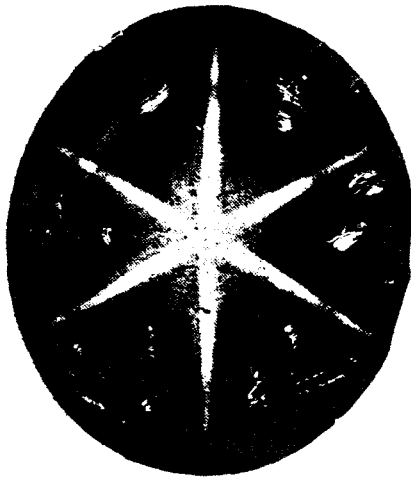




PICK & SHOVEL

INSIDE . . .



STAR QUARTZ

SHOW NEWS

Volume 29, No. 5
January, 1989

Lincoln Gem and Mineral Club, Inc.

P. O. Box 5342

Lincoln, Nebraska 68505

1989 ELECTED OFFICERS

President: Fred B. Holbert, 2822 S. 13th St., Lincoln, NE 68502	423-5639
1st Vice President: Gerald Moore, 2305 S. 35th St., Lincoln, NE 68506	489-4184
2nd Vice President: C. David Heffelbower, 1819 Washington St., Lincoln, NE 68502	475-4713
Secretary: Vera Lyman, 420 N. 56th St., Lincoln, NE 68504	464-6089
Treasurer: Phyllis Parks, 2435 So. 19th St., Lincoln, NE 68502	476-6798
Board Member: Francis Belohlavy, 1919 "K" St., No. 4, Lincoln, NE 68510	477-4337
Board Member: Roger Pabian, 315 "D" St., Lincoln, NE 68502	474-2034
Board Member: Donald Phillips, 5901 Spruce St., Lincoln, NE 68516	489-7637
Board Member: Shirley Rockel, 1134 West Avon Lane, Lincoln, NE 68505	464-3059

NOMINATIONS COMMITTEE

3 Years: Kevin Schwartzman, Chair.
Roger Pabian
Eddie Ridge,
2 Years: Phyllis Parks, Janet Wright
1 Year: C. David Heffelbower,
Bill Rockel

LONG RANGE PLANNING AND BY-LAWS COMMITTEE

3 Years: Kevin Schwartzman,
Jim Marburger
2 Years: Bob Wright, Linda Parks
1 Year: Claude Scott,
Phyllis Parks

STANDING COMMITTEES

Calling: Shirley Rockel
Education: Roger Pabian
Field Trips:
Historian: John & Lillie Lewis
Hospitality: Wilma (Billie) Heffelbower
Housing/Property: Jim Parks
Junior Activities: Janet Wright
Librarian: Jim Parks
Membership: Gerald Moore

MWF Liaison: Vera Lyman
Programs: Francis Belohlavy
Scholarship: Marie Taylor
Christmas Party:
1989 Rockhound/Year:
Roger Pabian
1989 Show: John Harrison
1990 Show: Roger Pabian

AUDITING COMMITTEE, 1987-1988

Shirley Rockel
Don Phillips
Francis Belohlavy

YOUR PICK & SHOVEL STAFF

Publisher: Lincoln Gem & Mineral Club, Inc., P. O. Box 5342, Lincoln, Nebraska 68505
Editor: Roger Pabian
Business and Financial Reporter: Vera Lyman
Circulation: C. David and Wilma Heffelbower

The Pick & Shovel is the official publication of the Lincoln Gem and Mineral Club, Lincoln, NE. Articles and items appearing within may be reproduced in other club bulletins provided that proper credit is given to the Pick and Shovel and the author, and that a reprint of the bulletin is sent to the editor of the Pick & Shovel.

CALENDAR OF EVENTS

JANUARY MEETING: Saturday, January 28, 7:30 PM
Norfolk Room, Nebraska Center
33rd & Holdrege Streets

PROGRAM: Chaos, fractals, and another look at
at origins of agates. By Roger Pabian

JUNIOR MEETING: Field Trip during swap hours. See page 9
for details. Regular junior club
meetings will resume in February.

ANNUAL SWAP: Annual Mid-Winter Swap, Lincoln Gem & Mineral
Club, 1:00 PM through to Evening Meeting,
Nebraska Center, 33rd & Holdrege Streets
SEE ENCLOSED FLYER.

NATURE CENTER: Lincoln Gem and Mineral Club has been asked
to provide displays of gems, minerals, and
fossils and gem cutting demonstrations at
Chet Ager Nature Center at Pioneers Park on
Sunday afternoon, February 19, 1989, from
1:00 PM to 5:00 PM. Exhibitors and demon-
strators are needed. FFI, come to January
meeting.

JANUARY						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

1989 REGIONAL SHOWS

Del Mar, CA	Hickory, NC	Kalamazoo, MI	Portland, OR	Stillwater, OK	Arlington, TX
May 12-14	Apr. 28-30	June 22-25	June 8-11	July 14-16	June

IMPORTANT ANNOUNCEMENT

DUES ARE DUE BY JANUARY 1, 1989. Dues will become delinquent on January 31, 1989, after which they will require a reinstatement fee of \$1.00 each family. Dues structure is on the inside of the back cover of each Pick & Shovel. This year we would like to collect an additional \$2.00 from each family along with regular dues to assure that you continue receiving The Gem Palette, the official publication of the Nebraska Association of Earth Science Clubs. For several years, the club has paid for members to receive this bi-monthly rockhound publication and the directors hope you have enjoyed it. Monies for your subscription to the Gem Palette must be remitted to the association by January, 1, 1989, so pay your dues immediately.

Remember, you may mail your checks to Phyllis Parks, Treasurer, P.O. Box 5342, Lincoln, NE 68505, or bring them to the January meeting.

PRESIDENT'S MESSAGE *

S	W	A	P
XX	****	xx	()
XXX	*****	xxxx	(())
SardX	***Wood***	Agate	(Plume)
SheneX	****Wilkite****	xAmberx	((Pearl))
XSpinelX	****Wulfenite****	Albite	((Prase))
XSardonyxXX	****Wavellite****	xAzuritex	((Priday))
XXSapphireXXX	*****Willemite*****	xxApatitexx	((Pyrite))
XXXSunstoneXXXX	*****Witherite*****	Augelite	((Pyrope))
XXXXSeleniteXXXXX	*****Wilsonite*****	xAmetrinex	((Peridot))
XXXXXSodaliteXXXXXX	*****White opal*****	xxAmethystxx	((Phehnite))
XXXXXXSideriteXXXXXX	*****Watermelon*****	xxxAdulariaxxx	((Proustite))
XXXXXXXSageniteXXXXXXX	*****Wolframite*****	xAmazonitex	((Pipestone))
XXXXXXXXSoapstoneXXXXXXXX	*****Whitby jet*****	xxAlmandinexx	((Pectolite))
XXXXXXXXXScheeliteXXXXXXXXX	*****Water stone*****	xxxAragonitexxx	((Phenakite))
XXXXXXXXXXSpodumeneXXXXXXXXXX	*****Wheat sheaf*****	xxAlabasterxx	((Polka dot))
XXXXXXXXXXXXStauroliteXXXXXXXXXXXX	*****Wonderstone*****	xxxAndalusitexxx	((Prasiolite))
XXXXXXXXXXXXXSphaleriteXXXXXXXXXXXX	*****Walrus ivory*****	xxxxAquamarinexxxx	((Plagioclase))
XXXXXXXXXXXXXSpessartineXXXXXXXXXXXX	*****Wollastonite*****	xxxxxAventurinexxxx	((Psilomelane))
XXXXXXXXXXXXXSaithsoniteXXXXXXXXXXXX	*****Williamstonite*****	xxxxxAlexandritexxxx	((Petoskey stone))
Stones	Will	Awe	Peers
Stones	Will	Adorn	People
Stones	Will	Accelerate	Poverty

MID-WINTER SWAP

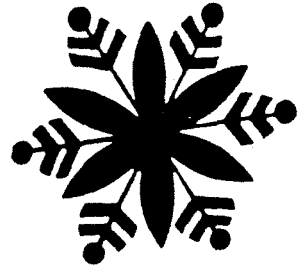
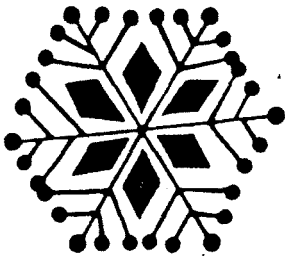
BE THERE!

FRED B. HOLBERT

* A puzzling excerpt from Wilhelm R. Wagner's
 "SIEGFRIED: Forest Murmurs"
 "DAS RING DES NIBELUNGEN"



Sunshine Corner



Make it the best year ever for
the LGMC



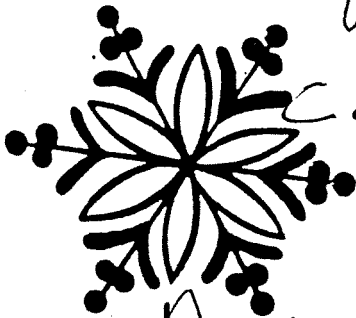
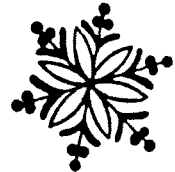
With!

Pride in the hobby of rock hounding

Joy in club friendships



Commitment to growth



Best wishes for a Happy New Year

Billie Sunbeam

Editorial notes

By Roger Pabian

As of January 3, 1989, I became official editor of the Pick & Shovel, the official publication of Lincoln Gem and Mineral Club. For several years, the bulletin has been without an editor, and this task was done by the board of directors.

As I view a club bulletin, it should have several goals to carry out. First, it should serve as a medium for bringing club news to the members. It should notify the members of the meeting date, place, time, program, educational theme of the month, club activities such as shows and swaps, and actions of the club's board of directors to mention the most visible of these goals.

The bulletin should serve to give the members a chance to share their knowledge with other members. In this respect, I will solicit manuscripts on pertinent areas regarding hobby activities such as gem cutting techniques, field trips, collecting localities, geology, paleontology, mineralogy, and other related studies. Manuscripts will have no set limit on pages, but two pages are very easy to handle. I am using an Espon Equity I microcomputer with a PC-Write word processing system to set up pages. If you can send the manuscript on a floppy disk that is compatible with my system, that would be great, but not necessary. We will be able to reproduce many maps, charts, and line drawings with your manuscripts. Unfortunately, we can not reproduce half-tone illustrations.

I am soliciting manuscripts from both inside and outside the club. This first issue under my tenure has an article on how to orient and cut star rose quartz that is written by Bill White of Independence, Missouri. I will periodically utilize material submitted by outside sources. In any case, the manuscripts will be edited.

Manuscripts will be edited with the attempt to provide clarity and brevity for the reader's benefit. Where serious editing has been done, I will refrain from publishing the article until any discrepancies can be cleared up with the original author.

Manuscripts should be in my hands at the meeting preceding the publication of each issue of Pick & Shovel and no later than the first day of the month of publication. In many instances, it may be advisable to delay publication of an article so that it may be used to coincide with some programs or educational themes that are connected with club activities.

The bulletin should also serve to notify its readers about events of other clubs such as shows, swaps, programs, field trips, and so on. We will try to do this on both a local and regional level on the calendar page. Some of these events may even warrant write ups and these will be solicited.

In seeking manuscripts, it is only right to point out that items such as untested shop tips will not be printed. Many of these that have appeared in bulletins have proved to be hazardous; e.g., using anti-freeze as a diamond saw coolant.

Material that has appeared in copyrighted sources, except for brief citations in articles or reviews, will not be printed unless it is accompanied by documented permission of the copyright owners.

LINCOLN GEM & MINERAL CLUB, INC. - BOARD OF DIRECTORS - Nov. 7, 1988

Rockel Home, 1134 W. Avon Ln. - Mon. Nov. 7, 1988, 7:30 P.M.

Minutes of the October Meeting were read with motion for approval by Shirley Rockel, 2nd by Phyllis Parks. Carried.

Treasurer's report was read with motion for approval by Vera Lyman, 2nd by Shirley Rockel. Carried.

BILLS: Paid but need approval:

\$ 12.00 NAOESCI - Pins
83.50 Lincoln Postmaster - Pre-cancelled stamps
38.77 38.77 Accent Printing (now Impressions Ink) - Oct. P & S
13.01 Hinky Dinky - Cider, etc. for Oct. Meeting
50.00 Jim Kirkland - Oct. Program
12.13 Impressions Ink - '89 Show Flyers

Payment and approval:

\$ 48.83 Impressions Ink - 500 sheets & envelopes - club stationery.
6.81 Phyllis Parks - Printing expenses

Motion for approval by Shirley Rockel, 2nd by Vera Lyman. Carried.

OLD BUSINESS:

Christmas Party - Irving Rec Center

Pantry catering - menu not confirmed. Suggested @ \$ 6.50 per person (actual cost, \$ 6.07) Motion by Vera Lyman we set price @ \$ 6.50; 2nd by Phyllis Parks. Carried.

NEW BUSINESS:

Scholarship Recipients - presentation at Feb. Meeting

Marie Taylor to contact Dr. Treves for names of scholarship recipients. (If she wants something special planned, she should let Board know. ? of Norfolk Room.

Question of Projector repair.

Question of staying in NAOESCI.

Motion by Phyllis Parks to recommend to Club that we stay in NAOESCI. 2nd by Vera Lyman. Carried.

Those wishing Gem Palette should pay their \$ 2.00 for subscriptions by Jan. 1.

Motion by Vera Lyman to recommend to Club that we stay in MWF . 2nd by Phyllis Parks. Carried.

COMMITTEE REPORTS: January Swap - Don Phillips, Chairman

- Roger Pabian, Co-chairman ("Grand Marshall!")

Flyer out in Dec. Gem Palette and Jan. Pick & Shovel

Scottsbluff-Minden Room at NE Center

12 NOON to close of evening Meeting. Coffee & refreshments (Anniversary Cake)

Show Report: 7 dealers paid

Program: Nov. General Meeting: Fred Holbert - "Diamond Tools & Stuff"

Don Phillips - "1-Day Field Trips In Nebraska"

Roger requested permission to get some hand-outs printed.

Membership: As of Nov. 1 - 88 Adult, 16 Junior, 6 Life

BOARD MEETING: Monday, Dec. 5 at 7:30. Don Phillips suggested have it at ISCO Bldg. (where he works). Near West 'O' and Sun Valley Blvd.

Respectfully submitted,

Vera Lyman
Vera Lyman, Secretary

LINCOLN GEM & MINERAL CLUB, INC. - BOARD OF DIRECTORS - Dec. 5, 1988

ISCO Bldg. - West 'O' and Sun Valley Blvd. - Mon. Dec. 5, 1988, 7:30 P.M.

Minutes of the Nov. Meeting were read with motion for approval by Fred Holbert, 2nd by Phyllis Parks. Carried.

Treasurer's Report was read with motion for approval by Fred Holbert, 2nd by Jim Parks. Carried.

BILLS: Paid but need approval:

\$ 126.00 Lincoln Public Schools - Irving rec. Center (Christmas Party)
45.00 NE Center - Nov. Meeting Room
48.93 UNL Printing - Nov. P&S

Payment and approval:

\$ 27.06 Page Trophy - Rockhound of Year Award (Roger Pabian)
28.27 Page Trophy - President's Plaque
60.00 Postmaster - Pre-cancelled Stamp Permit
38.00 Postmaster - Post Office Box Rental

Motion for approval by Jim Parks, 2nd by Fred Holbert. Carried.

'89 BILLS: Payment and approval: (Must be paid by 1-1-89)

\$ 32.90 NAOESCI - Membership
96.00 MWF - Membership

Motion for approval by Fred Holbert, 2nd by Vera Lyman. Carried.

CHRISTMAS PARTY:

31 members and 2 guests attended. (50 were required)
Club must pick up 17 meal tickets.

NO OLD BUSINESS:

NEW BUSINESS:

New forms for 1989 presented for officers' signatures.

Phyllis Parks made motion that we retain monies at same Bank 2nd by Fred Holbert. Carried.

(NBC Certificate of Deposit #900419 - SS No. 47-6029795 Dec. 1, 1988 \$2,500.)

COMMITTEE REPORTS:

Show Committee: Jerry Moore - Ass't Show Chairman

Had meeting last week (Nov. 30)

12 dealers positive, 2 dealers pending; Special Features - some good ideas;
Touch & Feel Display; Sapphire Dig; Jrs. have quality materials;
Jerry Moore will transport any members with displays;
Application in next P & S for space for Show Display.

Additional members on Committee: Ribbons & Recog. - Lynn & Marie Wells

Programs - Lloyd Tanner

Saturday Night Dinner - Shirley Rockel

Swap Committee:

Flyers printed; sent to Kearney for Dec. Gem Palette. Sending publicity to radio, local dealers and clubs. Silent Auction in conjunction w/swap and also at evening meeting. (All transactions w/swapper bucks)

Proceeds from Silent Auctions for AFMS Scholarship Fund.

Proceeds from swap to defray costs and general treasury.

Roger will present program at evening meeting. 34th Anniversary Cake as finale.

ANNOUNCEMENTS: By Roger Pabian

Ken Huske will look at Club projector and check to see if he can repair.

Event at Pioneer Park - Sun. Feb. 19 (Carol Crosby)

Lapidary equipment, gem materials & displays needed. Demonstrations - Don P.-Fossil prep. Fred H.-"Stuff".

BOARD MEETING: Tues. Jan. 3, 1989 7:30 P.M. ISCO Bldg.

Respectfully submitted,

Vera Lyman

Vera Lyman, Secretary

LINCOLN GEM & MINERAL CLUB, INC. - GENERAL MEETING - SAT. NOV. 19, 1988

The November Meeting was held at the Nebraska Center. The meeting was called to order by President Schwartzman.

Minutes of the October Meeting were approved as printed with motion for approval by Tom Simmens, Seconded by Helena. Carried.

Phyllis Parks read the Treasurer's Report stating a balance of \$986.77. Fred Holbert moved we accept this report, seconded by Francis. Carried.

Phyllis announced that the Membership Chairman has NAOSI PINS to sell.

Hospitality chairman, Ed Ridge announced that 32 members and 4 juniors were present. Our Guest, Merna Smith, was introduced.

With no Old Business on the slate, President Schwartzman moved to New Business:

- . Membership in NAOSI is 35¢ per person per adult. Phyllis moved to approve our continued membership, Tom Simmons seconded. Carried.
- . Midwest Federation is \$1.00 with \$2.00 cover for juniors. Jerry Moore moved we continue membership, Dave Heffelbower seconded. Carried.
- . Nominations for officers was the next order of business. President Schwartzman called for nominations for President from the floor. Phyllis moved the nominations cease. Virginia seconded. Carried.
- . Tom moved we cast any elective ballot for the slate suspending the rules. John Harrison seconded. Carried.
- . Phyllis nominated Ed Ridge for the Nominating Committee. Billie Heffelbower seconded. Carried.
- . A correction on the Nominating Committee should be Bill Rockel instead of Claude Scott. Kevin Schwartzman will be the chairman.
- . Jan Wright nominated Roger Pabian to serve on the Nominating Committee. Dave Heffelbower seconded. Carried.
- . Virginia moved that the nominations cease. Paul Brock seconded. Carried.
- . With no other nominations, Phyllis moved these two members serve on the Nominating Committee for the next three years. Fred seconded. Carried.
- . Virginia moved that the ballots be destroyed. Shirley rockel seconded. Carried.

Committee Reports:

- . Jan: The Christmas Party will be held two weeks from the meeting date, or December 10, at Irving Recreation Center. The dinner will be catered by the Pantry with the menu including roast beef, potatoes, a vegetable, rolls, coffee and/or tea. Punch and cake will be served later compliments of Jan. Deadline for tickets is December 1. Post-cards will be mailed to those members not present at this meeting notifying all of the event. Anyone needing a ride should contact other members. All are willing to supply rides to members not wishing to drive or take a cab. There will be a gift exchange. Each gift should be marked for a man, woman or junior as is appropriate.
- . Roger will present a program of slides and slides will be shown of the Juniors doing lapidary work.
- . January Swap: Don stated that the Committee is meeting to make plans after the meeting this evening.

. Show Chairman: John stated that the Committee is working for us and this is our show. The Committee will be meeting later this month. We should begin putting our displays together now. There were only two displays from Lincoln at the Omaha show. We should be able to do better than this. We must go to other shows and display at other shows if we want other Clubs to visit and display at our show. We will be having at our show at Pershing for the next three years as the building has been confirmed for that period of time. There is a lot of advertising out. Fred has promised no snow, we hope, and everything seems to be progressing well. John is also asking for volunteers.

- . Committees are:
- Vera - desk and ticket sales
 - Jim and Kevin - displays and special features
 - Floor - Dave
 - Assistant Chairman - Jerry
 - Juniors - Jan
 - Ribbons - Marie and Lynn
 - Dealers - Jim Parks Jim states that 8 dealers are coming with 6 more wanting to come.
 - Publicity and Advertising - Roger Roger stated that he needs information from the various committees.
 - Still needed is a program chairman

Announcements:

- . Our next meeting will be held at the ISCO Building.
- . A dinner for the Friends of the Museum will be held the same evening as our Christmas Party. The program there will be given by Dr. Voorheese.
- . Phyllis is taking our dues, money for the Gem Palate and for our Christmas Party.

With no further business, President Schwartman turned the meeting over to Don who spoke on one-day trips. Fred demonstrated how to make tools for specialized gem cutting.

LGMC Treasurer's Report for Nov. 1988
 Checking Balance 11-1-88 \$ 986.77

Money Received:

'89 Prepaid Member Dues	131.00	
'89 Gem Palette Subs-Susp.	20.00	
'88 Members Christmas din.-Susp.	93.75	
Pick & Shovel Sub.'89 Prepaid.	5.00	
'89 Show Dealer space Fees	<u>1250.00</u>	1499.75

Payments:

Club Stationery	48.83	
Nov. Meeting Room	45.00	
Printing Nov. Pick & Shovel	48.93	
Christmas Dinner Site Rental	126.00	
Misc. Copies & Exp.	<u>6.81</u>	275.57
Invest in 3 Month Cert. Dep @ 7.85%		2000.00

NBC Checking Account Balance Nov. 30, 1988

\$ 210.95 Report for December 1988

Shirley Rockel,
Acting Secretary

Checking Balance 11/30/88 \$ 210.95

Money Received -

'89 Membership Dues	70.00	
'89 Gem Palette Subs	10.00	
Susp. Member Christmas Dinners	<u>100.00</u>	180.00
Trans. from NBC Money Mkt. Acct.		200.00
Trans. from First Fed. MM Acct.		150.00

Payments-

Bethany Catering Christmas Dinners	303.31	(Susp. Member Dinners 193.75)
Christmas Decorations	51.01	
Page Trophy - 2 awards	55.33	
Postmaster - Bulk mail permit	60.00	
Postmaster - Annual Box Rental	39.00	
Nebr. Assn. - Gem Palette Subs/Susp.	30.00	
Nebr. Assn. Earth Sci. Clubs - Dues	32.90	
Midwest Federation Dues	<u>96.00</u>	667.55

NBC Checking Account Balance December 31, 1988 \$ 73.40

ROSE QUARTZ--STAR QUARTZ

By Bill White

I am surprised that more lapidary enthusiasts have not worked with star quartz, this phenomenon being most frequently observed in rose quartz. This makes star rose quartz more plentiful and more affordable than any other star stone. I suspect that a lot of people are frightened off because they lack the instruments and the technical training that is so helpful in locating the optic or C axis of the quartz crystal, and, hence, locating and properly orienting the stone to produce the desired star.

Asterism (stars) in quartz is usually caused by needles of rutile that are oriented in three separate planes that are **perpendicular** to the three **A axes** of the quartz crystal. This is often called **silk** in the gem trade. The silk in star quartz is usually not nearly as noticeable as that seen in star ruby or star sapphire, and, hence, stars in quartz are usually less distinct.

You can be successful in cutting and polishing nice star quartz stones by training yourself. It is fascinating to observe the star or legs come into view each time you cut a star stone. The first step is to search for good pieces of rose quartz that are as free of flaws as possible. Stay away from stones that are deeply turbid or stones that are opaque. Highly translucent to nearly transparent stones usually provide the best stars. Much of the material offered for sale at gem and mineral shows a high percentage of potential star stones.

Once you have obtained a few pieces of rose quartz, you will observe that it comes in every imaginable shape. Find a piece of quartz on which you can easily grind and polish a **curved surface**, or a **window** that allows you to see within the stone. Sometimes it is helpful to polish another window opposite the first so that light can easily be transmitted through the stone.

After you have polished the window(s), take the stone into a **darkened room**, and using a small, hand-held, fairly high-intensity light, reflect the beam from the light onto the rounded, polished surface. If the stone is **asteriated** (has a star) you will see some part of the star.

If you see **crossing rays** or **legs** of the star, adjust them to where their junctions are in a straight line to your line of vision and the light source. The base of the stone will be cut **horizontal** or **parallel** to the plane that is normal or tangent the junction of the legs forming the star at the apex of the stone. In other words, the base of the stone will be **perpendicular** to the C axis of the crystal. It is important that the star is centered and that its legs are opening equally as they move down the curvature of the stone before the base of the stone is cut. You can use either reflected or transmitted light to check this out, whatever works best for you.

If you see only one single leg on the polished face, the polished surface is approximately **parallel** to the C axis of the crystal and an eye with a tiny star at each end will appear. In this case, re-orient the stone as shown above to get a star. Make your best effort to find the star with as few as grindings as possible as each grinding severely reduces the weight of the finished stone.

After you have worked a dozen or so star quartz stones, you will have experienced some strange and unique phenomena; I hesitate to offer firm reasons for these but offer several possible explanations. **Multiple legs** (more than six) indicate that the stone may have been cut from a twinned crystal. A well centered but small star with "pinched-up" legs that tend to disappear as you go downward from the apex of the stone probably indicates that the dome is too high. If the legs of the star are well-centered but appear broad and washed out, the dome of the stone is probably too low. "O" rings floating in a stone suggest that the crystal may be self-polarizing. The latter phenomenon is rather common.

A star stone cut but a few degrees off center will show a star whose legs appear to be in total disarray. Stones cut at oblique angles to the C axis will show such things as **multiple stars** where there is more than one light source. None of these stars will be nearly as attractive as a single, well-centered star.

One of the more common things that you will observe is stars with twelve or more rays. There are high-quality, 12-ray star quartzes that have been cut from properly oriented, twinned crystals. A jumble of ill-defined, small crystals may produce a jumble of ill-defined, multi-rayed stars, but, rarely, a high quality stone.

A 12-ray star may appear when you are observing a 6-ray star. One star is produced by transmitted light and the other from reflected light, the two beams making each leg appear doubled. This is what I call the **ghosting effect**.

To fully appreciate star quartz, most stones must be backed with some highly reflective but opaque material after they have been polished. Mirrors work well but sometimes the reflected light can be too intense. Normally, agate, jasper, chrysoprase, jade, etc. will absorb too much of the light that enters the stone and dull the star. Elemental silicon, a manufactured product, has a somewhat metallic luster when it is polished. It is fairly strong and can be cut into thin slices, and it reflects most of the light back out through the star stone, producing a highly desired effect. Although star stones can be cut in tear-drops, marquises, ovals, and other forms, I prefer round stones for showing the beauty of the star.

A polariscope is very useful when working with star quartz, and one can be easily built and it is not difficult to learn to use. It can pay big dividends on star quartz and just about any other star stone except garnet. The above method, however, makes the polariscope unnecessary to cut a star stone.

NEW MUSEUM TRAVELING EXHIBIT

The *Capital Times* reported in a news item, December 21, 1988, and submitted by Phyllis Parks, that the traveling fossil exhibit is now available for public display.

The exhibit was organized by paleontologists Mike Voorhies and Roger Pabian and paleobotanist, Margaret Bolick. The display was built by David Junod and R. J. Timmerman. The display contains 77 specimens of fossil plants and animals that once lived in Nebraska. The display is appropriately called "Nebraska's Fossil Treasures."

The above display will be at our show. ---RKP

SHOW REPORT

Show chairman, **John Harrison**, reports that show plans are continuing on schedule. Many interesting displays, events, and programs are on tap for the big event scheduled for March 18 and 19 at Pershing Auditorium.

As we go to press, dealer chairman, **Jim Parks**, reports that 11 dealer contracts have been completed and three contracts are outstanding. Those dealers signed for the show are the following:

L & R Lapidary, Janesville, MN
Westside Agate, Ames, IA
Simon Lapidary, Lincoln, NE
Lentz Lapidary, Mulvane, KS
Wisconsin Gems, Owen, WI
Custom Gems, Omaha, NE
Rusty's Rock Shop, Decatur, IL
The Caprock, Rock Island, IL
Honeycutt Gems and Jewelry, Fairfield, IA
Johnson Agate Co., Mankato, MN
Schooler's Minerals and Fossils, Blue Springs, MO

A completed dealer list will be published as soon as it is available.

Demonstrators at the show will include some different things as well as some old standards. Demonstrators include the following:

Francis Belohlavy, faceting,
Dave Heffelbower, lapidary, cabochons,
Roger Pabian, cup machine and lapidary specialties,
Henry Hohnholt, glass and agate pictures

A number of special displays are being readied for the show. Included are the following:

Tom Simmons, touch and feel,
Shirley Johnson, jewelry and metal craft.

Hands on activities will again be an important part of the show and these will include:

Jerry Moore, sapphire dig, and
Don Phillips, fossils.

Several interesting programs including one by **Frank Marsh** will be presented. A complete program list will be published as soon as it is available.

The junior club will have for sale chalcedony roses from the Toadstool Park area near Crawford, in Dawes and Sioux Counties, and many back issues of gem and mineral magazine such as Lapidary Journal.

As usual, the show committee will be looking for many displays from the membership at large.

PROGRAM NOTE

The January program will be somewhat different than many of the agate programs that I have presented before. There will be the usual amount of fine colored slides of fine agate specimens from the whole world. Much of the program will deal with what questions we need to ask to be able to add additional knowledge to the subject of the origins and natural history of agates. **Chaos**, a relatively new science may contain many of the answers that are needed to complete the picture.

An excellent popular account of Chaos appears in the book of the same title by James Gleick, science editor of the New York Times. This book is now available in a low cost paper back edition and it has been advertised locally by several book dealers.

Also, on Tuesday, January 31, on **NOVA** on Nebraska Public Television, at 7:00 P.M., a program called "The Strange New Science of Chaos" will be broadcast. The program schedule in Choice magazine describes the program as..."...explains a new field of study that is making surprising sense out of chaotic phenomena in nature."

Roger Pabian

and **SOME STRANGE NEW FISH FOSSILS FROM NEBRASKA**

While looking at some acetic acid digested residue of a calcareous sandstone of Permian age that was collected in Nemaha County, Jim Kirkland, who presented the October program on dinosaurs, brought to my attention teeth of some fossil lung fish (dipnoans). This is the first known occurrence of the fossils in Nebraska. Dipnoans still exist in Australia and Africa.

Jim has also located some teeth and other pieces of hybodont sharks from some of the Cretaceous rocks in south central Nebraska. According to Jim, the hybodont sharks were "living fossils" in the Cretaceous. They are now extinct.

Roger Pabian

and **A TESTED LAPIDARY SHOP TIP**

Extender fluids used for polishing rocks with diamond compound are expensive and may cause some irritation to those people with sensitive skin. About a year ago, Bill White brought to my attention a low-cost, non-toxic, and non-irritating extender fluid. It is available in drug and grocery stores and is called **baby oil**.

When using baby oil and diamond compound with soft brass rods or wheels to grind various special cuts, the hands will turn black from the metal shavings. Strangely, the hands will wash amazingly clean with just soap and water, and I have even done close-up magic shows shortly after having worked with baby oil and diamond on brass. The hands are super soft afterwards. "Try it, you'll like it!"

Roger Pabian

LGMC JUNIORS

Get ready for the Mid-winter Swap! There will be rock and mineral specimens for you to buy or trade for. If you have any specimens to swap be sure to bring them. We will also have an indoor field trip for the youth and interested adult members. This year we will be visiting Tom Simmons' home and see his collection which includes a blacklight display. Depending on the number of young people going we will also need some volunteer drivers. We will gather at the Junior Table at 1:30 PM to begin the trip and plan to be back in about an hour. If you have been taking lapidary classes this may be a great time to find correct findings (jewelry settings) for the rocks you've cut. We will not have an evening meeting since we're having the field trip. You are invited to stay for the evening program of course. We will be talking about your displays for the Gem and Mineral Show coming up in March. Be prepared to tell me what you are going to display.

HOPE TO SEE YOU AT THE SWAP!!!!

Junior Chairman J.L.Wright

Point of interest:

This last fall I took a quick weekend trip to Madison Wisconsin in September to participate in an American Geological Institute workshop. Our main objective was to set up some guidelines for teaching Earth Science in the Twenty-First Century.

The Association for Women Geoscientists was kind enough to fund my trip and I represented them at the workshop. The results of these regional workshops are still being formulated but I do have the summary of the Wisconsin meeting to share with anyone who is interested.

Jan Wright



Lincoln Gem and Mineral Club, Inc.

P. O. Box 5342

Lincoln, Nebraska 68605

PROUDLY PRESENTS ITS' ANNUAL MID-WINTER

```

*****      *           *           *****      *****
*           *           *           *           *           *
*           *           *           *           *           *
*           *           *           *           *           *
*****      *           *           *****      *****
*           *           *           *           *           *
*           *           *           *           *           *
*           *           *           *           *           *
*           *           *           *           *           *
*           *           *           *           *           *
*****      *           *           *****      *****

```

Saturday, January 28, 1989
 NEBRASKA CENTER FOR CONTINUING EDUCATION
 33RD AND HOLDREGE STREETS
 1:00PM----6:00PM

BUY-----SELL-----TRADE

----SWAPPERS DOLLARS----

AGATES-----GEMS-----JEWELRY

----FREE COFFEE----

SILENT AUCTIONS

The swap will be followed by the regular monthly meeting of the Lincoln Gem and Mineral Club at 7:30PM, at the swap site. The Junior Club will meet at 7:00PM; all are invited to either or both of the above meetings. The meeting will be followed by an entertaining and educational program.

PATRONIZE YOUR ADVERTISING DEALERS

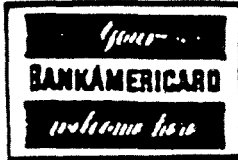
MEXICAN MINERALS - SLABS - TUMBLER STONES

Everett Lapidary Shop

THE CAPITOL CITY'S FIRST ROCK SHOP

2941 North 65th

PHONE 466-6204



AUTHORIZED DEALER FOR ALL LAPIDARY EQUIPMENT

"Satisfied Customers Are Our Best Advertisement"

J J & L ROCKS & MINERALS

"Supplies for the novice to the discriminating Rock Hound"

(402) 792-2337

Shop at 330 Locust, Hickman, Ne.

Mail order & Free Catalog, Box 68, Hickman, Ne. 68372

Jim Marburger

John Harrison

CUSTOM CUTTING
FOSSILS

ROUGH
MINERALS
SPECIMENS

CABACHONS
FINDINGS
SLABS

FINISHED JEWELRY
SUPPLIES

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 \$15.00 per full page per insertion, paid in advance. 1/2 page \$7.50, 1/3 page \$5.00 1/4 page \$3.75 (min). These ads will be placed throughout the bulletin as space permits.

Subscriptions to THE PICK & SHOVEL are \$5.00 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.



h.e.l.p.

HELP ELIMINATE LITTER PLEASE!

MAIL ALL EXCHANGE BULLETINS TO:

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



Edward Ridge
2507 A st.
Lincoln NE 68502