystal systems have three imaginary lines (axes) while the sixth, the hexagonal system, is the only system with four axes.

In the majority of cases, crystals assume simple forms. The form having the fewest possible number of faces is the tetrahedron, and tetrahedrite gets its name from the tendency of this mineral to crystallize in this simplest of forms. A crystal of the rare mercury mineral eglestonite has been observed to have 482 individual and distinct faces.

In size, crystals range from those requiring a microscope to see to those seen in large museums which may be several feet in length. The spodumenes of the Black Hills have been found having lengths between forty and fifty feet.

As early as 1669 Nicolaus Steno formulated the law of constancy of interfacial angles. The law may be stated as follows: "Measured at the same temperature, similar angles on crystals of the same substance remain constant regardless of the size or shape of the crystal".

This means that, as a crystal grows, regardless of the distortion that commonly occurs, the angles remain the same.

We often observe crystals, which of course are three-dimensional, represented by two-dimensional drawings in books on mineralogy. Not everyone realizes that, to make these drawings, the original crystal must first be measured by the use of a precision-made instrument known as a goniometer. A beam of mono-chromatic (one-color) light is reflected from the crystal, mounted at the center of the instrument and the angle is read in degrees, minutes and seconds of arc as the crystal is rotated until the next face comes into view in the position of reflection. The observer locks his telescope and takes the reading from the vernier, and this reading must be subtracted from the previous one. The crystallographer then is ready to make some fairly complex mathematical calculations, after which he can project the crystal upon his drawing paper by one of several methods. Well-made drawings of this kind are scientifically accurate; they are not approximations!

Any fair-minded person (that's you!) can at once accept the fact that the outward symmetry of crystals is possible only because of an inner regular arrangement of the atoms. X-ray studies of crystals have proven that space-lattices exist which are of course invisible to the eye.

A crystal is, in a sense, a gigantic molecule. Such forms are ever a source of wonder and fascination. Here is perfection, precise and sweet! One recalls the phrase, "Sermons in stones, and good in everything".

ISHPEMING'S FORTHOUST COLLECTOR

To everyone in the hobby of collecting rocks and minerals, an inspiration is a must and to the collectors in our area, Charles Hawes has meant just that.

Mr. Hawes has been collecting minerals all of his life, accumulating one of the best collections in the Midwest.

Mr. Hawes has specialized in iron ores and each of us in the Ishpeming area is as proud of his special collection as he is himself.

Mr. Hawes is a lifetime resident of Ishpeming, where he attended school, continuing on to Lawrence College in Appleton, Wis. where he studied chemistry. He returned to Ishpeming where he was employed as a chemist for the Cleveland Cliffs Iron Co. and later became chief chemist, a position held until his retirement about two years ago.

Charles' wife, Hetty, is an avid enthusiast in the hobby pursued by her husband. She has been the most charming medium through which Charles has displayed his ability and skill in the lapidary arts. Much of the jewelry that Mrs. Hawes wears is the result of work turned out by Mr. Hawes in his most efficient and modern workshop.

For some time after retirement, Mr. Hawes had been forced to sit back and take it easy because of ill health; however, he has recuperated to the point where he may enjoy the pleasantries of friendly visits and spending time in his hobby room.

Mr. Hawes has been generous with his knowledge of mineralogy and many collectors in this area have been greatly endowed with information that he gave us. Mr. Hawes' collection has been viewed by hundreds of mineralogists, geologists and mining men as well as visiting hobbyists.

Some of the "bragging pieces" of Mr. Hawes' collection are----- his complete collection of iron ores, datolites, chrysoprase, fluorites, diopase and opal, just to name a few.

Mr. and Mrs. Hawes are charter members of the Ishpeming Rock and Mineral Club and have been very instrumental in the guidance of the club in its activities. Charles and Hetty are known throughout the Midwest by "rock hounds" and we know that their friends and club members join in wishing them the best of health and more happiness in the hobby.

Bob Markert

LAPIDARY

Last issue, we talked about cutting and polishing of Cabs, and the equipment needed to make a rough stone into a nice pair of earrings, cuff links, etc. Now let's look into the tumbling end of our hobby.

The tumbler itself is made of a piece of tubing or pipe and of the size to fit the individual requirements. A piece of pipe 8" x 12" makes a medium sized tumbler and will tumble approximately 600 to 1000 stones, depending on size. The stones should be sorted so as to have stones of the same hardness in each batch. While sorting also inspect stones with an eye to finished size and those stones that are too irregular should be preformed or ground to approximate finished size or shape which makes for better finished stones.

The length of time required to tumble a batch varies, but run 50 to 60 hours and then inspect a few

pieces to see how they are shaping up.

If the stones are beach pebbles, start with #220 Grit. After approximately 60 hours take the stones out and wash stones and tumbler before tumbling with #400 Grit. Then tumble with polishing compound until you get a high polish. (With fractured stones or ones broken with a hammer, tumble with #100 Grit first). Use 1 lb. of Grit to 5 lbs. of stone, and 1 lb. polishing compound to 5 lbs. of stones, with enough water to just cover the stones.

Talus Canine
Bob Schenk

JUNE FIELD TRIP

With visiting "rock hounds" from Minneapolis, Minn., Midland, Mich. and Clarksburg, W. Va., members of our Club started out on a field trip on June 2, at 9 A.M.

The first stop at the Sellwood Pits at the east end of Ishpeming produced finely-banded Jaspilite. There was some for all and easy picking too. Incidentally, this is excellent cutting and polishing material. While in the Sellwood Pits, we hunted limonite pseudomorphs. Although they are not plentiful, a few good ones were found. Of course, with beginners luck, Irene Lutes and Mrs. Sikens found the biggest and best. We were informed that they also cut and polish beautifully.

Next stop was at the monument in Negaunee, where iron ore was first discovered in Michigan, and the observation platform overlooking the North Jackson Pit, the latter being where ore was first mined.

From there you can also see the Mather Mine, which is the largest underground mine in the world. The dump at the Mather mine yielded a few specimens of saponite (soapstone) and a few pieces of chromontronite.

What is a field trip without a lunch? Picking at Madelyn Pasty Shop was tops. We all came away with pasties for a picnic lunch. Our first love being rocks, naturally we ate our lunch on a rock pile.

We picked all the specular hematite we wanted while at the Greenwood Mine. Some found very nice micaeous hematite and siderite in a variety of shades. Tiring of that pile, we all took a long rest while we journeyed to the Beacon Mine near Champion. There we were rewarded with the finding of some beautiful tourmaline in quartz, foliated specularite, and more siderite.

Our last stop was at Michigamme for aphyrosiderite garnets. Everyone had a coffee break before going to work on the garnets and grunerite.

We all had a very rewarding day, as well as a very enjoyable one. The people we met and with whom we spent the day were all wonderful "rock hounds" and we hope they will all come again. Those of our club who missed the trip lost a wonderful day to remember.

Marian Markert

Even back in the Stone Age, when women wrote down their ages, they were chiseling.

HOW TO BECOME A ROCK HOUND -- IN LESS THAN A YEAR!

It can be done, believe me, and the procedure is simple...

First of all, it helps if you can find experienced rock and mineral collectors like Bob and Nin Markert from whom to rent an apartment. By degrees you encroach on their privacy, maybe not so much from being lonesome, after moving from a metropolitan area like Detroit, but because the aroma from home baked bread, pasties and chocolate cake is so enticing. Afternoon coffee time is usually mail delivery time and before long you are helping to explore the contents of many interesting looking packages.

Seeing the beauty of many of those "stones" naturally leads to the questions "what is it?" and "where is it from?"; also "what is it used for?" With that much curiosity aroused, how could one pass up the opportunity to learn more by taking the course in geology at the high school during the winter months... can't go "rock picking" in snow-drifts anyway. You may feel that you are in rather deep water but the lessons serve a good purpose -- added stimulation to your interest in rocks and minerals.

The next step is really simple -- join the local rock and mineral club (clubs are small and formal attire taboo). Take advantage of all of their field trips, even if you don't know what you are looking for; someone will very kindly lead you to the treasure.

You may have several reasons for "rock hounding" and, in fact, they may change from day to day. At first, my curiosity lead to the questions mentioned above. However, before long, I couldn't resist extending my tenancy to the use of my landlord's lapidary

equipment and I sometimes wonder if he rues the day when he accorded me that privilege. Now my first question is usually "will it cut and polish?" I have found also that being an amateur lapidarist is a quick and easy way to acquire a partial manicure -- grind the rock, file the nail; inexpensive too if you can use someone else's equipment!

I may have been considered a "career gal" in Detroit in '55 but being a "rock hound" in Ishpeming in '56 is a lot more fun.

Irene Lutes

EARLY MINING

When snow up here was still knee-deep we wondered how ore was ever gotten out of this part of the country. The only method of taking ore to Lake Superior around 1850 was by sleigh during the winter.

One load a day was the limit and 3,000 pounds was the largest load.

In 1852, a total of 150 tons of ore was sent to Sharon, Pa., for use in its blast furnace. It took 4 vessels to carry the ore from Marquette to Sault Ste. Marie, where it was portaged over the falls.

Lake Superior District Lines have shipped more than 2,000,000,000 tons of iron ore since the first shipments were made from the Marquette range more than 100 years ago.

Reprint from the Mining
Journal---Marquette, Mich.

QUARTZ CRYSTALS

Last summer we were very fortunate in being invited on a field trip to a quartz crystal locality south-east of Negaunee.

This locality is in the hills of the Goose Lake district, accessible only by driving a car over a rough road for five miles, then using the old foot power for another mile. It was worth the effort as some very beautiful clusters of the quartz crystals were taken out.

Joe Collick, who can find a mineral specimen in a woodpile, found a cluster of double-terminated xls, which were really something. "Where did he find this cluster?" -- by digging under a tree between the roots. Quite a number of single xls were found, some being of the double-terminated variety.

Good tools and drinking water are a must on this trip. A good old Dagwood sandwich or two will help the morale when the digging gets tough.

It is very hard to explain the route to this locality as the Sand plains are crossed with roads running in every direction.

Hats off to Onni Hutander, a club member, for the finding of this place; Onni spent several days hiking around the rugged hills trying to locate this one hill with the crystals.

Carl Lenin

Professor: "A geologist thinks nothing of a thousand years."

Student: "Yipes! And I lent my geology instructor ten dollars this morning."

A ROCK AND FOX HUNT

On a recent field trip to the Verd Antique Marble Quarry just west of the Ropes Gold Mine, Frances Calhoun, Irene Lutes and I had a very unusual experience.

We parked the car at the gold mine and decided to walk up to the quarry first but on our arrival found a surprising attraction..... a dear little young fox. We spent more time playing with the fox than we did picking rocks. When it came time to leave, little Chico decided to come along, so to the gold mine we went. The dump there needed exploring so we climbed it, hunting for gold, of course.

About that time we needed a rest, but didn't want to quit picking, so I decided to sit on the pile while I looked. By this time the little fox was very friendly and before I knew what was happening, Mr. Fox was up on my shoulders, then on top of my head. Of course there was a camera handy so as of now we are anxiously awaiting the results of the picture. Never before have I gone collecting and had a wild animal climb on my head.

We have decided to award an honorary membership to "Chico the Fox" as the newest and youngest pebble-pup in our organization.

Anyone visiting the quarry this summer is reminded to bring a camera, as by fall he will go back to the wilds as a full grown fox and will probably not be around next year.

Marian Markert

There was once quite a settlement at Morgan Heights, site of the old Morgan Furnace. Has anyone ever hunted for anything around the old furnace? It might be worth a look.

CHANGING BOY

I have been interested in rocks for as long as I can remember. As a real little boy, I was closely associated with rocks...I stubbed my toes on them. You know how it was; you were running as tight as you could go, usually down hill, when all at once, YIPES, you stubbed your toe and took four or five hops on the other foot, grabbed your toe and sweated it out until the darned thing quit hurting. If it was a big rock, you probably sat down, held your toe and bawled for a while, then limped away and tried to catch up with the other kids.

Later on I learned to appreciate rocks more...I throw them - a wonderful, endless supply of ammunition. When I had to go to the store, I passed away the time by watching for a nice thrower -- one about this size, round and heavy. Then I threw it. Sometimes I'd wait until I had three or four, then I'd stop and pick out a nice target and throw them all. That was fun except, sometimes, I wouldn't get back from the store when I was supposed to. That wasn't fun. Besides, sometimes my folks and I didn't agree, exactly, on what constituted a good target. I received lots of attention from grownups during this period of my development.

I finally outgrew the habit of throwing stones...I got a slingshot. By this time I had been taught all about good and bad targets and I followed my instructions, almost without exception...almost. Once I busted a window and my Dad and I had hardly come to an understanding about that before I shot Irene Johnson in the fanny. Thereupon I decided to give up shooting a sling-shot altogether.

Even though there was some question about my good judgment, at no time during this period did anyone stare

at me quizzically, as though my mental processes were at fault. They started watching me when I started saving them. You see, in the meantime I got married and was interested in various other things. Then, one day I came home with a few stones. My wife said "Whatcha going to do with those dirty stones?" I said "Save them". That's when I first noticed that peculiar look. She looked at me for a minute and then went back to stirring her stew. She is a good wife, helpful and all, but she would never help me carry the big ones into the house. "What would the neighbors say?" she asked.

I tried to get some of my friends interested in saving rocks but people are in such a hurry nowadays, I hardly mention stones before they have to go somewhere else. It is too bad too because there are so many rocks around to save. Well, I finally bought a nice cabinet and picked out the best ones and labeled them and my wife made me carry the rest down into the basement; we got the furniture back in the living room and everything is back to normal except for one thing...that look. It's a funny thing. I get people up in front of my nice new cabinet and try to show them my stones and what do you think they are looking at? ME! The trouble with people is that they don't have a hobby. Everyone should have a hobby; like this new friend of my wife's, some Doctor she wants me to meet. I'll bet he hasn't got a hobby like I have.

I have been interested in stones all my life.

Earl "Curley" Brunett

????????????

HELP THE EDITOR NAME THIS COLUMN AND WIN A PRIZE
DEADLINE SEPT. 1st

JOE COLLICK, eminent "rock hound"
from Ishpeming, is confined to
Veterans Hospital, Iron Mountain,
Mich. DIAGNOSIS----Rockitis

FLEAGLE-EYE LOCHER is what they
call him in Ishpeming. The wizard
on limonite pseudomorphs.

Speaking of limonite pseudos, did
you see the cluster that Irene
Lutes found in the Sellowood Pits?

We hear that MISS HANEY is going
to make a trip back to Ishpeming
in June to be with the group on
their trek to the Copper Country.
Welcome-----MISS HANEY.

PRES. R.K.R. is a very busy man
over the winter months but never
too busy to arrange club events.

Piles of specularite from the
Republic area are rapidly diminish-
ing. Guess who the culprits are..
Right----BOB AND DON SCHENK.

TOM HUGHES is sailing the Great
Lakes---See anything interesting
on the iron ore piles around
Cleveland, TOM?

FLOYD & HELLEN MORTENSON have found
a very inexpensive way of operat-
ing a movie camera.
Don't ask them for all those scenes
of the Copper Country as they are
still in the Copper Country.
SECRET---Just don't load that
camera.

Are your dues paid for 1956?
Adults---\$1.00 Juniors---50¢

Don't forget to contribute excell-
ent specimens to your own public
exhibit in the NATIONAL SKI MUSEUM.
We won't blame you for keeping the
best specimen you find, but the
second best should go into this
exhibit.

Then keep in mind your own
Marquette County Historical So-
ciety. Specimens - contributions
to this Society should be labeled
and of excellent quality.

LEN TREBILCOCK has visited the
Herkimer Diana fields near
Fonda, N.Y. How about writing us
an article on this, Len?

AL HOLLER AND NATHAN STUVETRO of
Minneapolis, MR. & MRS. KRAMER
of Highland, and MR. & MRS. BIKENS
of W. Va. joined our club on their
latest local field trip. Rumors
had it--all enjoyed themselves.
Account of field trip elsewhere in
this issue.

Contributions to this column will
be greatly appreciated.

Have you loaned the club an ex-
cellent (the best that you have)
specimen for display at the
National Convention in St. Paul?
Guaranteed safe return of same!

What ineligible male "rock hound"
can be seen collecting with the
most eligible female collector?
Better buy yourself a rock pick,
Lena---for collecting, that is.

BOB PAPER called on friends around
Ishpeming. Always glad to see
you BOB.