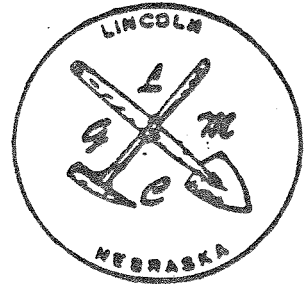


THE PICK & SHOVEL



FEBRUARY 1985

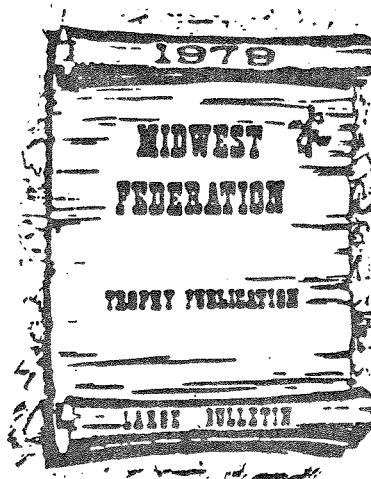
In this issue

SHOW REPORT

MORE ON TOOLS

SHOP HINTS

SAFETY TIPS -- and more



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. 68505-0342

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) (Life membership)
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

1985 ELECTED OFFICERS:

President	Claude Scott	4917 Normal Blvd.	Lincoln, 68506	488-0739
1st Vice Pres....	Roger Pabian	315 'D' St.	Lincoln, 68502	474-2034
2nd Vice Pres....	Linda Parks	2435 S. 19th St.	Lincoln, 68502	476-6798
Secretary.....	Vera Lyman	420 N. 56th St.	Lincoln, 68504	464-6089
Treasurer.....	Phyllis Parks	2435 S. 19th St.	Lincoln, 68502	476-6798
Board Member....	Mark Mercier	3316 'R' St.	Lincoln, 68502	476-6242
Board Member....	Jim Stewart	1339 Eastridge Dr.	Lincoln, 68510	489-2867
Board Member....	Marie Taylor	910 New Hampshire	Lincoln, 68508	476-3707
Board Member....	Janet Wright	3715 S. 33rd St.	Lincoln, 68508	488-1884

NOMINATING COMMITTEE -- 3 years: Vera Lyman, John Lewis
2 years: Jim Parks, Ervin Marshall
1 year: Richard Haney, Wilfrid Wittmann
Jim Taylor, Chairman

LONG RANGE PLANNING AND BY LAWS COMMITTEE:

1 year - Marie Taylor, Vera Lyman 3 years - Jim Taylor, Irl Everett
2 years - John Abel, Roger Pabian Jim Taylor, Chairman

STANDING COMMITTEE CHAIRPEOPLE:

Calling.....	Phyllis Parks	Membership.....	Linda Parks
	Marie Wells	MWF Liaison.....	Marie Taylor
Education/Publicity...	Roger Pabian	Programs.....	Bob & Mary Walker
Historian.....	John & Lillie Lewis	Scholarships.....	Marie Taylor
Hospitality.....	Susan Taylor	1985 Rockhound/yr...	Roger Pabian
Housing/Property.....	Claude Scott	1985 Annual Show....	Vera Lyman
Junior Activities.....	Janet Wright	1986 Annual Show....	Fred Holbert
Librarian.....	Jim Parks	Christmas Party....	Marie Taylor

AUDITING COMMITTEE 1984.....John Abel, Ervin Marshall
Virginia Green, Phyllis Parks, Treas.

PICK & SHOVEL STAFF:

Editor.....David Heffelbower 1819 Washington, Lincoln, NE 68502
Asst. Editor....Vera Lyman 420 N. 56th St. Lincoln, NE 68504 (NAOESCI)
Sunshine Corner..Susan Taylor
Reporters.....Julius Young, "CLUB MEMBERS"

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.

GREETINGS FROM THE SUNSHINE CORNER:

The countless, well-earned words of praise neglected through the year; the "thank you's" that were never said--they're all included here. And with them is an added wish, to hope that Valentine's Day will be especially happy for you in every way.

A belated but well-meant Happy Valentine's Day to all!

This past month a sympathy card was sent to Don and Virginia Green. Don's father, who was living in Pawnee, died.

Mr. H. S. Carson was sent a get well card; he was in the hospital but may be home now.

Hope everyone is over their colds and influenzas--there have been a nasty bunch of germs attacking Lincolnites!

Suze Sunshine

SPECIAL ANNOUNCEMENT:

The scholarship awards presentation, held in conjunction with our annual show, will be different this year. Instead of a breakfast on Sunday morning, we will be having a dinner on Saturday night. A definite menu has not been set, but a suggested menu is fried chicken, potatoes, vegetable, tossed salad, roll with butter and coffee or iced tea. The price will be (approximately) \$6.00. The show will close at 8:00 on Saturday night, and we should be able to start at 8:15. Everyone is invited to attend. The show committee chairmen thought maybe a dinner would be better than an early morning breakfast.

A more definite menu and price will be announced at the February club meeting. If you can't make the meeting, please feel free to call me and I will put you on the sign-up sheet.

Susan Taylor

President's Message

Once again we enjoyed a successful mid-winter swap on January 26. Phyllis Parks served as chairperson with lots of help from her daughter, Linda. Good job, Phyllis and Linda.

I am sure that Roger Pabian's writings were missed by many people, in many parts of the entire United States as well as the readers of our own PICK AND SHOVEL. Roger, we are happy that your "batteries are recharged" and you are furnishing articles for our publication again.

As I write this (on February 7) I see that there are only 36 days left until our annual Lincoln Gem and Mineral Club's show opens. I certainly hope that club members are planning right now as to what they are going to display for the show.

Let's make every effort to reach our goal - that every member or member family have a display on March 16 and 17. SEE YOU THERE.

Claude Scott
President

Please do not forget the spring Show(report on page 4), and do sign up to help. Remember that due to the printer's new schedule it probably will not be possible to get the March PICK & SHOVEL to you before the Show: mark your calenders!

Editor

"Show Report"

With less than a month until the Show, the committee has been very busy. Hope you have your exhibits ready!

Since the Show does fall on St. Patrick's Day, the theme of the Show will be "ST. PATT'S TRAIL OF GREEN". It will involve such special displays as Malachite, Jade, etc. We sincerely hope that you have your displays all ready for the Show. The remaining chores will require the support of all Club Members.



Set up, tear down, sell tickets, take tickets, sell raffle tickets, and anything else that needs to be done to

make this Show another success for LG&MC.

Sign-up sheets were available at the January Meeting; but there was poor response. Please sign up at the February Meeting. We do need your help, and it is your Show.

Don't expect the Committee to do it all alone! We're counting on each of you.

Sign up today!

'85 Show Committee
Vera Lyman, Chairperson

* * * * *

Board of Directors - Jan. 3, 1985 - continued

Phyllis Parks - We need to file forms for a new Resident Agent. This person needs to be in town the majority of the time for any legal services which may need to be served upon the Club. Will do so at Feb. Board Meeting.

Marie Taylor - As Scholarship Chairman, had question of recipients for 1985. Possibly award scholarships to 2 Club members this year instead of outsiders. Several mentioned. She will check with Dr. Treves regarding criteria required. Definite decision at Feb. meeting.

Roger Pabian - Had question of permanent committee heads for '85. Mr. Scott indicated he needed to call a few yet.

Vera Lyman - Needed definite okay to bake Anniversary Cake.

Janet Wright - None

Phyllis Parks - None

Linda Parks - MEMBERSHIP

Helen Hunt, wife of member Lester Hunt, applied for membership. Has paid dues and attended a meeting. Motion by Vera Lyman to accept her as a member; 2nd. by Roger Pabian. Motion carried.

Jim Stewart - None

Mark Mercier - None

Meeting adjourned. Next Board Meeting February 7, 1985, 7:30 P.M.

Love Library-South

Show Committee Meeting, Monday January 7, 7:00 P.M. Taylor home.

Respectfully submitted,

Vera Lyman

TREASURER'S REPORT	1-1-85	NBC Checking Balance	\$ 78.43
January Receipts -			
Membership dues		108.00	
January Indoor Swap			
Silent Auction		27.90	
Magazine sales (Waddles)		17.20	
Swapper bucks percentage		11.17	
Junior activity grab bags		4.25	
'85 Show Dealer deposits		625.00	
Transferred from savings		300.00	\$ 1,093.52
January Disbursements -			
Misc. copies '84 business		3.42	
'84 Junior expense		21.95	
'84 Pres. Plaque		55.91	
Nebr. Dept. Revenue-'84 sales tax		79.03	
Misc. copies '85 business		1.96	
30th Anniversary cake		20.00	
UNL Foundation-Forward Donation		100.00 (Ashmun)	
UNL Foundation-86 Scholarship		300.00	582.27
January 31, 1985 NBC Checking Balance			589.68

LINCOLN GEM & MINERAL CLUB, INC. - General Meeting, Jan. 26, 1985

The first meeting of the New Year was called to order by President Claude Scott at 7:30 P.M., Nebraska Room at the NE Center. He reported that we had a successful Rock Swap during the day and thanked Phyllis & Linda Parks for chairing the Swap.

Minutes of the November Meeting were read. (since no Dec. Pick & Shovel was mailed) Motion for approval as read by Susan Taylor, 2nd Paul Brauch. Motion carried.

Treasurer's report was read. Motion for approval by John Harrison, 2nd Jim Marburger. Motion carried.

HOSPITALITY REPORT:

Susan Taylor reported 34 Adult and 3 Junior members present. She introduced the following guests:

Susan Kelly - friend of Mark Mercier

Larry & Greg - sons of Vera Lyman

Mr. & Mrs. Rockel - parents of Kevin Schwartman

She also reported H.S. Carson had been ill; the Green's had experienced sorrow with the passing of Don's father, and joy at the marriage of their daughter.

Susan also had a card for Irl, which all members were to sign; a special gesture for the founder of the Club.

NO OLD BUSINESS:

NEW BUSINESS:

The Board had discussed whether to rent a storage building to house all Club properties under one roof. Must act on this at Feb. Meeting. If we decide to do this, so it can be settled before the close of the Show. Then all properties can be moved directly from the Show to the Storage site.

President called upon Linda Parks (in behalf of Marie Wells) to speak on Friends of Museum. She reported the following are needed: Need more members; Upgrade Museum; Climate control and extra space; Uni. not doing enough to keep employees interested. Exhibits are becoming damaged by change in humidity and bone displays are falling apart.

A workshop is planned at the Museum April 11-15 with Smithsonian Institute and possible lectures. Open house is held each year and this year it will be in Mead.

Linda listed the advantages of membership and applications were available.

SHOWS:

Fred Holbert announced that he is chairing the 1986 Show and had asked Jim Taylor to be his Dealer Chairman. He is hoping for 50% new committee members and 50% veterans.

Vera Lyman, Chairman for the '85 Show, asked each of her respective chairmen to report. Sign-up sheets were passed for set-up and tear-down Show days and also ticket sales. Response was very poor.

- continued

General Meeting, Jan. 26, 1985 - continued

President Scott said he hoped everyone was thinking about their exhibit and readying them for the Show.

CLUB'S 30th ANNIVERSARY:

This was a special meeting for LG&MC; it being the 30th Anniversary of the Club. Special Certificates were presented to Club Members with 15-30 years of membership by President Scott, as follows:

30 years-	Irl Everett	21 years-	Wm & Edith Holdorf
	Francis Tracy		Linda Parks
	Ewald Paul		Tom Rule
	Marian Waddle		Ralph Ulrich
29 years-	Helena Baegl		J.D. & Myrtle Young
28 years-	John Lewis	20 years-	Florence Lueninghoener
27 years-	Tom Simmons		Harold Eno
26 years-	Lois Everett		George McGinnis
	Lillie Lewis		Roger Pabian
25 years-	Dick Hornung	18 years-	Lynn & Marie Wells
	Jim & Phyllis Parks	17 years-	Norman Balliet
24 years-	Adeline Nolde		Glenn Lyman
	Marie Taylor		Robert Oliver
23 years-	Ruth Krejci		H.O. Paulson
	Bruce Simon	16 years-	Hal & Darline Janzen
	Jim Taylor		Glen Litzenberg
	Susan Taylor		Wilfrid Wittmann
22 years-	Frank Rule	15 years-	Donald & Virginia Green
	Wm Snider		John Harrison
	Fern Simon		Jim Marburger
			Albert & Olga Olson

PROGRAM:

The program was a narrated history of LG&MC presented by the Club Founder, Irl Everett, presented on cassette tape. It brought up many happy hours of the Club. Comments followed and were recorded.

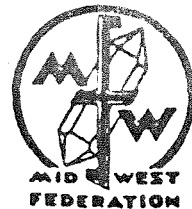
Meeting was adjourned and evening closed with Anniversary Cake (baked by Vera Lyman), coffee and hot cider.

Respectfully submitted,

Vera Lyman

Vera Lyman, Secretary

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. BETTE Smith, 10807 Mary Ann, Zeeland, MI 49464. All subscription orders should be sent to Parrot Printing Service, 2125 Forest Ave., Des Moines, IA 50311.

PRESIDENT
James Edwards
306 Semonauk
Park Forest, IL 60466

1ST VICE-PRESIDENT
William Parch
P.O. Box 180
Fountain City, WI 54629

2ND VICE-PRESIDENT
Mrs. Esther Mullaly
30018 Dawson
Garden City, MI 48135

SECRETARY
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107 Tuttle Avenue
Clarendon Hills, IL 60511

TREASURER
Mrs. Kitty Starbuck
7636 V Avenue East
Vicksburg, MI 49097

★ ★ ★ ★ ★ FEBRUARY 1985 - Issue No. 251 ★ ★ ★ ★ ★

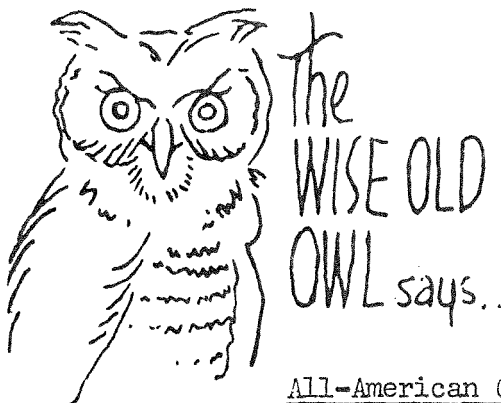
Every year each club in
• brag about what it does

There is a Bulletin the best bulletin and one lects (two altogether). some publicity and show during the year to entice meetings. There are dif- be sure to follow the be entered into the AFMS the best in the country.

Then there is the brag about what your the activities your club is involved in. What it does for the community, federations, mem- bers, etc. Betty Myers and I combined one year to write up the report for our club and we got quite a high mark in the federation and with the AFMS. It was interesting looking at what the club and the members really accomplished during a year.

And last but not least there is the Education Thru Sharing Award where a person in your club may be someone who works above and beyond the call of duty. If you have such a person in your club, write up the report and submit the name to the committee for recognition. He or She may be picked as the overall winner in the entire country, like Carol Anderson was for 1984. Carol is from the Neville Public Museum Geology Club, Green Bay, Wisconsin.

These are the kind of projects that bring the members of a club closer together and motivate clubs to get on the ball and do things together for the betterment of the club. We need to COMMUNICATE what we do so others may benefit from our experiences.



the MWF has the opportunity to and who in the club does it.

Contest where the Editor enters for the month the committee se- This is good for the club to get others just what some clubs do new members and make exciting ferent size classifications so rules. If it qualifies it can contest and possibly be judged

All-American Club Contest where you can really

club and its members do during the year. Write up the activities your club is involved in. What it does for the community, federations, mem- bers, etc. Betty Myers and I combined one year to write up the report for our club and we got quite a high mark in the federation and with the AFMS. It was interesting looking at what the club and the members really accomplished during a year.

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Jin Edwards

MY DREAM FOSSIL By Tanya Esmond

My Mom told me that when I was a little girl that I used to carry rocks in the pockets of my blue jeans, in my shoes, and sometimes they were in my bed. My Dad showed me what a fossil is. That is how I became interested in fossils.

Now that I am a junior in ERAMS, my favorite fossil is a trilobite. Trilobites are extinct sea animals, which were here before the dinosaurs. They are small and cute! The largest is about ten inches and some do not have eyes. The body is divided into three parts.

A special thank you to the members of the Paleontology Study group for showing me what a trilobite is. I am looking forward to going on field trips to look for my first trilobite.

Editor's Note: This article was number one in the MWF Junior Original Article Contest and number three in the AFMS Contest. It was originally in the Rock Rammer, March 1983, the bulletin of the Elgin Rock & Mineral Society of Illinois.

The December Newsletter asked for help in paying the cost of duplicating new programs. To date we have received responses from the following clubs: Midwest Mineralogical and Lapidary Society of Dearborn - \$300; Michigan Geology and Gemcraft Society - \$90; and Blue Water Lapidary Society, Inc. of St. Clair County - \$55. These contributions show somebody cares. MWF thanks you.
Louise Stinnett, Chairman Program Requests

ACTIVITIES IN ARCHAEOLOGY In October, I exhibited at the Pike County Mineral and Gem Society's show at Louisiana, Missouri. Out of a total of 27 displays, seven were Indian artifacts! Exhibitors were the Missouri assistant in archaeology, Ernest Chambers; John Q. Morris; Eddie Schieffer; Headley, Theresa and Howard Harrell; Ralph Atkinson; George, Shirley and Steven Bell and myself. Pike County Mineral and Gem Society celebrated its twentieth anniversary at this show.

The Wabash Valley Archaeological Society, Terre Haute, Indiana, is in the process of filing a Lands Unsuitable (for surface mining) petition with the Department of Natural Resources on behalf of an archaeological site near Lyons, Indiana. The goal is to assure that the area be examined for cultural heritage material before destruction. Two other Indiana organizations are supporting the petition. A similar action was taken by the Illinois Association for Advancement of Archaeology, in support of the Save Rice Lake organization's successful effort to indefinitely delay surface mining of a virgin wetland with eagle habitat and several acres of ancient trees. The Rice Lake area includes a large island in the Illinois River with known but unexplored prehistoric sites.

Glen Hanning, Archaeology Chairman

ENVIRONMENT/LEGISLATION By John Boland, Chairman

EPA data shows about one-third of the cancer incidences in the nation's non-smoking population may be attributable to passive smoking. Data indicates that somewhere between 500 and 5000 persons per year die from cancer from inhaling smoke from other peoples cigarettes.

EPA plans to list 122 new chemicals as hazardous. They have accepted for the most part an earlier petition by the state of Michigan.

EPA's office of policy analyses has predicted that EPA's proposal to phase down lead content in gasoline to 0.1 gram per leaded gallon by 1986, will reduce the chance of heart attacks in some 5000 middle aged white males and save nearly 6000 from death in 1986 alone. The study finds high blood levels are also to be a likely cause of hypertension.

UNDERSTANDING THE SELECTION OF THE SCHOLARSHIP RECIPIENTS: Scholarship Award Winner is selected by the following process.....

Scholarship Foundation



1. Nominees are submitted to the Board of Selectors. The Board consists of three members, one appointed by the Federation President, one chosen by the Nominating Committee, and the Scholarship Foundation Director as Chairman.

2. The Board nominates one or more persons for the award, and submits its nominees to the Jury of

Awards. The Jury consists of the Federation President, the immediate Past President and the Scholarship Foundation Director. The Jury selects one person as the MWF Award Winner for that year of the AMIS Scholarship Foundation.

1984 Board of Selectors: Marion Parch, Council Appointee; Fred Dermke, Presidential Appointee; and Jim Edwards, 1st Vice President/Scholarship Foundation Director, Chairman.

1984 Jury of Awards: Diane Dare, Past President MWF; Rex Webb, President MWF; Jim Edwards, 1st Vice President/Scholarship Foundation Director.

Details for the selection process can be found in the MWF Operation Procedures Manual, June 1979, page 10 and 11.

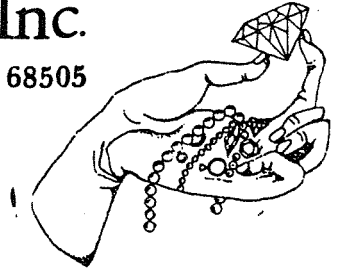
At the Minnesota State Fair this year there were 32 counties that had 4-H displays, the Minnesota Mineral Club contributes to this program.

Kathleen Myers has resigned as Assistant State Director of Michigan. Her place has been filled by William J. Horton, 1589 N. Hughes, Howell, Michigan 48843.

Lincoln Gem and Mineral Club, Inc.

P. O. Box 5342

Lincoln, Nebraska 68505



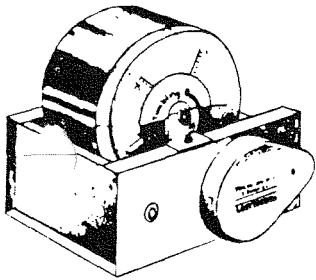
invites you to attend its

27th Annual Gem & Mineral Show

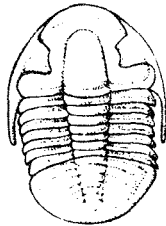
march 16, 17, 1985

Agricultural Hall

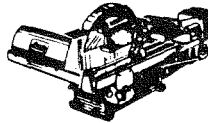
Nebraska State Fairgrounds



TUMBLERS



JASPER

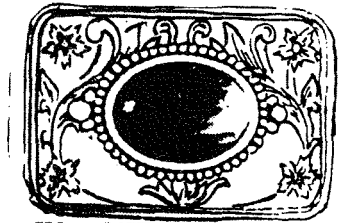


SAWS

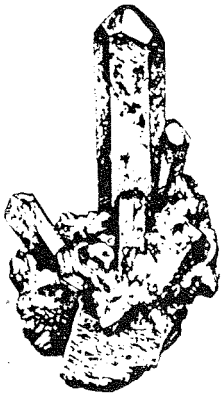
AGATE



TURQUOISE

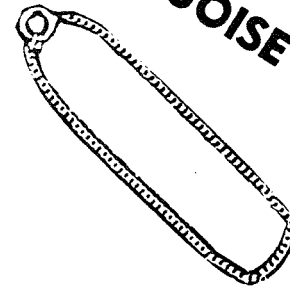


FINDINGS

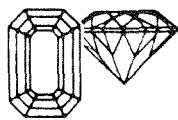


RAFFLE

WE HAVE IT ALL!

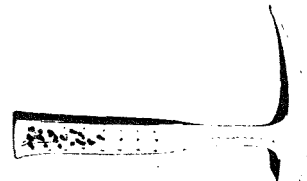


DOOR PRIZES



AQUAMARINE
AMETHYST
TOURMALINE
GARNET
CAT'S-EYE

PRECIOUS TOPAZ
CITRINE
PERIDOT
KUNZITE
RUBELLITE



SHOW HOURS:

Saturday, March 16, 9:00 - 8:00
Sunday, March 17, 9:00 - 5:00

ADMISSION:

Adults.....\$1.50
Students with ID.....\$1.00
Senior Citizens with ID \$1.00
Children.....\$0.50
Under 6, free with adult.

Lincoln Gem and Mineral Club, Inc.

P. O. Box 5342

Lincoln, Nebraska 68505



SAINT PATRICK'S DAY SPECIAL

Do you think you have the world's finest green rock, gem, mineral, or fossil specimen?



If you think so, enter our "Best Green Specimen" contest. Viewers of our 27th annual gem and mineral show will have a chance to find the best green rock. Enter now! Win a trophy and the keys for a 1985 turbo-charged sports car*.

RULES

1. Any green rock, mineral, fossil, agate, gem, cut stone, etc. may be entered. One entry per contestant only.
2. If the entered stone is a cabochon, cut gem, slab, specimen, etc. that has been subjected to lapidary treatment, the lapidary treatment (other than sawing) must be the work of the contest entrant.
3. All items entered in the contest must be of natural origin. Synthetic, imitation, or assembled items are not eligible.
4. All stones entered must be in the display case (furnished by Lincoln Gem and Mineral Club) one half hour prior to the opening of the show, March 16, 1985. Show opens at 9:00 AM. Winner will be announced 4:00PM, Sunday, March 17, 1985.
5. Judging will be done by show visitors, each of whom will be given an official ballot upon entering the show site. Contestants may solicit as many votes for their entrants as they deem necessary to win. Such solicitation is carried out by inviting brothers, sisters, parents, uncles, aunts, cousins, in-laws, friends, and others to the show to vote for their entry.
6. The winner of the green rock contest will be that entry receiving a plurality of votes. That is, the most votes, without having to attain a majority.
7. Entry into this contest does not qualify the entrant for an exhibitor's pass.

OFFICIAL ENTRY BLANK

Yes. I am thrilled beyond belief at this opportunity to show the world I have the finest green rock to celebrate Saint Patrick's Day. I would like to win that trophy and the keys to the 1985 turbo-charged sports car. Here is my entry.

Name _____

Return to: Roger Pabian

Address _____

315 "D" Street

City _____ State _____ ZIP _____

Lincoln, NE 68502

Kind of material _____

*Sorry, our budget only allowed the purchase of the keys. Obtaining the car is the responsibility of the contest winner.

SHOP HINTS

Keep polished cabochons in photo-slide 'protector' pages. The pages fit in a three ring binder and each page has 20 individual pockets. The cabs are easily visible but are protected.

By Ray Kunc via Rear Trunk and others

An inexpensive substance, diatomaceous earth, rivals tin oxide for polishing. This is a fine-grained or powdery, chalky material derived from the silica skeletons of micro-organisms which lived in the seas that covered the areas where the deposits are now found. It is found throughout the world. It is used in swimming pool filters and can be bought in large lots at Sears.

From KISKAGEM JOURNAL via THE PICK &
CHISEL and others

Salt crystals may be cleaned with alcohol or with a slightly warm salt water solution.

From OSAGE HILLS GEMS via THE PICK &
CHISEL

Safety Reminder

Allways cut any material containing manganese, psilomilane, rhodonite, rhodochrosite, etc using a water spray to control dust. This is especially true if you are cutting a considerable amount. It is also advisable to use a good mask or a respirator. Manganese is a slow, cumulative poison which affects the central nervous system, causing a gradual weakening of the muscles and loss of control. This condition is a problem especially among miners of manganese ores and is known a manganese sickness. In the absence of further exposure the problem will correct itself in a matter of months.

The Editor

SAFETY TIPS

Safe operation and proper operation of diamond saws are the same. One manufacturer's operating suggestions list these important DO'S and DON'TS

1. DON'T attempt to use the blade until you have checked (a) arbor to be sure of a tight fit, (b) bearings for looseness, replace if needed.
2. DO check carriage travel to make certain it is parallel to the blade.
3. DO be absolutely sure the rock is firmly clamped to prevent motion. Any movement can be serious.
4. DO use kerosene or deodorized mineral oil as a coolant in place of water. Cutting action is much superior while blade life is prolonged. NEVER CUT DRY.
5. DON'T permit chips, grit and sludge to accumulate in the recirculation tank. Keep clean.
6. DO be certain coolant is copious and uniformly sprayed on both sides of the blade.
7. DON'T attempt to operate with inadequate power. Be sure motor is in accordance with EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
8. DO mount the blade for operation in the direction of the arrow. Each blade is individually factory sharpened and tested in the direction indicated and will cut best when properly mounted.
9. DON'T expect your blade to saw consistently on hard materials without sharpening (dressing).
10. DO sharpen or dress your diamond blade when necessary - follow the manufacturer's instructions.

Via The Glacial Drifter, et al

TOOLS - (What? - Again!)

(Please, don't give me the ax, or axe)

From adzes and axes to withes and zaxes, hundreds of tools, once important, are now forgotten, but they still are interesting, even though known only to "toolhounds". Also, there are tool oriented artisans and craftsmen seldom remembered; for example coopers, couriers, farriers, and wheelwrights. (and chisellers)

Terms for tools and related crafts change with time. Many are misunderstood by the uninformed. Myrtle recalls an old lumberjack joke told in Minnesota's north woods where she, with her parents, spent her early childhood. A greenhorn, unfamiliar with lumber-camp tools, was dispatched by a foreman to go and bring back a "cant hook". After some delay he triumphantly returned, forcibly leading a reluctant, hornless muley cow! (no Texas long-horns in Minnesota)

Seasoned rockhounds know about the evolution of tools and instruments now used in their hobby. Methods of locating and obtaining certain rocks and minerals, especially metals, have been much improved. Early prospectors had no metal detectors nor fluorescent devices, and aerial detection was not yet fancied. The only known earth satellite was the moon, and it was "made of green cheese". Transporting and processing specimens was difficult. An amazing mystery is how old-timers accomplished so much with so little. They had an abundance of time, skill and infinite patience; and no distracting programs on the "tubes".

Early tools and devices since the stone ages were mostly hand-made of wood, and manually operated unless by animal, wind or water power. Electricity from various power sources now energizes most functions and processes. Old time artisans and craftsmen have disappeared, and are being replaced by new types of people and machines. Nearly everything is now done by electricity or the more modern-sounding electronics. This is true even in such menial tasks as brushing teeth, sharpening pencils, shaving whiskers or adding " $2 + 2 = 4$ ";

Simple gadgets like the brace and bit or a series of suitable gimlets were the necessary equipment for drilling holes in wood or other soft materials. Now "gimlet" may mean a cocktail mixture, and so does "screwdriver". Diamonds, once "a girl's best friend" now cut, drill and polish almost everything. We would be lost without them; likewise lasers, computers and "software". "Apple" was a fruit dating back to the "original sin" and more recently a bribe for a school-kid's teacher.

Early tools were carefully fashioned out of wood by experts, and of special design to suit their intended use. There was much lore about the use of wood, such as shovels and paddles of it were con-

- continued

TOOLS - (What? - Again!) - continued

sidered better than of metal to avoid damage to fruits or grains. Aluminum was shunned, and foil was unknown. Now we can't do without it. Wood still is preferred for handles, knobs and certain special devices. A skilled craftsman knows the good and bad features of all current materials, combinations and alloys. Plastics and glass have recently "stolen the show", some for better, or for worse.

Human activities and technology have become so complicated that a tool's or instrument's character may change unbelievably. Early computers were cumbersome and necessarily water-cooled. Their discharged water-coolant raised the temperature of a nearby large river. It is needless to say they have been greatly improved.

Now, back to my first paragraph, especially for those who may know only the axe of those tools mentioned. One may have an axe or an ax to grind and still satisfy the dictionary. Not everyone realizes how many different forms this common tool may take, how they have evolved and which is best for splitting firewood. Opinions may differ, so let's "bury the hatchet" and proceed with the other items mentioned.

The adz has been jokingly described as a hybrid of a heavy garden hoe and a wide pick-axe, used to chip away stubborn overburden, like a mattock. A withe is a tough, flexible willow twig or osier, to wrap around or bind things together, a sort of organic twister for wicker workers. A zax (not just to rhyme with ax) is a special tool to cut roofing slate, and avoid nicking the roofer's ax.

The lumberjack's Cant hook is used to "cant", roll or move heavy logs. A modified version is a "peavey" which enables anyone, not necessarily a modern Hercules, to move a heavy boxcar along a track. (its inventor was Joseph Peavey)

Wooden apple paddles and pomace rakes were necessary tools for processing our popular fruit into a favorite sandwich spread, and the rakes to remove the waste squeezed out from the old cider mill press, long before the delectable juice could be purchased at the grocery, kept sweet indefinitely with preservatives; or its pure apple cider derivative, cleverly labeled "apple cider flavored vinegar" -- diluted acetic acid.

Another delightful paperback is A Museum of Early American Tools, by Eric Sloane. Over half of its 110 pages are filled with descriptive drawings of hundreds of early tools. It was a "special Edition" for American Museum members, by Ballentine Books, a division of Random House, New York.

Man writes his own history with the tools he leaves behind!

- Submitted by J.D. Young

DEATH STARS

On February 4th, Dr. Erle Kauffmann of the University of Colorado presented a lecture on extinctions of plants and animals to the students, faculty, and guests at the Department of Geology in Morrill Hall. The lecture was well-attended and it provided many thought provoking ideas.

A popular theory in modern times holds that the dinosaurs became extinct at the end of the Cretaceous Period when a gigantic meteorite, about 6 miles in diameter struck the earth. The ensuing explosion and dust cloud blocked out the sun's light for a lengthy period of time, estimated to be from several weeks long to several years long. This resulted in a cessation of photosynthesis, that act in which plants convert carbon dioxide into sugars, starches, proteins, etc. by utilizing the energy in sun light. The base of the food chain was destroyed, the small consumers died out, the larger consumers died out, and the carnivores and scavengers soon followed suit. Thus, the massive extinction at the Cretaceous-Tertiary boundary.

It sounds very reasonable. The evidence for such a meteoritic impact occurs in a number of widely separated areas in the world. There is in Denmark, for example, a sequence of Late Cretaceous age limestones that are made up of coccolith debris. That is, there were numerous plants, although microscopic, that were photosynthesizing their little hearts out. Suddenly, this haven of food production ceased. There is a layer of clay several inches thick that is enriched in the element, Iridium. This element is more common in space than on earth. The enrichment of Iridium in this clay layer is some 30 times greater than it is on the rest of the earth. In a somewhat younger sequence of Tertiary age marine sedimentary rocks overlying the Iridium rich clay, coccolith and dinoflagellates are again common. What we see is a time of rich carbonate production followed by a cease in carbonate production followed by rich carbonate production. Sunny skies followed by darkness followed by sunny skies. Dr. Kauffman pointed out that the youngest dinosaur fossil occurs about 10 feet below this impact event. This observation does not rule out the impact---it does rule out the possibility that the impact with this meteorite caused the extinction of the dinosaurs.

The Cretaceous-Tertiary boundary is, nevertheless, marked by the extinction of about 80 percent of the life forms on earth. Dr. Kauffmann pointed out that there is evidence to suggest that the earth has been periodically subjected to large meteor showers, on about a 26million year interval. These meteor showers took place in a time span of a million or so years. That is, conditions on earth had deteriorated at the start of a meteor shower, and an impact with a large meteorite simply delivered the coup de grace. A cursory glance of charts of extinction would lead one to think that some 400 species of ammonites became extinct at the time of the big impact. Only 9 species of ammonites existed at the time of the crash.

The Cretaceous-Tertiary boundary is not the only time of mass extinction in the earth's history. The lecture showed that a period of extinction at the early and late Cretaceous boundary was quite impressive. Some 70 percent of the existing species came to a screeching halt then.

The great extinction at the Cretaceous-Tertiary boundary was probably little more than a cake walk compared to the grand daddy of all extinctions that took place at the Permian-Triassic boundary. Something like 95 percent of the Late Permian species of plants and animals failed to cross the boundary. Only one genus of ammonites, Simberskites, made it across the Permo-Triassic boundary, but it gave rise to the several hundreds of Mesozoic age ammonite species.

Not only did the ammonites suffer badly at this time. Only one genus of inadunate crinoid came through, but it did not make it through the early Permian. An entire subclass of crinoids, the inadunates, gone in a very short time geologically. Not only did the inadunate crinoids go, but their relatives, the flexible crinoids, and the camerate crinoids died out here too. The flexibles and the camerates were probably endangered species at this time, but the inadunates were not. Most of the corals did not make it across this biological crisis line, and a lot of other marine invertebrate animals such as clams and snails failed then.

It has been postulated by at least one paleontologist, David Raup, at the Field Museum in Chicago that a mass extinction takes place about every 26 million years. Raup has proposed that our sun has a companion star that orbits our sun about every 26 million years. This is not unreasonable---most of the stars in our milky way galaxy are members of double or multiple star systems. There are many different kinds of stars. There are red giants that will spend all of their nuclear fuel in about 10 million years. Our own sun is a main sequence star that will continue to provide us with energy for about 2 billion more years. There are extremely dense white dwarf stars in which a cubic inch of their matter might weigh several million tons. Neutron stars are much denser yet. The nearest known star to our sun is Alpha Centauri, about $4\frac{1}{2}$ light years distant. This star is a main sequence star, similar to our sun, and about one million miles in diameter.

If our sun is a member of a double star group, or multiple star group, then, we need to find our companion stars. The 26 million year interval of mass extinctions suggests an impact with a comet or meteorite takes place in that time interval. What happens is that our companion star causes disruptions in the orbits of asteroids and comets, and these bodies get on a collision course with earth. To do all of these baddies to us, the companion star, hereafter called the death star needs to orbit our sun every 26 million years at a distance of about two light years. Why haven't we found this death star? It could be a dense, white dwarf, only about 10 thousand miles in diameter, or it could be a super dense neutron star, only about 400 miles in diameter. These would be difficult to find--the former would be almost impossible to find---the latter impossible at least.

Another possibility is that our companion death star is really a black hole. Black holes are the ultimate "gravity gluttons." Their field of gravity is so strong that the escape velocity they establish is greater than the velocity of light. That is to say, a black hole is absolutely invisible, but it can simply "suck" something out of existence. A massive black hole could be the size of a pin head---its gravitational anomalies could disrupt the orbits of asteroids and comets, causing the big collision, dust cloud, long winter, etc. Mass extinction.

A death star does not have to be. Astronomers have discovered some 200 asteroids that are on a collision course with earth. None will hit us soon. The next collision will take place in 12 million years. But should a 6 mile in diameter asteroid suddenly threaten us, all of the United States and all of the Soviet Union nuclear missiles could sufficiently deflect the asteroid.

Dr. Kauffman's lecture left a lot of food for thought, as any good lecture should do.

Roger Pabian

P.S. Bring cut cabochons for display in February, as was planned for January. Cases will be furnished. RKP

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Lincoln Gem & Mineral Club
Box 5342
Lincoln, Nebraska 68505-0342



Editor: David Heffelbower
1819 Washington
Lincoln, NE 68502

Edward Ridge
2507 A St.
Lincoln, NE 68502