

THE PICK & SHOVEL

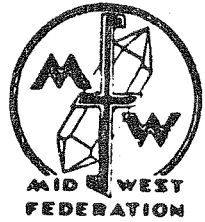


April
1981

highlights

in
this issue... 23rd ANNUAL
SHOW

Jim Taylor, Show Chairman



OFFICIAL PUBLICATION OF

Lincoln Gem and Mineral Club, Inc.

P. O. Box 5342

Lincoln, Nebraska 68505

LINCOLN GEM AND MINERAL CLUB, INC.
P.O. BOX 5342, Lincoln, NE. 68505

The purpose of this corporation shall be to study, promote an interest in, and disseminate knowledge of lapidary and various earth sciences including but not necessarily limited to geology, paleontology, and mineralogy. It shall be a particular purpose of the corporation to provide education in these fields to its members and the general public, particularly youth and student groups.

MEMBER: American Federation of Mineralogical Societies (AFMS)
Midwest Federation of Mineralogical and Geological Societies (MWF)
Nebraska Association of Earth Science Clubs, Inc. (NAOESCI)
Nebraska Academy of Sciences (NAS)
Community Arts Council of Lincoln (CAC)

Regular Meetings: 4th Saturday of the month, September thru May; 7:30 P.M.
At Nebraska Center, 33rd & Holdrege

1981 ELECTED OFFICERS:

President.....	Roger Pabian	315 'D' St.	Lincoln, 68502	474-2034
1st Vice Pres...	Irl Everett	2945 N. 65th St.	Lincoln, 68507	466-6204
2nd Vice Pres...	Howard Taylor, Jr.	910 New Hampshire	Lincoln, 68508	476-3707
Secretary.....	Nelda Oliver	5700 Otoe	Lincoln, 68506	489-5222
Treasurer.....	Phyllis Parks	2435 S. 19th St.	Lincoln, 68502	476-6798
Board Member....	Ray Lambert	1201 N. 79th St.	Lincoln, 68505	464-8552
Board Member....	Virginia Green	6120 The Knolls	Lincoln, 68512	423-5032
Board Member....	Lois Everett	2945 N. 65th St.	Lincoln, 68507	466-6204
Board Member....	Florence Boring	2836 S. 40th St.	Lincoln, 68506	488-6243

Nominating Committee--3 years: Marie Taylor, Jim Parks
2 years: Bob Walker, Irl Everett
1 year: Wilfrid Wittman, Edwin Johnson

STANDING COMMITTEE CHAIRPEOPLE:

Programs.....	Howard Taylor	1981 Show.....	Howard J. Taylor, Jr.
Education.....	Ray Lambert	Liaison/Calling.....	Marie Taylor
Hospitality.....	Bob & Mary Walker	Refreshments/Party...	Marj Heedick
Historian.....	John & Lillie Lewis	Scholarships.....	Howard Taylor
Librarian.....	Jim Parks	Outside Displays.....	Frank Rule
Membership.....	Mary Lambert	Housing/Property.....	Bruce Simon
Field Trips/Safety..	Walt McCoy	Publications.....	Glen & Flossie Litzenberg
Sunshine Corner....	Susan Taylor	Junior Activities.....	Mary Walker
NAOESCI Reporter...	Vera Lyman	Auditing Comm. 1980...	Howard Taylor, Vera Lyman, Florence Boring

LONG RANGE PLANNING AND BY LAWS COMMITTEE:

1 year-Nelda Oliver, John Harrison 2 years-Jim Parks, Phyllis Parks
3 years-Howard Taylor, Marie Taylor

PICK & SHOVEL STAFF:

Chairman: Glen Litzenberg

Editor.....Vera Lyman, 420 N. 56th St. Lincoln, NE 68504
Club News.....Helena Baegl
Sunshine.....Susan Taylor
Circulation...Glen & Flossie Litzenberg

DEADLINE: 1st of Month of Issue. Original articles may be reprinted if credit is given the author and THE PICK & SHOVEL and a copy of the publication is sent to the Editor.

CALENDAR

General Meeting: Saturday, April 25, 1981
 Nebr. Center for Continuing Education
 33rd & Holdrege
 Norfolk Room

Parking available north of building

Regular business meeting beginning
 at 7:30 P.M.

Board Meeting: Thursday, May 7, 1981 7:30 P.M.

Jr. Activities Meeting:
 Friday, April 17, 1981 7:00-8:00 P.M.
 3029 "T" Street - Walker home

SHOW: 23rd Annual Show
 April 11-12, 1981
 Saturday, April 11, 9:00 AM - 9:00 PM
 Sunday, April 12, 9:00 AM - 5:00 PM
 Agricultural Hall
 Nebraska State Fairgrounds



SEE YOU AT THE SHOW!

* * * * *

STATE SHOW: Nebraska Mineral & Gem Club
 September 5-7, 1981
 Holiday Inn, 72nd & Grover
 Omaha, Nebraska

STATE SWAP: Homestead Gem & Mineral Club
 June 20 & 21, 1981
 Chatauqua Park (electric hook-ups)
 Beatrice, Nebraska

Hastings: Central Nebraska Rock & Mineral Society
 April 17-19, 1981
 4-H Building, Adams County Fairgrounds
 South Baltimore, Hastings, NE

* * * * *

CALIFORNIA Anaheim, California August 7-9	EASTERN Lexington, Kentucky June 26-28	MIDWEST South Bend, Indiana July 23-26	NORTHWEST Kent, Washington August 21-23	ROCKY MOUNTAIN AFMS SHOW Salt Lake City, Utah June 4-7	SOUTH CENTRAL Lubbock, Texas April 24-26
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HISTORY - "Ten and Twenty Years Ago"

April 1971 . . Two good movies were shown to Club members. They were entitled, "Minerals and Rocks" and "Rocks That Form the Earth's Surface". Two big Field Trips were planned; one to Holmsville and the other to Odell, NE. Dr. John Neihardt appeared on KETV Channel 7 with Dick Cavett April 27, 1971. Big plans in progress for our 1971 Show May 8th & 9th. It will be held at the Exposition Hall, State Fair Grounds.



April 1961 . . Everyone seems to enjoy our new Meeting Place. Program was by Robert Newman from the Smithsonian Institute. All Committees were working on the 1961 Fall Show. Refreshments were served by Mr. & Mrs. Art Bloyd; Dr. & Mrs. F. S. Lange; Mr. & Mrs. Norm Englehart.

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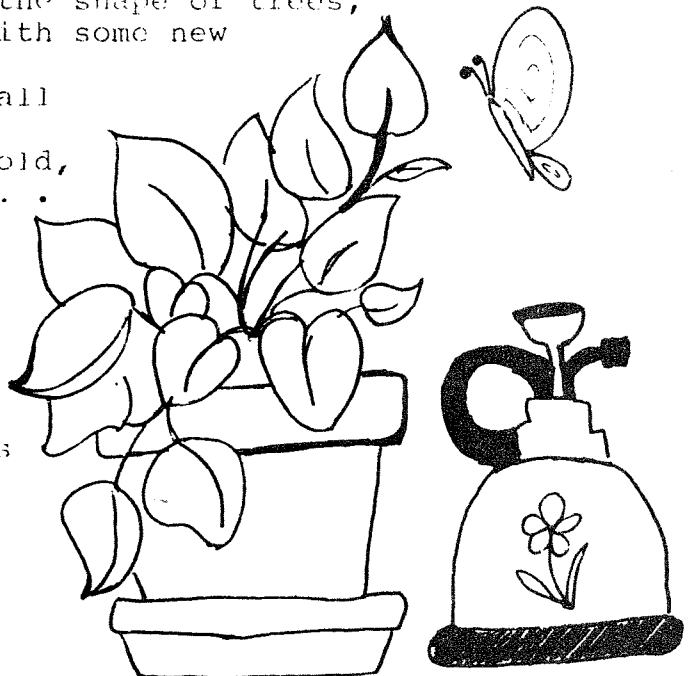
Greetings from the Sunshine Corner!

The world is full of beauty - sparkling seas,
A garden in full bloom, the shape of trees,
A child's eyes dancing with some new
delight,
A sky ablaze with stars all
twinkling bright,
A sun-splashed meadows gold,
the rainbow's end . . .
But more than these --
the love of friend
for friend.

- Katherine Davis

Good News! No cards were sent this month so everyone must be in good health and enjoying the beautiful sun-shiny spring days!

- - Suze Sunshine



THE PRESIDENTS PAGE

By now we should all have our show plans made. Will we display, work, or whatever? We will need helpers on Friday, April 10th to set up tables and chairs for the show. The displays may be put in in the afternoon and evening of the 10th. We do need more displays than have been indicated. Please let the show committee know of your plans.

There will be some very good features and programs at the show. Members should plan on attending at least one presentation of each of the programs. A brief resume' of the fish and shark program is on pages 17 and 18. There will be some slides of some truly unusual fish and sharks, and the University of Nebraska State Museum will furnish a display of some of these creatures.

Collecting tools become a part of the conversation at this time of the year. Many of us are planning field trips, and knowing what to take to dig things out of the ground can help in the total recovery program. Most of us are familiar with the hammer and chisel as well as the shovel. These are basic tools. Some more unusual tools can be crafted from such things as bolo knives and car springs. These tools are very useful for shale splitting because the shale can be made to stay together in large, thin slabs rather than spawling off into small, conchoidal chips. A 24 to 32 ounce sledge is needed to drive these tools into the split made in the shale. More than one of each tool is needed to keep driving a continuous wedge into the shale. Old table knives can be fashioned into a series of tools for both field and lab use. Round, angular, and spear shaped points can be ground out. The cutting edge of these tools should be about 1 to 2 inches beyond the knife handle in order to make the blade rather inflexible. Strangely, these hard blades do little, if any, damage to any fossils or crystals over which they may pass.

Old cake pans may be useful to search for faceting and chatoyant gem materials. The collector should make a couple of sieves to separate the materials into a 1/8 to 1/4 inch and 1/4 to 1/2 inch fractions. The separated fractions should be placed in the cake pan; the pan can be shaken back and forth vigorously for several minutes, causing high specific gravity materials to settle to the bottom of the pan; the pan should be quickly inverted---the result will be heavy materials on the bottom (now top) of the pile---the higher density faceting stones such as garnet, tourmaline, and topaz will be found here. Chatoyant stones can be found by searching through the low density residue with a high intensity lamp in a dark room. The stones should be kept wet, but not submerged, with water.

If one is searching for faceting materials, the best samples can be located at the upstream or coarse end of the gravel bar, because the heavy minerals will settle out faster than the light ones in stream transport conditions.

Another method for collecting fossils is a complete recovery technique that involves taking a sample of fossil bearing shale from the outcrop. Dry the shale well, and, then, pour it slowly into a bucket of water containing sodium bicarbonate. Two ounces of bicarbonate per one gallon of water suffices. Allow the sample to sit overnight or longer; then wash the sample in a sieve (or sieves) depending on the size of material to be collected. A very rich fossil bearing residue can be recovered. One small roadcut in Kansas has yielded over 8,000 crinoid cups and crowns by this method, not to speak of brachiopods, sponges, mollusks, shark teeth, etc.

There is still a lot to be collected. The methods must always be updated.

Roger Pabian
President

FROM THE EDITOR'S DESK . . March was a busy month for me, just as I had predicted; but it also proved to be one with a lasting memory. I was blessed with another of the many blessings of "motherhood"! I became a "grandmother"! My son and daughter-in-law are the proud parents of a beautiful little girl. Some of you may think, "That's a prejudiced grandmother speaking". That may be true, but the fact still remains.

Welcome to our 23rd Annual Show. For all who are able to attend, sincerely hope it proves to be an enjoyable weekend for you; as well as one from which you may retain a number of happy memories. "ENJOY" from beginning to end!

Finally, a "Happy Easter" to each of you. May the events of that Holy Week bring you joys beyond human understanding.

* * * * *

Misspelled words in our bulletins are something editors do not like to see, but it does happen regardless of how hard we try to eliminate them. I have found they always show up like "sore thumbs after they are printed while proof reading seems to let them escape.

But misspelling is not confined to our bulletins. Recently the editors of the St. Joseph Gazette (St. Joseph, Missouri daily newspaper) found out after being prodded by a reader for many months, that for 70 years the letter "j" had been used instead of the letter "i" in the papers' masthead. In Old English type, the type setter those many years ago had made this mistake and the paper had been running the error all these years.

- via AFMS NEWSLETTER Feb. 1981

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HOW'S THIS FOR AN EASTER EGG?

MOSCOW....Jeweler Carl Faberge made an exquisitely designed Easter egg for the czarina in 1884. The gold shell was enameled over a white body and when the shell was pulled open a yellow yolk of pure gold was revealed. The yolk could also be opened, revealing a hen crafted from white and yellow tinted gold. Red gold formed the beak and comb; rubies served as eyes. When the hen was lifted from her nest, a tiny egg-shaped ruby pendant was disclosed.



"HAPPY EASTER"

- via Gems

Fellow Rockhounds:

As Show Chairman for the Lincoln Gem and Mineral Club it is my privilege to welcome you to our 23rd Annual Gem and Mineral Show.

This year's show features 12 nationally known retail dealers and 2 outstanding wholesale dealers with gems, minerals, fossils, jewelry, lapidary and craft supplies for sale. A variety of working demonstrators will be found at our show displaying many different parts of our hobby. An interesting schedule of programs has been provided for your enjoyment.

This year's show has several special features including an outstanding display of Latvian Amber jewelry and "Past Presidents Row" which includes displays by the past presidents of the Lincoln Gem and Mineral Club. Many of the living past presidents date back to the founding of our club, so you should find these displays to be very interesting.

I sincerely hope that you enjoy our Show.

Jim Taylor
Show Chairman

SILENT AUCTION

Have you ever participated in a Silent Auction? If not, now is the time. At our annual show, we are having a Silent Auction.

An Auction of this nature has a 3-fold purpose.

1. Your purchase can help a geology student to get a grant to work for an advanced degree in his field.
2. You can help to build your club scholarship fund.
3. You can obtain a nice specimen, piece of cutting material, or anything that is for sale at the auction.

However, to support the auction, it is necessary that all our members bring a donation. We can use polished specimens, minerals, fossils, gemstone jewelry, rock magazines (back issues) and all kinds of books pertaining to our hobby.

Please bring material to the auction area; the people in charge will get it labeled and ready for the auction.

If you are not familiar with the function of an auction, come by the table and you will soon get the idea.

Try it, you'll like it!

- Howard Taylor

AFMS

ESTABLISHED BY
AMERICAN FEDERATION OF
MINERALOGICAL SOCIETIES.

Scholarship Foundation, Inc.

704 SW 31st
Pendleton, OR 97801
Jan. 31, 1981

Mr. Howard Taylor
LINCOLN GEM & MINERAL CLUB
910 New Hampshire
Lincoln, NE 68508

Dear Howard:

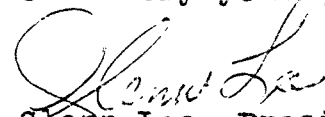
It is really a pleasure to be notified by Katie Steinbrenner and Dan McLennan that your Club has reached the high standing of not only 900%, but also all the way up to 1300% as a result of your very generous contribution of \$676.60.

Your 900% Seal, 1100% Certificate and 1200% and 1300% Seals are forwarded, herewith and your 1000% Plaque has been ordered. It will be sent by our Secretary, Miss Alberta Best, just as soon as it has been properly engraved, and will come by UPS.

Your members can be very proud of this accomplishment, as well as of your wonderful show last June! As you know, we will be able to increase the number of grants to 12 this coming school year, with two for each of the six Regional Federations. Each grant will be for \$1000.00 per year for a two year period.

Please accept the Foundation's, and my personal thanks, for your so kind and generous support which helps make these grants possible.

Sincerely yours,



Glenn Lee, President
AFMS SCHOLARSHIP FOUNDATION

cc: Dan McLennan
Larry Nawojski
Katie Steinbrenner

AFMS

ESTABLISHED BY
AMERICAN FEDERATION OF
MINERALOGICAL SOCIETIES

Scholarship Foundation, Inc.

775 39th St.
Richmond, CA. 94805
February 18, 1981


Mr. Howard Taylor
910 New Hampshire
Lincoln, NE 68508

Dear Howard:

Congratulations! At the request of Glenn Lee, I have today ordered for your club its 1000% Plaque. As soon as it is properly engraved, it will be sent to you by United Parcel Service. Please notify me if it does not arrive within a reasonable time.

It is always a thrill to add another society to our rapidly increasing number who have attained the 1000% status. Your members are to be congratulated on their continuing efforts on the part of the Foundation. My sincere thanks and congratulations to all of you.

Sincerely yours,


E. Alberta Best, Secty.
AFMS Scholarship Foundation

cc Lee
McLennan
Nawojski
file

AFMS Scholarship Foundation, Inc.

THIS IS TO CERTIFY, that

LINCOLN GEM AND MINERAL CLUB

has contributed to the AFMS SCHOLARSHIP FUND, an amount at least equal to One Dollar for each of the Members on its roster, and by so doing, qualifies as, and is hereby designated as a member of the

ELEVEN HUNDRED PERCENTERS

In witness whereof, this Certificate has been issued this 1st day of January, 1981, and has been signed by the duly elected officers of the FOUNDATION.

Attest:

John Lee

President

Don McManan

Treasurer

A GEM - IS A GEM - IS A GEM?

During our annual Gem & Mineral Show, special displays containing Amber, Ivory and Jade are being featured. In thinking about this trio of materials, one begins to wonder how these items fit in the overview of the world of gems.

The "Dictionary of Gems and Gemology" by Robert M. Shipley gives the following definition for a gem:

"A cut and polished stone which possesses the durability and beauty necessary for use in jewelry."

This would seem to exclude Amber because of its hardness (2-2½) and Ivory because it is not a cut and polished stone.

Under the heading of ornamental stone, the same text gives the following information:

"A gemological classification which includes both those stones which have more or less beauty, but which because they are insufficiently durable or beautiful or very easily obtained are frequently fashioned into ornamental objects--, and those which, when set in jewelry, are rarely mounted in gold or platinum."

It would appear from the above definitions, that only Jade is actually a gem. But, is that all there is to it? Just why are these materials gems to some and just ornaments to others? What makes them beautiful works of art or just trinkets?

One can only draw the conclusion from the previously stated definitions that the world of gemology has been narrowly led down the road by the tastes of the professional jeweler, some of whom still only recognize the category of precious stone (diamond, emerald, ruby and sapphire).

In actuality, a poor quality example of the precious four, may be far less costly than a fine specimen of jadeite.

Several factors are involved in answering the questions to which we seek answers. Among the physical properties sought in these gem materials are color, translucency or transparency, and evenness of color and texture. Here we are, right back to quality material again. Only items made from materials having the finest physical properties will be in the gem category.

The quality of design and the execution of the lapidary arts also determines into which category an object will fall. Gems of the above materials should have both top quality of materials and craftsmanship.

The appreciation of works of the lapidary arts in Amber, Jade and Ivory is usually confined to an educated and informed public. This was not always the case. The restriction of availability of these materials to certain parts of the world, limited

A GEM - IS A GEM - IS A GEM? - continued

their cultural appreciation. Today one thinks of northern Europe in relation to Amber, while the romance and symbolism of Jade brings images of the Orient.

One's cultural expectations also affect this appreciation. The Oriental has an entirely different attitude towards Jade than the occidental. This in many instances is due to the myth and lore surrounding these materials. Amber was once thought to alleviate goitre. The Greeks considered it solidified sunshine. Ivory was used because of its whiteness, warmth and purity for the drappings of royalty. Jade initially was used strictly for the manufacture of stone age tools because of its toughness. However, by 1700 BC (chow dynasty) carvings of esthetic and symbolic significance begin to appear. Eventually it was used only for articles of religious or symbolic significance. Today Jade is still greatly revered in the Orient, especially certain colors not seen by most occidentals.

It is wonderful to note that in every text book, there is usually a statement contradicting what has been said previously. This leaves the author an out, should time change the --thinking of society. Needless to say, our dictionary has its own statement hidden away. This defines gemstones as "a word that is being used with increasing frequency to include all fashioned gem materials."

In seeing the beautiful works of lapidary arts which can be created from Amber, Ivory and Jade, one can only exclaim; "It's about time that the world of the gemologist caught up with what an increasingly educated public has known for years."

- Submitted by Ray Lambert

* * * * *

WHAT IS A ROCKHOUND?

A Rockhound is a special breed of human - he is a hunter, collector, craftsman, and a lover of nature. He appreciates natural beauty but is never satisfied until he has polished it. He swaps like a packrat, climbs like a goat, sheds water like a duck, is generous and has the patience of Job.

He has a house overflowing with rocks filling cases, tables, kitchen sink, drawers and chairs. The "too big" ones are on the porch or in the yard. He is considered an "oddball" by non-rockhounds, a nuisance by farmers, but a "boon companion" by all other rockhounds.

He is a politician, club ambassador, a visionary with a diamond saw, a station wagon pioneer, a world explorer in his own back yard. A person who searches for, finds and cherishes forever those bits of chemical beauty called rocks and minerals, which afford him a glimpse of INFINITY ON A SHELF!

- via Quarry Quips
February 1981

DIAMONDS, GEMSTONES HAVE APPRECIATED TREMENDOUSLY

Buying decisions and investment decisions rarely merge. But they do in "collectibles", that vague group of things where use and increasing value sometimes coincide. Old cars, which may be used for transportation in some few cases, are examples. Art objects, which also function as decoration, are examples.

Diamonds fall into this class. The colored gemstone market offers the possibility of decorative objects that increase in value and can be retained or sold for a profit. Diamonds are not for everybody, but their history shows an uninterrupted rise in price.

Consider that a two-carat ruby from Thailand, with a wholesale price of \$1,800 in 1975, went up to \$14,000 in 1980. Rubies are among the best-known and most-prized colored gemstones. They belong to a group of minerals called corundum. Corundum is colorless; trace amounts of chromium introduce the red colors. Rubies are found mostly in Burma, Thailand, Sri Lanka and Africa.

Sapphires, also from the corundum group, have iron and titanium to color them blue, pink, orange, etc. Some are found in Montana, but mostly they come from Asia. A five-carat Sri Lanka sapphire that sold for \$3,250 in 1975 is worth \$17,500 today.

Emeralds come from Colombia, Egypt, Brazil, Zimbabwe (Rhodesia), Zambia and Afghanistan. They haven't appreciated nearly as much as rubies and sapphires or other colored gemstones.

Precious stones appreciate because demand always exceeds supply.

In addition to rubies, sapphires and emeralds, some semi-precious gemstones have come into vogue. Garnets, topazes, peridots and aquamarines of fine quality also offer investment and decorative possibilities.

Consider that a tanzanite blue (from Tanzania) of 10 carats, selling for \$2,500 in 1975 was valued at \$13,000 in 1980. It appreciated \$5,500 in one year - '79 to '80. An aquamarine from Brazil of 10 carats appreciated 50% during that same year.

How do you pursue the buying of precious stones, if you have the money and decide to spend it? There are various firms which you may contact. They have their own program with various features and safeguards. You can consult your local dealer.

Because investment stones require great expertise, it is important to have as many safeguards as possible. Precious stones should be bought at houses that will buy them back at market prices.

Diamonds are not for everyone, but unlike gold, you can wear diamonds or display them. Also, unlike gold, they have an almost unbroken record of appreciation.

FIELD TRIP TO BLACK HILLS

A letter from Daniel Mount of the Panhandle Rock and Gem Club of Scottsbluff, NE invites members of the L.G.M.C. to join his Club on a field trip to the Black Hills of South Dakota, May 30th to June 5th.

The party will leave the Jack and Jill parking lot, West 27th St. and Ave. I on Highway 71 North (Scottsbluff) at 7:30 A.M. May 30th. Should be at Hot Springs Junction, just west of Chadron around 10:00 or 10:30. Will leave the Junction at 11:00 A.M. for Custer, S.D.

Will probably stop at Flintstone Campground just west of Hi-way 385 coming into the Main Street in Custer.

A guide has been provided who has access to a lot of old mines where the tailings may be dug or the mine entered. A garnet mine and a Tee Pee Canyon mine will be visited.

On June 3rd, a trip to Fairburn, S.D. and the Badlands to hunt Fossils, Fairburns and other agates has been planned. Mr. Mount states that field trippers will get all they go after.

There will be no charge for getting into the mines, but a fee of \$2.00 a day will be charged for the guide providing there is a group of 25. Each member of the party will be asked to pay the fee.

There are no hookups for campers in the Hills. Flintstone Camp is only 25 miles from the hunting site so would be ideal.

Let Mr. Mount know by May 1st or 15th if you plan to go on the trip. His address is:

Daniel Mount
Rt. 2 Box 31
Harrisburg, NE 69345

If you have ever gone on a field trip with Mr. Mount as your Wagon Master, you know it will be successful and a lot of fun.

- submitted by Evelyn Ulrich

* * * * *

Hard work never killed a man but it sure has scared a lot of them.

- Author Unknown

HAPPY
EASTER



WATER - Nebraska's Great Resource

Water supply is a world-wide common problem - too much or too little. Living things have always struggled with it, with no easy panaceas. Relatively speaking, Nebraskans are more favored than some others, but the problem does not solve itself, and it is not to be disregarded.

It has been said that our state ranks at the top in total miles of flowing streams within its boundaries. That gives us a comfortable feeling; but we must not fail to make efficient use of this great natural asset; water, the earth's abundant, yet elusive mineral, good old H₂O!

Primitive cultures lived, prospered or succumbed due to vagaries of sources, distribution and storage of water. Biblical Noah and his "house-boat" passengers experienced the world's greatest over-abundance of any necessary commodity. "Riding it out" was the only solution at that time. In many areas modern man often has to combat the opposite kind of dilemma. Some have perished or given up by abandonment because of failure to solve the various aspects of this ever-present threat. The "Okies" equivalent was born long before the 1930's. This includes all forms of living things, plant or animals. Most can survive longer without food than without water. It is the great cleansing, dissolving, modifying and transporting common substance. Many folks think it is a good beverage, and probably many more should!

The earth's long history reveals repeated periods of time when distribution and storage of water fluctuated. There have been alternate wet and dry cycles; some of only a few years length and others vastly longer. Great changes in temperature from temperate to ice ages have occurred, favoring some forms of life and hindering others. Surviving cultures are usually the ones able to control or modify their environment to their advantage. Those failing to do this have lost the struggle.

Our pioneer ancestors, in choosing a home-site, considered possible water supplies, springs, wells, flowing streams, of prime importance. Some less promising locations were avoided or devoted to dry land ranching. Large areas were "given" to the conquered Indian tribes as reservations. Many of those have lately become valuable since modern methods have been in vogue. Minerals, including uranium, have been discovered in areas once regarded as worthless. "Lo, the poor Indian." Various types of power plants, even industrial factories have been built in some such localities.

Where the hardy progenitors relied on primitive methods for determining underground water and minerals by dowsing or witching, we now have more sophisticated methods. Geological and Conservation Surveys have helped with their orderly and scientific procedures. One of the amazing developments in aerial mapping and electronic data photography of the earth's resources is located at the

WATER - Nebraska's Great Resource - continued

EROS DATA CENTER 16 miles northeast of Sioux Falls, S. Dak. Eros stands for "Earth Resources Observation System", the Landsat Satellites. It is well worth a trip to visit this Government Establishment, even at high cost of gas. Myrtle and I did it in 1977, and we were amazed!

Lincoln's water supply problem seems to be solved, at least for some time to come. Until the early 1930's, we depended upon local wells pumping largely from the "Dakota Formation", from 80 to over 200 feet deep. the heaviest pumping was in the Antelope Creek valley. It was long believed that this source came from the Rocky Mountain front and points northwest, but later opinion thought it to be mostly from local precipitation and drainage. One great difficulty with these wells occurred when heavy pumping lowered the water table to a point where salt water crept in from below. We had real water shortages then, but now those old wells are used for only a small portion of Lincoln's needs.

After extensive search for other sources of supply for our rapidly growing city, an area about 25 miles NE of Lincoln, in the Platte River Valley near Ashland, was chosen. Out of this area, water is pumped from many wells through treatment plants to storage reservoirs in Lincoln. It comes through a 36 inch and a 46 inch main. Pressure is maintained by 9 pump stations, and usually it is not lowered by heavy usage as it was in former times.

Lincoln's water supply is biologically very pure and with no unpleasant taste. Its mineral content is higher than in some cities, but is easily softened by home installations. In our own home we use no 'inline' softener, but we have an automatic electrically heated still from which we draw condensed water for table use. Lime forms in the boiler, like in a tea-kettle, which we remove at intervals with special solvents. This distilled water seems to have relieved our arthritis; a senior-citizen bonus.

- by J. D. Young

* * * * *

342.5 CARAT DIAMOND DISCOVERED 12-31-80
Chattanooga, TENN. News-Free Press

MOSCOW(UPI) - Miners have discovered a lemon-yellow diamond the size of an egg weighing a record 342.5 carats in northern Siberia, the Tass news agency reported. Tass said Tuesday the newly unearthed diamond weighs about 2.4 ounces or 342.5 carats, "the biggest find in the entire history of the mining industry in the U.S.S.R."

- via AFMS Newsletter
February 1981

WELCOME - NEW MEMBERS:



Marvin Anderson
Ceresco, NE 68017
(Toll) 665-3747

Janet Wright
3715 South 33rd St. 68506
488-1884

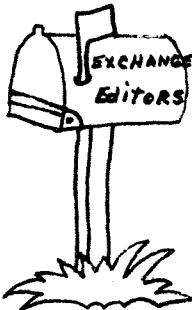
Robert H. Fixter
1805 Sumner 68502
476-1885

Daniel C. Wehler
4125 F St. 68510
483-5730

Be sure to add these names to your WHO'S WHO.
Also make the following correction in your WHO'S WHO.
The phone number for Dr. R. D. & Lois Marie Gibson
should be 488-9474.

* * * * *

A SPECIAL NOTE TO CLUB EDITORS:



Please send your exchange bulletins to:

THE PICK & SHOVEL
Vera Lyman, Editor
420 North 56th St.
Lincoln, NE 68504

Thank You.

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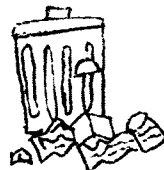
All copies of the Who's Who are available for Club Members.
If you have not received yours, please pick it up at the next
General Meeting. If you wish to have it mailed, please send me
a stamped, self-addressed envelope. Thank You.

Editor, Vera Lyman
420 North 56th Street
Lincoln, NE 68504

* * * * *



Give a Hoot!
Don't Pollute



IT'S EVERYONE'S AMERICA!

DO YOUR SHARE IN KEEPING IT BEAUTIFUL!

JUNIOR PAGE

Hi Juniors:

Last month we discussed the parts of the earth--crust, mantle, outer core and inner core. This month we will learn how scientists account for the formation of the land surfaces.

Some scientists believe that at one time an ocean covered the earth, and that continents formed as the solid crust under the ocean began to wrinkle. This would account for the ridges and valleys. The lighter rocks forming the continents would be large granite blocks and the heavier material, probably basalt, would form the ocean floor.

A great glacier once covered the surface of the land. The melting ice left ridges and hills. Some of the mounds are called moraines, others are called drumlins--small rounded hills. They are made up of gravel and mud which was carried under the glacier as it slowly moved southward. Huge boulders were also carried by the glacier--some are as large as a house. Water flowing away from the melting ice may have formed plains at the edge of the glacier.

Next month we will learn about sedimentary rocks and the fossils that are often found in them.

* * * * *

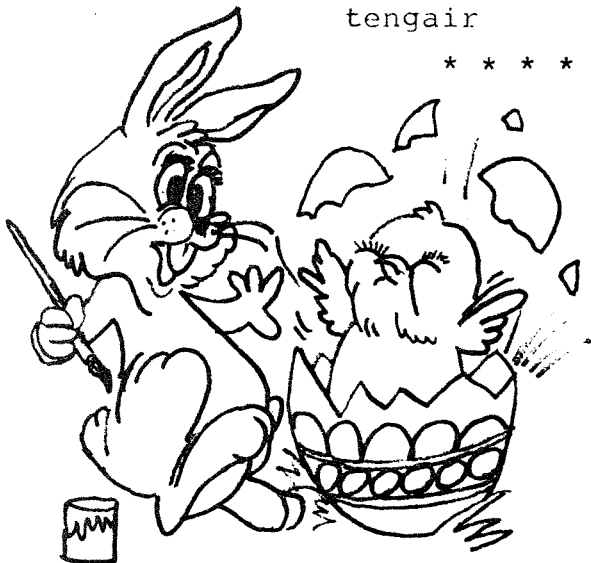
Can you unscramble some of the words relating to earth science?

- | | |
|---------|-----------|
| ecro | tabisal |
| telamn | racigle |
| neriamo | neaco |
| linmurd | thaer |
| tengair | teconnint |



* * * * *

March 20, 1981



We had one guest named Ryan Kavan and his mother. We discussed how to join the rock club and different aspects to rock hounding. So far we haven't had any response from other junior Gem and Mineral Club members at our meetings, but things will get going in time. Next meeting will be April 17 at 7:00 P.M. at 3029 'T' Street.

Jimmy Archuleta

FISH AND SHARKS FROM THE PENNSYLVANIAN
PERMIAN STRATA OF SOUTHEASTERN NEBRASKA

By Roger Pabian

On Friday, April 10th, the Nebraska Academy of Sciences will meet at Olin Hall on the Nebraska Wesleyan University Campus in Lincoln. I will be presenting a short paper on the above subject, and, in effect, this little note will serve as a preprint of that talk. Show visitors will have a chance to see a more complete version of the program and the University of Nebraska State Museum will furnish several of these interesting fossils as a featured display at the show.

Fossil fishes and sharks are not newly discovered creatures in the Pennsylvanian-Permian Strata of Nebraska. These creatures were at least known from their dentition by the turn of the century. Such notables in vertebrate paleontology as Cope, Eastman, Dean, and Barbour had already noted dentition from Edestid and Cladodont sharks, chimaeroids, and dipnoans (lungfish) and pieces from paleoniscoid fishes. Most of the material in the recently acquired collections was collected by Ted White of Omaha over the past 20 years. Mr. White has been very successful in collecting complete fish and shark imprints because of a unique set of tools that he has developed and developing methods for collecting the shales in large, thin sheets rather than small spawls or flakes. Ted has been teaching me many of the methods for recovering fossils from the black shales.

Figure 1 shows a typical sequence of cyclic sediments that are characteristic of the Pennsylvanian-Permian Strata of Nebraska. The fish remains vary with the place in the cyclothem in which they are collected. For example, in the outside shales, where we find some of the continental deposits, we can find the remains of dipnoans and the fresh water Xenacanthid sharks, as well as the remains of undetermined bony fishes. Marine facies in the outside shales have yielded the teeth of Cladodont sharks (true flesh eaters) and Edestid sharks (probably shell eaters, but, possibly algae eaters). The transgressive limestones appear to contain the greatest diversity of fish remains, and here we find mainly teeth of cladodont and edestid sharks, chimaeroids, platysomoid, paleoniscoid, and iniopterygian fishes. Many of these teeth are recovered by digesting the sample in formic or acetic acid and picking through the insoluble residue. Figure 2 shows examples of edestid and cladodont sharks, a platysomoid fish and an iniopterygian fish. The latter are truly strange critters that seem to have characters of both the sharks and bony fishes.

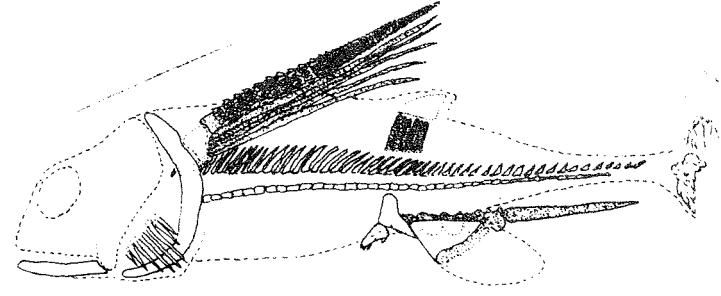
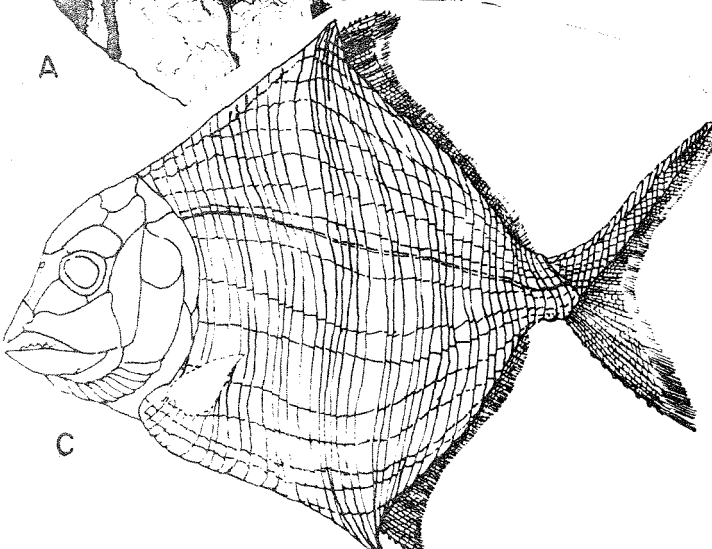
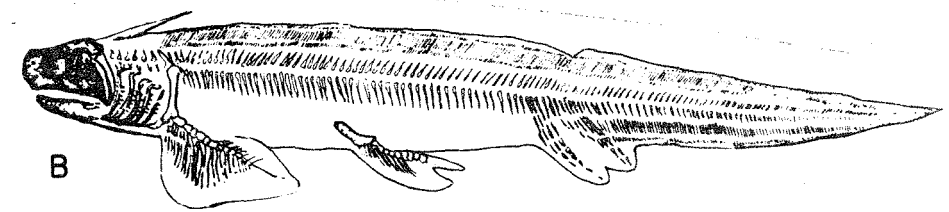
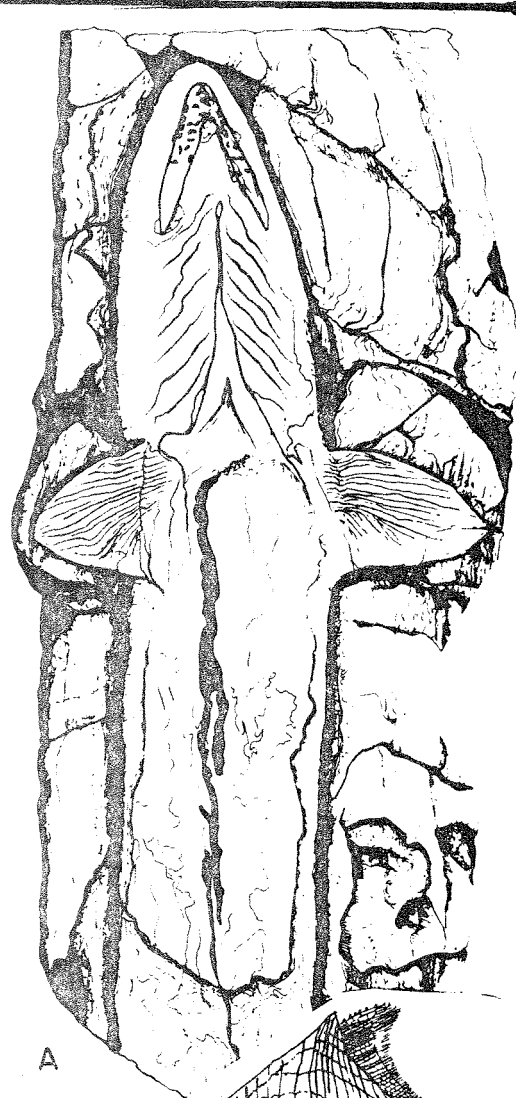
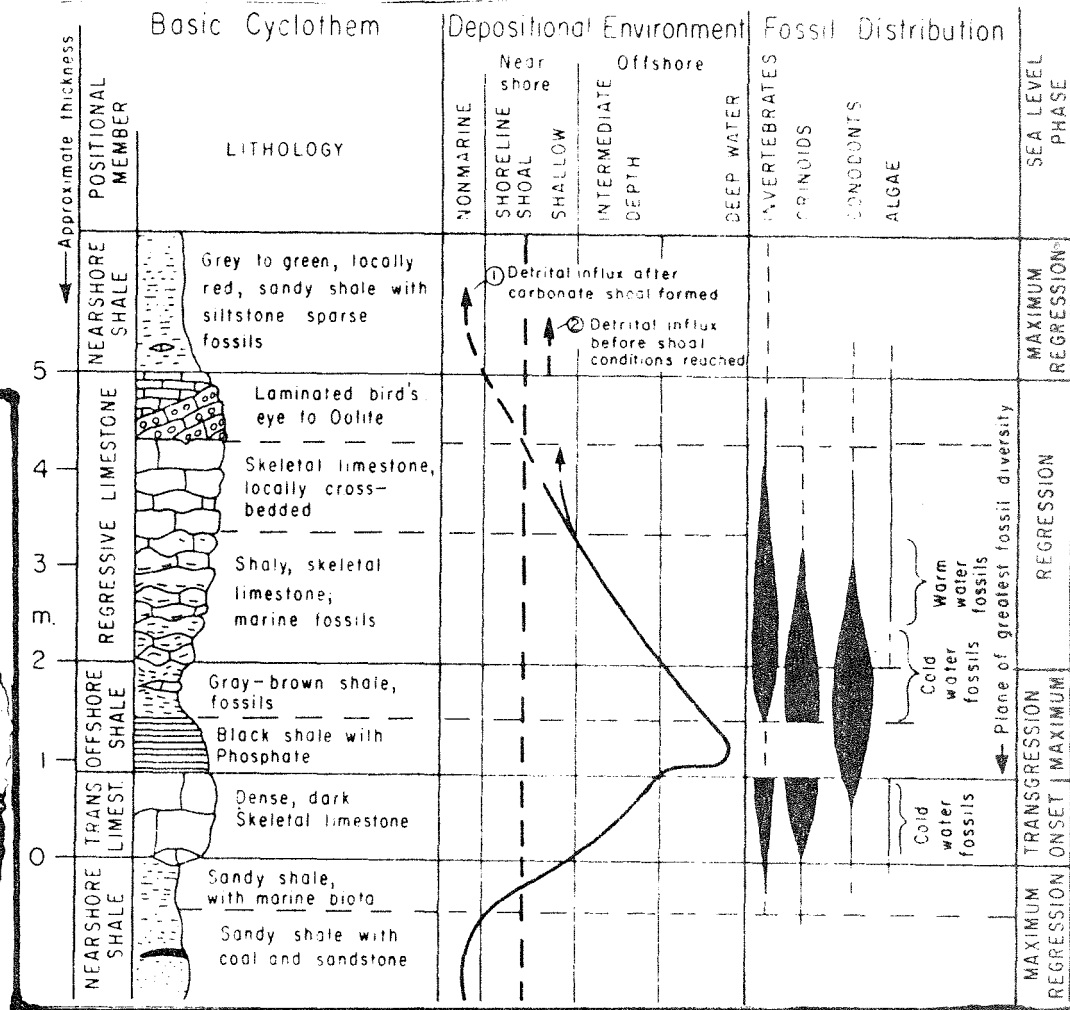
The lower part of the regressive limestone contains a fish fauna that is similar to that of the transgressive limestone, and the upper part of the regressive limestone contains remains of large cladodont and edestid sharks, and numerous chimaeroids. The latter are almost unknown in the offshore shales, with the exception of a few fishes that are referred to a group called the helodonts.

The complete fishes are preserved in the black shale facies only and this environment favored such preservation because of the lack of oxygen in the overlying water column and the lack of agitation of the substrate by waves or currents and the lack of burrowing organisms such as clams and worms.

The fish fauna from the Pennsylvanian-Permian of Nebraska will provide a fertile area of research for a number of years. The fish collecting techniques have also yielded some exotic invertebrate forms such as unusual arthropods. Paleontologists may become overworked but they never become bored.

Figure 1.

Basic vertical sequence of an individual cyclothem, the basic transgressive-regressive depositional unit. This model, with only minor variations, characterizes most of the rocks deposited in the North-American mid-Continent during late Pennsylvanian time. (Modified after Heckel 1977.)



D
Figure 2. Fossil fishes from Nebraska. A. An edestid shark, *Campodus*, X1/12. B. A fresh water shark, *Xenacanthus*. C. A platysomoid fish, *Chirodus*, X1. D. An iniopterygian fish, *Iniopteryx*. B, C after Moy-Thomas & Miles. D after Zangerl and Case. Illustrations by Francis Gould-Courtesy of Conservation & Survey Division, IANR, UN-L.

Midwest Federations NEWSLETTER

Published monthly except July and August as a service to member clubs. All news and articles should be sent to the Editor, Mrs. Betty Smith, 10607 Mary Ann, Zeeland, MI 49464. All subscription orders should be sent to Parrot Printing Service, 2125 Forest Ave., Des Moines, IA 50311.

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APRIL 1981 - Issue No. 213

ATTENTION STATE DIRECTORS....

Your MWF Editor would like to receive from each state "Where to write for" available state publications. These will be published in future Newsletters as received. In Michigan, for example, the address is:

Geological Survey,
Michigan DNR
Box 30028
Lansing, MI 48909

Ask for the current available publications.

ON TO SOUTH BEND

Even though the landscape is still covered with snow, the Michiana Rock and Gem Club members are working at a feverish pace sending letters, calling and planning each step leading to the Midwest Federation Show and Convention to be held in the beautiful Notre Dame Convocation Center July 23 - 26.

The result of the pamphlets mailed to all Midwest Federation Clubs are most gratifying, with letters and countless inquiries coming from as far away as California.

Many clubs are making plans to come by chartered bus; an excellent idea with gas prices hiking up, also enjoying the trip without the hassel of driving on busy highways. There is a special discount on group tickets coming by bus. A field trip or two could be possible on the way. There is parking for 20,000 cars and over 200 camper sites with electrical hookup.

Make early reservations for THE BEST ONE YET!

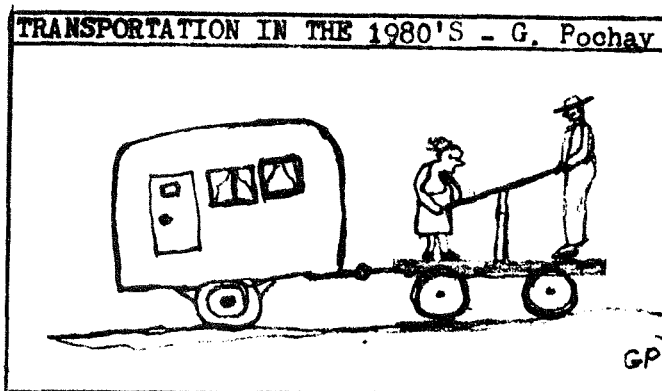
For further information write to:

JAMES RUSSELL, Show Chairman
27911 North Street
North Liberty, Indiana 46554

CATHERINE MCHUGH, MWF Show Publicity Chairman

HELP REQUESTED...

E. DONALD STINNETT and his wife, LOUISE STINNETT, are requesting that anyone writing and requesting slide programs PLEASE GIVE YOUR NAME, ADDRESS, CLUB YOU BELONG TO, AND TELEPHONE NUMBER. It is hard to fill the requests when some of this information is missing. If you write instead of typing, please make it legible.



Sent to us by:

VIVIAN (MRS. GEORGE) POCHAY

This illustration was drawn by her husband and comes by way of THE ROCKY READER - bulletin of the Toledo Gem & Rockhound Club of Toledo, Ohio.

MEMORIAL WEEK-END...

There will be two Memorial Week-end Field trips in Michigan. One to Copper Country in the Upper Peninsula. For more information contact LAURENCE SAIN, 818 W. Kaye Ave., Marquette, MI 49855

If you are interested in fossils and crystals try a trip to the Alpena area. For more information write to CAL LOOMIS, 323 Washington, Alpena, MI 49707

GOOD HUNTING

ENVIRONMENTALLY SPEAKING IN THE MIDWEST....



Most members of the Midwest Federation, with their experience in the use of chemicals, solvents and cutting oils, can identify commonly classified hazardous substances. Midwest EPA wants our assistance in locating improperly disposed of waste. Unscrupulous waste haulers have disposed of hazardous waste along roadways, empty fields and abandoned buildings. As you enjoy field trips, take note of abandoned drums, sludge spills, pungent odors or dead vegetation that may indicate improperly disposed waste. Notify EPA by calling one of the 800 numbers listed below. Do not investigate the hazardous waste yourself.

- 800-972-3170 Illinois
- 800-621-3191 Indiana, Michigan, Minnesota and Ohio
- 800-821-3714 Kansas, Nebraska and Iowa
- 800-892-3837 Missouri
- 800-525-3022 North Dakota and South Dakota
- 800-424-8802 Arkansas
- 800-372-2991 Kentucky

A 25 minute film "Our Hidden National Product" is available for free viewing by calling 312-329-0185.

SLIDE PROGRAMS...

LES PETERY in a 1976 publication on Slide Programs covers in good detail the following main points in developing and presenting a slide program.

- A. Consider the Audience.
- B. Use the best quality slides possible.
- C. Get in close to the subject.
- D. Watch surroundings and backgrounds.
- E. Sequence.
- F. Continuity and transitions.
- G. Contrast and comparison.
- H. Watch the bright ones.
- I. Tempo.
- J. Narration.
- K. Humor.
- L. Preparation of narration for formal slide show.
- M. Presenting a slide show.
- N. Summary.

The name of the pamphlet is:
HOW TO MAKE AND PRESENT A SLIDE PROGRAM

EXHIBITING...

Do you know the main divisions in which you may exhibit? They are found in REGIONAL UNIFORM RULES AND NATIONAL TROPHY RULES - 5th edition.

The divisions and rules for them are:

- A. Open
- B. Minerals
- C. Lapidary
- D. Jewelry and Art Metalcraft
- E. Education
- F. Fossils
- UV. Fluorescent Minerals

If your club doesn't have a copy write to:

CLINTON HECKERT, Director of Supplies
725 Stewart Avenue,
Elgin, Illinois 60120

There are many pamphlets available to your club, write CLINT and see what is available!

Your 1981 Regional Show Schedule

CALIFORNIA	EASTERN	MIDWEST	NORTHWEST	ROCKY MOUNTAIN AFMS SHOW	SOUTH CENTRAL
Anaheim, California August 7-9	Lexington, Kentucky June 26-28	South Bend, Indiana July 23-26	Kent, Washington August 21-23	Salt Lake City, Utah June 4-7	Lubbock, Texas

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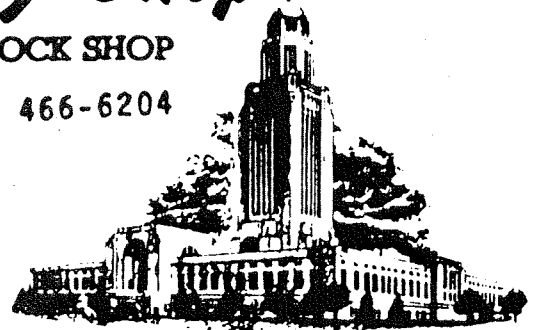
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Read your bulletin to spot new materials or specials of the above advertisers.

Advertising by a rock-hobby business or interest is permitted with approval of the Board, at a rate now set at \$10.50 per full page per insertion, paid in advance. 1/2 page \$5.25, 1/3 page \$3.50, 1/4 page \$2.75 (min). These ads will be placed throughout the bulletin as space permits.

Subscriptions to THE PICK & SHOVEL are \$3.00 per year mailed.

Dues to LINCOLN GEM & MINERAL CLUB are as follows:

Adult membership fee \$5.00 (age 16 and over)

Junior membership fee \$1.00 (age 12-16)

Family membership fee \$11.00 (husband, wife and all children under 16 - permanent residents of household)

New membership must be approved by the Board, after applicant attends at least one (1) regular meeting of the club, and pay the above dues plus \$1.00 registration fee.

DON'T FORGET:

Our 23rd Annual Show will be at the Agricultural Hall,
State Fairgrounds; April 11-12, 1981.

Saturday, April 11 - 9:00 AM to 9:00 PM

Sunday, April 12 - 9:00 AM to 5:00 PM

Howard J. Taylor, Jr., Show Chairman

* * * * *

Our regular monthly meetings are held on the 4th Saturday
of each month, September through May, at the Nebraska Center for
Continuing Education, 33rd & Holdrege.

The meetings begin at 7:30 PM, followed by a special program.

Guests and new members are always welcome.

PLAN TO ATTEND!

* * * * *

HOPE YOU ENJOY OUR SHOW!

Lincoln Gem & Mineral Club
Box 5342
Lincoln, Nebraska 68505



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