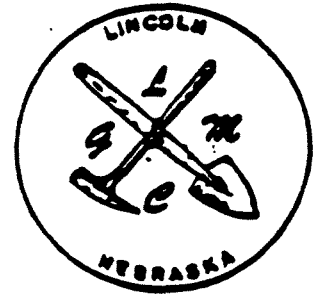


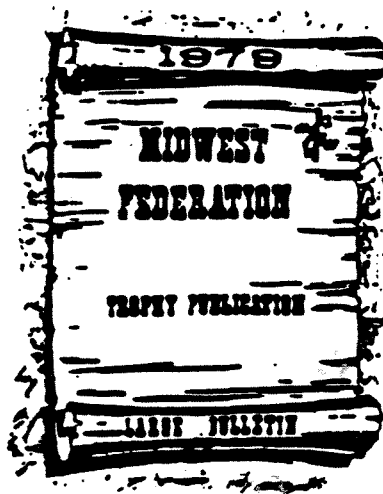
# THE PICK & SHOVEL



APRIL  
1988

In this issue . . .

Thanks from a "JR"  
Special Note from "Friends"  
EXCHANGES  
THE CRATERS OF THE MOON  
NATIONAL MONUMENT



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 Science (NAS) (Life Membership)  
Friends of the Museum

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

1988 ELECTED OFFICERS:

President.....	Kevin Schwartman	1134 West Avon Ln Lincoln, 68505	464-3059
1st Vice Pres....	Fred Holbert	2822 S. 13th St. Lincoln, 68502	423-5639
2nd Vice Pres....	Jim 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.....	Dave Heffelbower	1819 Washington Lincoln, 68502	475-4713
Board Member.....	Gerald Moore	2305 S. 35th St. Lincoln, 68506	489-4184
Board Member.....	Shirley Rockel	1134 West Avon Ln Lincoln, 68505	464-3059
Board Member.....	Tom Simmons	2970 South St. Lincoln, 68502	488-1619

NOMINATING COMMITTEE -- 3 years: Phyllis Parks, Janet Wright  
2 years: Dave Heffelbower, Wm. Rockel  
1 year: Irl Everett, Claude Scott  
Linda Parks, Chairperson

LONGE RANGE PLANNING AND BY-LAWS COMMITTEE:

1 year - Jim Taylor, Irl Everett      3 years - Bob Wright, Linda Parks  
2 years - Claude Scott, Phyllis Parks      Linda Parks, Chairperson

STANDING COMMITTEE CHAIRPEOPLE:

Calling.....	Phyllis Parks	Membership.....	Shirley Rockel
Education.....	Roger Pabian	MWF Liaison.....	Marie Taylor
Field Trips.....		Programs.....	Roger Pabian
Historian.....	John & Lillie Lewis	Scholarships.....	Marie Taylor
Hospitality.....	Ed Ridge	Xmas Party.....	Janet Wright
Housing/Property....	Jim Parks	1988 Rockhound/Yr....	Ed Ridge
Jr. Activities.....	Janet Wright	1988 Annual Show....	Roger Pabian
Librarian.....	Jim Parks	1989 Annual Show....	

AUDITING COMMITTEE 1986-1987.....Lois Hunt, Bruce Simon  
Shirley Rockel, Chairperson  
Phyllis Parks, Treasurer

PICK & SHOVEL STAFF:

Editors.....Board of Directors  
Co-ordinator...Vera Lyman, 420 N. 56 St. Lincoln, NE 68504 (NAOESCI Reporter)  
Circulation....Dave & Wilma Heffelbower  
Rays of Sunshine....Wilma Heffelbower  
Reporters....."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.

# CALENDAR

APRIL

S	M	T	W	T	F	S
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



REGULAR MEETING: April 23, 7:30 P.M.  
Nebraska Center, Beatrice Room

PROGRAM: Museum Radio Talk Show, June 1, 1933, AGATES  
Narrated by Billie Heffelbower

JUNIORS: 7:00 PM

MAY BOARD:

MAY MEETING: Saturday, May 21, 7:30 P.M.  
Bethany Park Shelter, Cotner & Vine

Annual Dessert Supper-Bring your treats!  
Coffee & Tea will be provided.

MAY PROGRAM: Members get to 'Hunt for Sapphires' so bring  
your best 'eyes'.



MAY

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				

\* \* \* \* \*

## SHOWS & SWAPS FOR YOUR NEW CALENDAR

- APR. 22-24 SHOW Wichita,,Kansas, Cessna Activities Center
- APR. 23-24 SHOW Hastings, Nebr., Adams County Fairgrounds
- MAY 14-15 SHOW-SWAP Hutchinson, Kansas
- MAY 20-22 SWAP Ellinwood, Kansas
- JUNE 18-19 SWAP Beatrice, Nebr., Chautauqua Park
- SEP. 10-11 SWAP Kearney, Nebraska, Fort Kearney Rock Club
- OCT. 8-9 STATE SHOW Omaha, Nebr., Nebraska Mineral & Gen Club, Host
- OCT. 15-16 SHOW Grand Island, Nebr., Fonner Park

## Regional Show Schedule 1988 and 1989

1988 and 1989 dates and locations for Regional Shows and Conventions. The combined American/South Central Show and Convention for 1988 will be held in Shreveport, LA In 1989 the American/Northwest Show and Convention will be in Portland, OR.

1988:

CALIFORNIA	EASTERN	MIDWEST	NORTHWEST	ROCKY MOUNTAIN	SOUTH CENTRAL
Costa Mesa, CA Aug. 26-28	Warwick, RI Oct. 28-30	Macomb, IL July 14-17	Kennewick, WA Sept. 9-11	Bismark, ND June 17-19	Shreveport, LA Aug. 11-14

1989

Del Mar, CA May 12-14			Portland, OR June 8-11	Stillwater, OK July 14-16	Arlington, TX June
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WELCOME NEW MEMBERS: Dwight & Dorothy Miller  
5852 Enterprise Drive 68521  
467-6285

ADD  
THESE NAMES  
TO YOUR  
WHO'S WHO

We are happy to announce reinstatement of these former Members:

- John Abel, 2829 Van Dorn, 68502
- Robert Fixter, 1805 Sumner, 68502, 476-1885
- Ralph & Rosa Lee Ulrich, 1213 West Malibou Dr., Tempe, AZ 85282
- Ollie Wittmann, 3415 East Pershing Rd., 68502, 423-4100

PRESIDENT'S MESSAGE

Hello again,

Our 1988 show is over and by the look of things it was a very successful show! We had over 1,913 visitors and thirteen happy dealers. We also collected the names of several people who are interested in joining the club.

Even with the success of our show, I was disappointed with the lack of displays by our own club members. We have over 80 members in this club. If we could get just one display from each member or each family, we would have a very impressive show. I believe we could try harder next year and make the show an even bigger success.

See you April 23

Kevin J. Schwartman

\* \* \* \* \*

A young lady requested help from the Junior and Adult members earlier last year for some donations of rocks, etc, for a school project. Following is her special Thank You.

Dear Lincoln Gem & Mineral Club,  
Thank you so much for all of my rocks!!  
I will enjoy using them for my project for the school Science Fair. They will work good for my project on Erosion of Rocks!  
Thanks again!!

From,  
Katie Woodburn

\* \* \* \* \*

A special note from friends "down south"!

Tempe, AZ.  
Mar. 3, 1988

Dear Mrs. Parks;  
I'm embarrassed! We just received the Pick and Shovel this morning and was reminded that I had neglected to send in the dues for 1988. We certainly look forward to reading the P & S each month and would not want to let it run out! Also we still consider the LG&MC as our home club. We do some hunting here in Arizona and I am still cutting Gemstones.

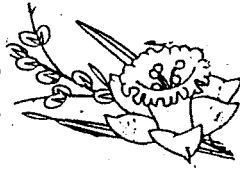
Please accept my apology for this oversight.

Sincerely  
Ralph & Rosa Lee Ulrich

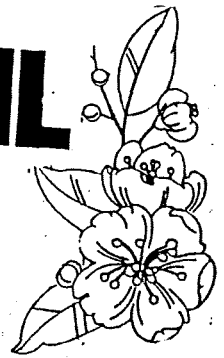


# APRIL

Sunshine



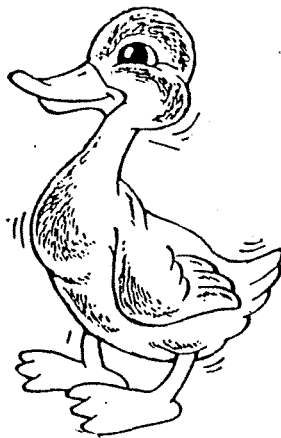
Canary



The good news is,  
Helena Baragi  
is home from the  
hospital

It was good to see  
Jim Taylor at the Show

Lots of  
quests  
made the  
March meet-  
ing fun, fun  
fun.



Congrats and thanks  
to Roger Pabian,  
1988 Show Chairman,  
also to the ladies  
and gents of the  
LGMC, who put off  
putting on the Ritz  
to help put on  
the show. You gave  
it a real 'Touch of Class'



May the miracle  
of spring, bring  
Joy to your day

Billie  
Sambreen

AUCTION

May 28, 1988 - Saturday  
1½ Miles west of Cozad, Nebraska  
Rock Collection of Ross Laird

25 years of collecting rocks;  
Saws Tumblers, gringers, jewelry supplies

For information, call or write: John Laird RT#2, Box 213  
Cozad, NE 69130 308-784-2436

\* \* \* \* \*

EXCHANGES:

WIT AND WISDOM:

There are usually two sides to every argument but no end.  
The difference between promising ideas and productive results is a good manager.  
Tact is changing the subject without changing your mind.

Via 6/86 THE CALGARY LAPIDARY JOURNAL/Gem City Rock News

"In both the Austrian and Bavarian Alps, I learned something else - they are beautiful beyond description AND full of trails, inns, lifts, roads, and people enjoying them. In short - the exact opposite of what the Sierra Club would have us believe is required for beauty. We took a taxi from the valley to Ascham Inn at 6000 feet, sat on the terrace while eating, and looked 6-8 km up the valley at the glaciers and mountain tips. In the US, we'd never have gotten there (6 km hike up about 5000 feet), there'd have been no inn there, and the hundreds of people hiking up and down the valley on the trail would have been excluded - many were too old, too young, or too handicapped to backpack in as the US purists would require. Shows the Europeans are still far more civilized than we are - they think beauty is for everyone to enjoy."

Words of Mr. Mel Albright, Editor Osage Hills Gems, Bartlesville,OK

I tried to build a marble house - but - they kept rolling away.  
via Osage Hills Gems

MUDDERHOOD..... A mother was asked why she let her small child play in the mud. "Because", she replied, "it's easy to find; it doesn't hurt him, and it doesn't need batteries".  
Mary Rubnick in The Rockpicker 10 /87

If you are lacking tumble pellets for your final polish, try using a package or two of rubber bands available at any store. They work well and can be reused.  
via Color Country Chips & T-Town Rockhound

Chip: "What's a computer's first sign of age?"  
Tron: "I don't know, what?"  
Chip: "Loss of memory."

A man knows his wife can be trusted if she serves him the pancakes burned side up.

To compare is not to prove.

these 3 from The Rockpicker

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

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

8 Board members present. Tom Simmons absent.

Minutes of the Feb. Meeting were read. Motion for approval by Dave Heffelbower; 2nd by Fred Holbert. Carried.

Treasurers report approved with motion by Fred Holbert, 2nd by Gerald Moore. Carried.

CLUB BILLS: Paid but need approval:

\$ 4.00 NAOESCI - Gem Palette subscriptions  
12.00 NAOESCI - Pins  
62.50 Postmaster - 500 pre-canceled stamps  
25.00 City Parks/Rec - Shelter House for May Meeting  
124.99 NE Center - Jan. Meeting Rms (50.) coffee & Projector

SHOW BILLS: Paid but need approval:

\$ 30.00 French Bar Mine (Sapphire Concentrate for Show)  
8.32 Accent Printing

Payment & approval:

8.76 Vera Lyman - Postage & copies (Publicity)

CLUB BILLS: Payment & approval:

\$ 19.56 Vera Lyman - Who's Who (8.97) Copies, Mins. (6.37) P&S Misc Copies (4.18)  
- Stamps (8.80) (all for approx 6 mos)  
55.22 UNL Printing - Feb. P&S  
15.97 Phyllis Parks - Misc Copies, Memb Lists, etc.

Motion for approval by Fred Holbert, 2nd by Gerald Moore. Carried.

SHOW BILLS: Payment & approval:

\$ 1.27 Phyllis Parks - Copies of '88 Complimentary Tickets  
250.00 Alexander & Alexander (Ins. Binder for '88 Show)

Motion for approval by Gerald Moore, 2nd by Jim Parks. Carried.

OLD BUSINESS:

Motion by Phyllis Parks to accept \$ 4.00 from Dan Mount for Subscription to P & S. 2nd by Vera Lyman (since that was the amount quoted in P & S) Carried.

NEW BUSINESS: Club Financial Status

Total membership as of 3-7-88: 74 Adult, 10 Jr., 6 Life, 1 Honorary

Phyllis Parks: Must quit spending so much of our savings.

Question of storage; membership rate & subscription rate being same.

Dave Heffelbower given permission to purchase rings for 34th Anniversary Cake, Jan. '89

SHOW COMMITTEE REPORT: By Fred Holbert

Parking for dealers with rigs at Moorehead Dodge. Floor sketch made. 60-70 reservations for dinner. Roger on Morning Show (10-11 TV) March 15th. Kevin presented list of Programs.

MEMBERSHIP:

Jim Garver & son, Ben attended required meeting  
Dave & June Bilyeu

J. Rock Johnson - attended meeting & paid

Motion by Phyllis Parks to accept, 2nd by Dave Heffelbower. Carried.

Re-instatement: Ron McColery & Lloyd Tanner

Motion by Fred Holbert, 2nd by Gerald Moore. Carried.

Meeting adjourned;

Respectfully submitted,

*Vera Lyman*  
Vera Lyman, Secretary

LINCOLN GEM & MINERAL CLUB ,INC. - GENERAL MEETING - March 26, 1988 7:30 P.M.

NE Center - Beatrice Room - 7:30 P.M.

Minutes of the Feb. Meeting approved as printed with motion by Phyllis Parks, 2nd by Adeline Nolde. Carried.

Treasurer's report approved as printed with motion by Dave Heffelbower, 2nd by Janet Wright. Motion Carried.

HOSPITALITY REPORT: 8 guests, 18 Adults, 2 Jrs. 3 Jr. guests.

NO OLD OR NEW BUSINESS.

SHOW REPORT: By Roger Pabian

Ticket sales = 1,913 Gate Receipts = \$ 3,202.50

Digs netted as follows: Fossil = \$20.15 Sapphire = \$82.65 Gold = \$44.82

Jrs. realized receipts of \$98.20 (not considered part of Show Income)

Dealers all happy; good crowd; thanked people who helped; digs very popular at Show; Demos well received; disappointed with club members who paid & did not exhibit.

Next year hopefully more cooperation with exhibitors. Recommend highly that we go back to Pershing next year. Prospector served excellent Sat. night banquet.

Show will possibly turn \$ 2000. profit.

Phyllis Parks - Say a special thanks to Roger for a great Show. However, Roger re-interested he had a great Committee to work with.

ANNOUNCEMENTS:

Roger: Field trip planned for April 16th(thru NAS) to Pawnee & Richardson Counties. Meet on north side of Nebraska Hall at 7:30 A.M. Return at approx 6-6:30 P.M.

Janet W.: Received a 'thank you' from young lady doing Science project whom she had mailed some donated materials. (Copy of same in Jr. news)

Adeline N.: Reported that Helena Baegl had a pacemaker put in. Doing fine and possibly going home Monday.

PROGRAM: Roger Pabian ("Shaping Stones")

It was interesting, informative, outstanding! (And I don't even cut & polish)

An excellent program to present at a Show, and even again at a Club Meeting. THANKS, Roger.

Respectfully submitted,

*Vera Lyman*  
Vera Lyman, Secretary

LGMC Treasurer's Report for March 1988

NBC Checking 2/29/88 \$ 189.36

Receipts:	Transfer from First Fed. MM acct. to NBC Checking	250.00	
	1988 Membership Dues & Reinstatements	47.00	
	Club pins	3.00	
	Suspense for member dinners at show	217.50	
	Junior member acties at show	98.20	
	Show income during March	4980.85	5346.55

Payments:	Misc. copies, financial reports, Who's Who,		
	Postage for necessary mailings-	44.29	
	Pick & Shovel printing Feb., March	125.33	
	Precancelled stamps P & S mailing	62.50	
	UNL Center Feb. Meeting & Refreshments	101.78	
	Show set-up refreshments	31.35	
	Storage rent for next 6 months	180.00	
	UNL Scholarship Foundation Deposit '89	300.00	
	Show expenses paid March	3594.50	4439.75
	Transfer to NBC Money Mkt. at interest		1000.00

National Bank of Commerce Checking 3-31-88 346.16

## SHOW REPORT

Many thanks to the show committee members who helped make our 1988 event an outstanding success. The dealers, the hand's on activities, the demonstrators, junior activities, and other show areas were well staffed by dedicated committee members.

Although the displays were excellent, I was disappointed in the lack of club participation in this area. Only 15 of some 80 club members provided cases. I hope the 1989 committee receives more support here.

The parking problems at the auditorium were far outweighed by the increased attendance and the professional attitude and courtesy of the auditorium staff. The result was a very good net gain as shown by the financial statement below.

Roger K. Pabian  
Chairman, 1988

### LGMC Treasurer's Report for 1988 Show - as of 3-31-88

Receipts:	Retail Dealers	13 @ 225.00	2925.00	
	Paid Demonstrators	2 @ 25.00	50.00	
	Paid Tickets	2 days (1913)	3202.50	
	Receipts from Fossil Dig		20.15	
	Receipts Sapphire Dig		175.85	
	Gold Panning activity		182.35	6555.85
Expenses:	Rental Pershing 2 day show		1800.00	
	(includes all chairs, tables)			
	Adv. & Promotion		819.13	
	Floor expenses-table cover	92.76		
	parking	96.00		
	Security	240.00		
	Insurance	250.00		
	Misc.	6.89	685.65	
	Recognitions		142.76	
	Hand out Programs		176.71	
	Sat. eve Dinner Guests net		219.30	
	Speakers for Programs		125.00	
	5.5% Sales Tax on Gate less 3%		170.88	
	Expenses on Sapphire Dig		93.20	
	Expenses on Gold Panning		137.53	4389.29

Net Gain on Show

\$ 2,166.56

This report final if no expenses are outstanding.

## THE CRATERS OF THE MOON NATIONAL MONUMENT

The Craters of the Moon National Monument, about 18 miles southwest of Arco, Idaho, has to be one of the weirdest natural phenomena in the world. The National Monument itself is an area of 83 square miles of basaltic lava set in hundreds of square miles of lava wasteland ranging on either side of the Great Rift Zone to the Snake River. The Great Rift Zone is a weakness in the earth's crust that can be traced more than 60 miles across the Snake River Plain. Volcanic eruptions in the last 2,000 years mark most of its length.

Before I first saw it with Gilbert last fall, it was impossible to anticipate the impact of all these hundreds of square miles of lava--ropy surfaces, wildly sharp surfaces, craters, cinder cones, spatter cones, tree molds--but none of the traditional volcanoes one might expect from having seen Hawaii or the Cascades. To quote one Craters of the Moon park service guide, "First impressions are misleading; one needs a little time to explore this landscape, variously described as weird, barren, exciting, awe-inspiring, monotonous, astonishing, curious, bleak, colorful, and mysterious." Actually, all these adjectives fit.

Basaltic lava is a dark-colored lava with a composition largely of calcium and sodium, as opposed to the lighter-colored lavas rich in silica. Basaltic lava flows more rapidly and covers more ground before it solidifies than a lighter-colored lava would.

All three types of lava flows are present at Craters of the Moon: pahoehoe, the ropy kind; aa, with a rough and jagged appearance; and the blocky lava, which is made up of large, smooth-sided, slightly glassy boulders which differ from the other two. Because basaltic lava frequently contains much gas, the dark, heavy rock is often honeycombed with small cavities, or vesicles, left as the rock solidified. In places the iron content of the basalt has "rusted" and there are hills of orange-red and purple-red cinders. On some of the lava flows in the park, such as the Blue Dragon Flow, a thin glassy film gives the rock surface a beautiful cobalt blue color, unusual among lava flows.

Naturally, one of the most pressing questions is how and when did all this come about. One likely theory holds that the lava of the Snake River Plain has risen from the earth's upper mantle to penetrate the earth's crust and cool upon its surface. As the earth's crust slowly (over a period of millions of years) drifted toward the west, a great upwelling from the mantle, called a mantle plume, would be passed over, heating the rock to around 2,000<sup>o</sup> F. Increasingly younger flows would form eastward. Possibly Yellowstone may be a part of this same system.

There seems to have been three separate epochs of lava activity in Craters of the Moon, the most recent having been about 2,000 years ago, around the time of the birth of Christ. Geologists have collected carbonized roots of plants buried by the lava and have dated them by the Carbon-14 method. Counting the annual growth rings in an ancient limber pine has given an age of 1,650 years since these trees colonized the lava flows.

Craters of the Moon is obviously a barren, inhospitable place. It is not surprising that the Apollo astronauts came here for training in

geology and map reading before their historic flights to the moon. However, life here does go on as the result of remarkable adaptations by plants and animals. About 300 species of plants live here. Fissures and crevices in the lava trap blown dust. The scant 17 inches of annual moisture, falling mostly as winter snow and late spring rains, sinks quickly into the porous lava. Seeds are blown in or carried by birds.

Plants may evade the burning hot dry season by springing to life, growing, blossoming, producing seed, and dying back in the few weeks of a little moisture and moderate temperatures. Or, like the dwarf buckwheat, those little white blossoms that dot the lava in amazingly regularly spaced ranks, they may tap water deep underground while exposing only a minimal growth above. A dwarf buckwheat plant only two inches tall may have a slender taproot four feet long.

Trees are limited to the limber pine, which grows largely on the north side of cinder cones and so is sheltered from the prevailing winds; and a few stands of Douglas fir and quaking aspen, also on the leeward side in slightly more moist pockets. The limber pine is the best adapted because it has fewer stomates (openings through which water can be lost) than other pines have. Here and there, like stark, bleached bones against the black "moonscape" are the skeletons of limber pines that have given up the struggle. One of the favorites, now dead but not yet bleached, is the Triple Twist Tree, so often photographed. The bitterbrush and rabbit brush shrubs, which can withstand harsher environments than the trees, are vital in support of the surprisingly abundant animal life.

A fine Visitor Center contains exhibits that explain the geology, plant and animal life, and history of this National Monument. The Center is open year round, except holidays, but the seven-mile loop drive, which takes visitors past the more important and accessible features, closes from mid-November until late April. Despite the rough and jagged lava everywhere, the drive is easy and the walking paths are comfortable. Among the more unusual experiences are the lava tubes, where the hot interior lava has continued to flow after the surface has cooled, leaving the interior empty; the ice caves, where the basalt lava walls insulate so well that water remains frozen all year long, and the Indian Tunnel, where stone windbreaks were constructed so long ago that their history is lost in antiquity.

These vast lava beds were described in the diary of U.S. Army Captain B.L.E. Bonneville, who had explored the region in the early 1800's. In the 1830's Washington Irving wrote The Adventures of Captain Bonneville, describing the region as "an area of about 60 miles in diameter, where nothing meets the eye but desolate and awful waste, where no grass grows nor water runs, and where nothing is to be seen but lava." But the place does have its own beauty; and, fortunately, in 1924 Craters of the Moon National Monument was established by proclamation of President Calvin Coolidge. In 1965 much of the park was designated a wilderness area, to be kept free and undeveloped. This, too, is fortunate, for the area is surprisingly fragile--and surprisingly unforgettable.

Florence (Boring) Lueninghoener

ERRATA: The March, 1988, issue of The Pick & Shovel carried my article, "The Potomac River and the Patowmack Canal." The very first line had a glaring error with reference to the National Geographic magazine. The issue referred to should have been June, 1987, rather than June, 1988, which obviously has not arrived. My apologies.

Florence (Boring) Lueninghoener

## **SOMETHING DIFFERENT**

This month's program will be somewhat different than many we have had in the past. For a period of about 3 1/2 years, the University of Nebraska State Museum (Morrill Hall) produced a weekly radio show. The last of these shows aired on June 1, 1933, and it dealt with agates. While searching through museum archives in late 1987, the museum's collection manager, R. George Corner uncovered the 193 manuscripts that made up this radio show. While the file boxes in which the manuscripts are stored indicate that they were written by a F. G. Collins, several people who are familiar with museum history have hinted that many were written and compiled by Miss Marjorie Schanafeldt, who also narrated these broadcasts. Billie Heffelbower will play the role of Marjorie Schanafeldt in Lincoln Gem and Mineral Club's re-creation of the "The Museum Radio Talk Show" of July 1, 1933.

As a young boy, I had the pleasure of knowing Marjorie Schanafeldt. She was a very knowledgeable, talented, and gracious lady who operated the then very small gift shop at Morrill Hall. She was very active in the educational services of the museum and was always available to answer the questions of the many museum visitors. In her lifetime, I am sure that she probably steered many youngsters into scientific careers. She did a very remarkable job in bringing the natural sciences to the young people of Lincoln and Nebraska in a time when such career opportunities for women were very limited. Marjorie Schanafeldt moved to Oregon after she retired from the University of Nebraska. She passed away there about 15 years ago.

Depending on how well this program is received by the members, I may spend additional time perusing the remaining 192 talk show scripts for other subjects that may prove to be of interest to the club. Perhaps we may even be able to tape some of them to share with other clubs in the area. At the very least, we have had a chance to share in a bit of the museum's history.

## **DISPLAY MATERIAL**

Two spring shows have come and gone: Kansas City and Lincoln. Many of us have acquired new materials at these shows. For display items, let's bring recent show acquisitions, including materials that we have already worked into cut stones. Recent is defined as within the past year. Display cases will be furnished.

## **MAY PROGRAM**

And now for something completely different. At the May meeting, we will all have a chance to dig for sapphires in the material that show visitors searched for gems. The Grand Island club members have operated several sapphire digs and then let the members go through the material. Many very good gems turn up on the second and even third re-cycling of the prospected material. For the May meeting, would be prospectors are urged to bring a low power, wide-field magnifier, and a small light to make the gems show better.

## NEW KNOWLEDGE

During our recent show, I presented a program on Lake Superior Agates. Much of the material was new and much of it was a recapitulation of things I had presented before. Anytime one presents a program, be it a gemstone lecture, a magic show, or a stage play, there are bound to be detractors. They come with the territory, so to speak. One of my favorite detractors made a comment to the effect that he had seen my programs on Lake Superior Agates for over 15 years and that I was constantly changing my mind and not saying the same thing twice.

To that, I can respond that a great deal of information that was either unknown or unavailable 15 years ago is now at the front. A case in point is knowledge of *SELF-ORGANIZING STRUCTURES* and of a branch of science that is called *CHAOS*. Through these two disciplines, it is now possible to view the geometry and topology of chemical and physical reactions going to completion and to show that there is an order in the universe that begins with chemical reactions, can be seen in slime molds, and in spiral galaxies. Such things as spiral and concentric wave fronts in chemical reactions can be considered to be the mechanism that causes an agate to have a banded structure.

Most of the above material is described in volumes by A. T. Winfree at the University of Arizona, and Arun Holden of Leeds University in Great Britain. In the both works, many computer models of the structures we see in agate are shown. Does their work invalidate earlier work done by Oehler (1976) who reproduced banded chalcedony and agate in the lab? No! Oehler simply showed that bands formed when the silica gel was in a highly saturated state and the impurities settled in the troughs formed at the terminations of the spherulitic crystal clusters, and that quartz formed when the solution became undersaturated.

Winfree's and Holden's works do nothing to negate Oehler's, but they simply provided a geometric framework in which Oehler's chemical reactions could take place. None of Winfree's or Holden's works negate the idea that agates form at low temperatures and pressures and may be associated with soil development on volcanic terranes. Their works simply provide another chapter into a very complex volume dealing with this area of geology and mineralogy.

The history texts tell us that Christopher Columbus discovered America on October 12, 1492. That John Cabot sailed to North America in 1497 in no way changes the fact that Columbus found America in 1492. Cabot's expedition is simply another chapter in the story. So are the works of Winfree, Holden, Oehler, and the hundreds of other researchers before and after them.

Roger K. Pabian

### References

- Holden, A. V. (Editor), 1986. *Chaos*. Princeton Univ. Press, Princeton, NJ. 324pp.
- Oehler, J. H., 1976. Hydrothermal crystallization of a silica gel. *Bull. Geol. Soc. Amer.*, 87(8);1143-1152.
- Winfree, A. T., 1987. *When time breaks down*. Princeton Univ. Press, Princeton, NJ. 339pp.

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