



# PICK & SHOVEL

INSIDE THIS ISSUE...

CATASTROPHES

SOBERING FINANCIAL  
MESSAGE



Volume 30  
October,

No. 2  
1989

Lincoln Gem and Mineral Club, Inc.

P. O. Box 5342

Lincoln, Nebraska 68505

# 1989 ELECTED OFFICERS

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

## STANDING COMMITTEES

Calling: Shirley Rockel  
Education: Roger Pabian  
Field Trips:  
Historian: John & Lillie Lewis  
Hospitality: Wilma (Billie) Heffelbower  
Membership: Gerald Moore  
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: Billie Heffelbower  
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 Reporter: Vera Lyman  
Financial Reporter: Phyllis Parks  
Circulation : C. David and Wilma Heffelbower

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**CALENDAR OF EVENTS**

**OCTOBER MEETING:** Saturday, OCTOBER 28, 7:30 PM  
 Shelter House, Bethany Park  
 North Cotner & Vine Streets

**PROGRAM:** Field Trip Results---Various  
 Members.Share in this summer's  
 exciting action. Mostly colored  
 slides.

**JUNIOR MEETING:** 7:00 PM. Halloween costumes, dress  
 as your favorite rock,  
 mineral, or fossil

**COMING EVENTS:** October 14, 15, Omaha, Nebraska  
 Holiday Inn, 72nd & Grover, Show

October 21, 22, Grand Island, Nebraska  
 Fonner Park, Show

November 4, 5, Kearney Nebraska, Mall Show

**FUTURE MEETING DATES, PLACES:**

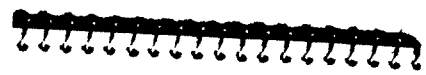
October 28, Bethany Park Shelter House,  
 Desserts, Costumes, Fun.

November 18, Nebraska Center, Norfolk Room,  
 one week early due to Thanksgiving.

December 2, Christmas Party, Nebraska Center.  
 Details at meetings and in bulletins.

January 27, 1990, Annual mid-winter swap,  
 NCCE, 1 - 9 PM. David Heffelbower, Chairman.

**DISPLAY MATERIALS** Bring items that relate to October (e.g., tourmaline  
 opal) or black and orange items (e.g. smoky  
 quartz, black jade, orange agates, orange peeled  
 jade?, etc.), or anything of interest. Cases will  
 be furnished.



October 1989

SUN	MON	TUE	WED	THU	FRI	SAT
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				

**ON THE COVER.**--Hurtling off the dop stick at an incredible speed of  
 68 feet per second, your \$500 per carat opal readies itself to become  
 worthless dust as it heads toward the concrete wall, or is it an asteroid  
 headed for earth at an even more incredible speed of 68 miles per second?  
 Read all about catastrophes, ones you cant control, and others you can  
 prevent.

PRESIDENT'S MESSAGE**TRICK OR TREAT:**

It is important that members attend the next two general meetings in that the board is recommending a dues increase for 1990. The proposed dues structure would be \$7.50 for an adult member, \$7.50 for the spouse of a member, and an additional \$2.00 for a family membership to include any minors in the family. The initiation fee and reinstatement fee would increase to \$5.00. The board's recommendation will be announced during the next general meeting with the vote for approval to take place during the November meeting.

For the last few years, we have been spending more than we have been earning, particularly during the last period of low interest rates. The financial health of our club relies to much upon the current interest rates and having good weather for our annual gem show. As we have seen during the last few years, these are two items upon which we cannot rely. For those who would reply that the reason we have invested our funds earned during the last national shows is to help carry us through to the tough times, I will show that we are living the fools life in putting so much reliance on these two sources of income.

If we examine last year's operating statement, we find the following relationship between our three sources of income and total income (not including the swap which had a net loss):

ANNUAL DUES:	SHOW INCOME:	INTEREST INCOME:
11.5%	54%	34.5%

This means that for every dollar of expense which we pay, only 11.5% of it is paid from dues. In fact, if we project last year's financial experience to this year's membership, we find some alarming facts. If the 1988 show had broken even, the club would have had a net loss of \$887.02 or about \$10.20 per club member. In fact, dues would have needed to have been \$15.20 per member for the club not to have shown a loss. This is unsettling at best when we look at the experience that we have had with the weather for the couple prior years.

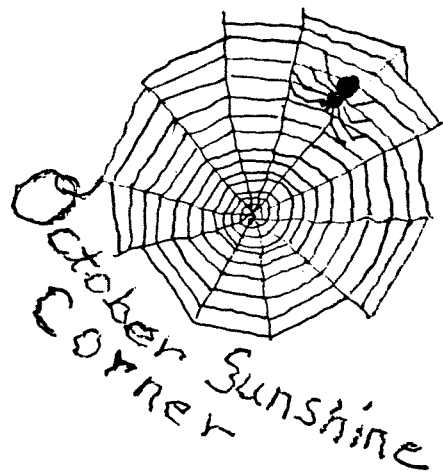
Continuing, if we examine the 1988 expenses, we find that they would project to be \$31.57 for each of our 87 members. If we deducted the \$300 in scholarships and looked at net operating expense, the per member cost would be \$28.12 each. In fact the amount of dues received this year would just barely cover any ONE of the following expenses: social hour, meeting room rent, storage unit cost, and our miscellaneous expenses. The amount of annual dues would pay for less than 2/3rds of the "Pick & Shovel".

The board discussed the membership costs of various area clubs and find that we are paying far less (most likely because we have many more financial assets). We changed investment strategy and have ladder invested our CD's during this time of softened interest rates and are seeking various cost cutting methods. In the mean time, we need to start to rely less upon the uncontrollable and come more nearly to paying our own way. Let us not jeopardize the financial health and the future of our fine organization.

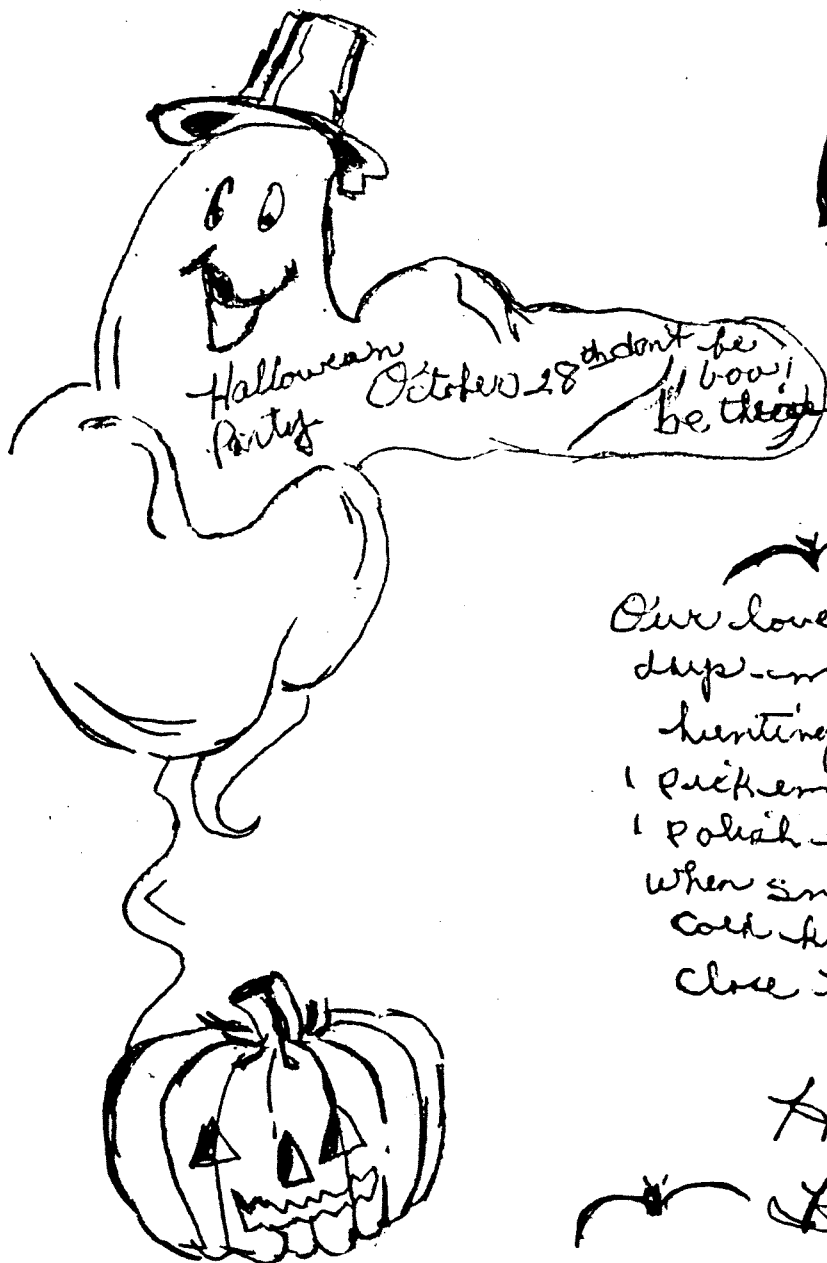
Please keep in mind that any 1990 dues paid prior to that time, may be subject to the acceptance by the general membership of a dues increase. The board has invited comment and recommendation from the Long Range Planning Committee and will do likewise from the membership at the next two general membership meetings.

FRED R. HOLBERT

The September meeting  
 was a - good to see you -  
 did you have a good  
 Summer? Love!



October Sunshine  
 Corner



Halloween Party  
 October 28 don't be  
 afraid  
 be there



Our lovely fall  
 days - make rock  
 hunting a joy -  
 'pickem up! now  
 ' Polish em up!  
 when snow and  
 cold keeps you  
 close to home

Have a spooky Halloween  
 Billie Sunbeam

## LGMC JUNIORS

The October meeting will be at the Bethany Park Shelter at seven o'clock. Plan to stay for the entire meeting since we will be having dessert. Please come in costume as your favorite rock or mineral. There will be prizes for the best costumes. Most of you have had a chance to select specimens from Roger Pabian's donated rock, mineral, and fossil collections. If you would like to have me identify any of that material be sure to bring it to one of our meetings and I will try to help you. A BIG " THANKS " to Roger for all the great specimens. Hope to see you all in costume at this next meeting.

Your Junior Leader - Jan Wright

## American Geological Institute Red Lodge Conference, August 6-19, 1989

Scientists and educators from many earth science areas met at the Yellowstone - Big Horn Research Association facility near Red Lodge, Montana from August 6-19 to participate in AGI's writing conference. Funded by the National Science Foundation, the conference was designed to consider the K-12 earth science curriculum.

Three AWG members participated in the conference: Sue Cox, AGI; Jan Wright, University of Nebraska-Lincoln; and Virginia Sand, Kent State University-Tuscarawas.

Participants were divided into groups, addressing content for K-3, 3-6, 6-9, and 9-12. Emphasis was placed on continuity of earth science content from K-12. The groups emphasized concepts, essential information, and stewardship, viewing the learner as a lifelong problem solver. The long-term goals of the conference included producing a scientifically literate citizenry (what your neighbor needs to know about earth science) and encouraging more entrants into the field by describing career opportunities early in education.

AGI's Director of Education, Andrew Verdeen, Jr., guided the diverse group through the conference processes. Marvin Kauffman, Executive Director of AGI, added input to many sessions, as did Fred Findlay and Bob Heller of AGI's Education Committee, Dick LeFebvre, C.Q. Brown, Floyd Matheis, and Mark T. Schmidt, editor of AGI's Earth Science Education Connection.

Twenty-six scientists and educators were selected by an independent panel to participate in AGI's summer writing conference to be held near Red Lodge, Montana. The panel, chaired by C.Q. Brown, East Carolina University, consisted of representatives from the National Science Foundation, U.S. Geological Survey, a state department of education, a university person, and a precollege teacher. The conference participants were **Earnest A. Bacon**, North Syracuse Junior High School, North

Syracuse, NY; **Lloyd H. Barrow**, University of Missouri, Columbia, MO; **Nan E. Brown**, High Point Regional High School, Sussex, NJ; **Regina Brown**, Orton Memorial Library of Geology, The Ohio State University, Columbus, OH; **Shirley M. Brown**, Clinton Middle School, Columbus, OH; **Jack Ciciarella**, Penn State University (Beaver Campus), Monaca, PA; **John Christopher Cotter**, Mountain View High School, Tucson, AZ; **John M. DeNoyer**, U.S. Geological Survey, Reston, VA; **J. James Eldel**, Illinois State Geological Survey, Champaign, IL.

**Gene T. Fox**, Stonewall Jackson High School, Manassas, VA; **Paul K. Grogger**, University of Colorado, Colo. Springs, CO; **Jennifer W. Harris**, Ukiah High School, Ukiah, CA; **Charles C. James**, Carnegie Science School, Washington, D.C.; **Peter W. Knightes**, Central Texas College, Killeen, TX; **William E. Kochanov**, Pennsylvania State Geological Survey, Harrisburg, PA; **John Matis**, Bureau of Land Management, c/o Colorado School of Mines, Golden, CO; **Thomas F. McGuire**, Briardiff High School, Briardiff Manor, NY; **John R. Ousey**, Penn State University (Delaware County Campus), Media, PA.

**A.R. (Pete) Palmer**, Geological Society of America, Boulder, CO; **William C. Phillips**, Dover High School, Dover, DE; **Ronald W. Pritchett**, Consulting Geologist, Englewood, CO; **Falmon A. Roberts, II**, University Laboratory School, Louisiana State University, Baton Rouge, LA; **Russell L. Ruswick**, Lake Forest High School, Lake Forest, IL; **Virginia M. Sand**, Kent State University (Tuscarawas Campus), New Philadelphia, OH; **Dana P. VanBurgh, Jr.**, Dean Morgan Junior High School, Casper, WY; **Janet L. Wright**, University of Nebraska, Lincoln, NE.

The quality and enthusiasm of the participants and the magnificent surroundings contributed to an unforgettable experience for all concerned. The Red Lodge Conference is an important step in earth science education for the 21st Century. □

— Reported by Jan Wright and Virginia Sand

LINCOLN GEM & MINERAL CLUB, INC. - BOARD OF DIRECTORS - Sept. 5, 1989  
Nebraska Hall Rm. 115 7:30 P.M.

Meeting was called to order by President Holbert. Minutes of the May Meeting were read with motion for approval by David Heffelbower, 2nd by Phyllis Parks. Carried. Treasurer's report was read with motion for approval by Gerald Moore, 2nd by Vera Lyman. Carried.

**BILLS:**

All bills presented for payment and approval and also those already paid were approved with a motion by Roger Pabian, 2nd by Gerald Moore. Motion carried. Memorial to J.D. Young (\$ 15.00 transfer to Junior Fund); as requested by Young family.

After discussion, Dave Heffelbower made motion that Phyllis Parks research shorter term rates for \$ 15,000. CD. 2nd by Don Phillips. Motion carried.

Electric Stapler: Fred & Phyllis to check on Electric models, prices, 20-sheet capability, etc.

Charles Wooldridge accepted nomination to Long Range Planning committee to fill vacancy created by (Claude Scott)

**STUDY GROUP: "Quartz Family Gems"**

Monthly 2nd Tuesday Start in Oct. (Oct. 10)

Excellent source of information: Book "QUARTZ" by O'Donahue Butterworth Gem series.

Cost: \$ 29.95 Copy also available for checkout in Club Library.

**MEETINGS:**

Sept. 23 - Norfolk Rm. Oct. 28 - Bethany Park w/desserts Nov. 18 - Norfolk Rm.

Motion was made by Phyllis P. & 2nd by Gerald M. to change Nov. Meeting night to earlier date due to Thanksgiving. SPECIAL NOTE: Nov. Board Meeting will be Mon. Oct. 30. (Due to the short time to prepare the P & S for mailing by Nov. Meeting.)

**NOMINATING COMMITTEE:** Meet before Sept General Meeting. Kevin S. chairman.

**CHRISTMAS PARTY:** Billie H.

Sat. Dec. 2 NE Center Columbus Rm Meals quite expensive.

Fred suggested requesting Center take room rate off meal prices. Motion by Phyllis P. that Billie check w/ NE Center re: Fred's suggestion. Then Billie pick most favorable choice of meals and Club pick up tax & gratuity. 2nd by Vera L. Carried. Fred voted nay.

**SHOW REPORT:** Roger Pabian Dates March 17 & 18, 1990

Fred Holbert is Dealer chairman. Dealer contracts ready to go out.

Don Phillips will have Fossil dig.

Special Display- Ethnic jewelry collection

Fliers out to numerous locations including National Show in Portland.

Show budget at next meeting.

Respectfully submitted,

*Vera Lyman*  
Vera Lyman, Secretary

**Treasurer's Report for September 1989**

NEC Checking Balance 8-31-89 \$350.51

**Receipts:**

Memorials to J D Young for Juniors 175.00

**Payments:**

Rent Bethany Shelter for Oct.Meet 25.00  
New electric stapler for F & S 104.97  
Storage Oct.89 through Mar.90 180.00  
500 precancelled stamps @ 16.7¢ 83.50 393.47

Nat'l. Bank Commerce Checking 9-30-89

\$134.34

LINCOLN GEM & MINERAL CLUB, INC. - GENERAL MEETING - September 23, 1989

Nebraska Center, Norfolk Room, 7:30 P. M.

The meeting was called to order by President Holbert.

Minutes of the May Meeting were not available for approval. Treasurer's Report read and approved after motion by Jerry Moore and second by Tom Simmons.

25 members and 4 juniors present.

OLD BUSINESS:

1st Study Group will begin Tues. October 10 at 7:30 P.M. in Room 115, Nebraska Hall with Roger Fabian conducting. The study will be on 'Quartz Family Minerals' (SiO<sub>2</sub>). Plans are to keep the meetings loosely structured but effective and to make use of specimens and slides. A reference book of value is "Quartz" found in our club library.

NEW BUSINESS: Nominating Committee Report - to be presented after Committee Reports.

JUNIORS: Jan Wright reported 3 successful field trips and looking for some new sites for more trips. Appreciation for being recipient of JD Young Memorial Funds and no plans for use at this time.

MWF -

Letter from Mr. Glen R. Hanning, Pres.-elect, advising us of a need for a new Nebraska State Director to coordinate information and reports for the Nebraska Clubs who belong to the Midwest Federation. Marie Taylor has resigned and Mr. Hanning is asking for the names of persons that might be interested in being asked to carry on.

No membership report.

Christmas dinner will be Saturday, December 2, 1989 at Nebraska Center, Columbus Rm.

1990 Show - Roger reported a special display of Nomadic Jewelry mostly Eurasian and African and many other things to report soon.

Library - Copies of a publication on Wyoming Jade available as a gift to the club from Lapidary Journal, copy already checked out.

Nominating Report presented by Kevin Schwartman, Chairman:

President	Fred Holbert	Board Members-
1st Vice-Pres.	Jerry Moore	(4 to be elected)
2nd Vice-Pres.	David Heffelbower	Francis Belohlavy
Secretary	Vera Lyman	Roger Fabian
Treasurer	Phyllis Parks	Shirley Rockel
		Sandra McNiff

According to LGMC By-Laws Nominations must be open to the floor at this time in order to be listed with above slate in October Pick & Shovel. Motion was made by Charles Wooldridge to suspend rules and make call for open nominations for any of the elected positions, second by Ellie Heffelbower and approved with no 'Nays'.

Nominations were called for three times, there being none nominations were closed.

Up-coming shows were announced and meeting adjourned for program to be presented on 'The Silent City of the Gnomes' featuring Bryce Canyon. Very nice slides!

Respectfully submitted,

*Phyllis Parks, acting*

Phyllis Parks, acting for absent secretary.

## THE GREENHOUSE EFFECT, OR A WARMING TREND?

The drought over our country this past summer will continue to influence our economy for many years to come. The media these days is loaded with information about the Greenhouse Effect. But is it correct?

At the annual symposium of the Institute for Tertiary-Quaternary Studies (TER-QUA) held in Lincoln last fall, Dr. Iben Browning, editor and publisher of the Browning Newsletter and author of several books, including Climate and the Affairs of Man, gave some fascinating insights into future trends, based on wide research and careful analysis of the past. The setting of his talk made it all the more impressive. It was presented at the banquet in Elephant Hall of the Nebraska State Museum, Morrill Hall, with the giant skeletons looking over our shoulders.

Many of you know that LGMC's honorary life member, Dr. C. Bertrand Schultz, and his wife, Marian, were largely responsible for the establishment of TER-QUA, which takes its name from the Tertiary geologic period, the early part of the Cenozoic era, covering the introduction of mammals other than man; and from the Quaternary period, the latter part of the Cenozoic to the present era. This includes the Pleistocene and recent epochs.

Dr. Browning believes that sunspots on the sun and tidal forces deep within the earth drive the climates on the earth. Sunspots, caused by turbulence on the sun, expose fresh surfaces and thereby increase the amount of heat the sun radiates. Tidal forces trigger volcanoes, which increase the levels of dust in the atmosphere. This reduces the amount of sunlight reaching the earth's surface.

These are some of the most important ideas set forth by Dr. Browning:

1. The world climate goes through 400-year cycles of heating and cooling. Since the 1940's the earth has been gradually cooling due to lower sunspot activity and higher tidal forces.
2. Greenhouse Effect proponents cite increased temperatures over the world to support their theory. Actually, the sampling is flawed. Of two thousand or so locations around the world where temperatures have been consistently monitored, all but 264 of them are urban. Causes of warmer temperatures around cities are well known. Examining the readings from rural areas gives a much lower figure.
3. Retreat of glaciers is another example of flawed sampling. The number of glaciers with advancing fronts increased from about 7% in 1960 to over 55% in 1980. In the 1926 to 1960 period 70 to 95% of the glaciers were in retreat. (Figures by Lee Anderson Smith from the World Glacier Monitoring Service.)
4. Records of sunspot activity can now be obtained for hundreds of years past by examining glacier cores in Antarctica and Greenland for their levels of nitrates, such as nitric acid, and of isotopes of hydrogen and oxygen incorporated into the snowflakes as they formed and fell.
5. Tidal flow in the earth's core, a major cause in climactic changes, has a period of about 179 years. As the tidal movement changes, the

magnetic variation at the earth's surface changes (See footnote), resulting periodically in reversal of magnetic polarity, as recorded in rocks of the earth's crust.

6. The core's tidal flow triggers volcanoes. If an explosion is going to happen anyway, any change can set it off. For instance, if one were to fire up a boiler, close all the vents, and continue to heat it, it will explode. Then if anyone were to come along every five minutes and bang on it with a hammer, he could insure that he would be on the scene when it exploded. Volcanoes are like that, with the earth's tidal flow acting as the hammer.
7. When there are tremendous volcanic explosions--Mt. Mazama (Crater Lake) 7,000 years ago; Tambora, 1815; Krakatoa Island, 1883; and even more powerful early explosions in the Indonesian Islands--enough ash debris and sulfur dioxide are thrown into the atmosphere that temperatures around the globe at that latitude drop appreciably for several years. This has been determined by plotting the growth of tree rings in correlation to the incidence of major volcanoes. (Mt. St. Helens was too puny a volcano to make much difference.)
8. Farmers in the northern latitudes are having to plant corn and beans with shorter growing seasons, but there is no corn with a short enough growing season for some places where corn could formerly be grown. Some manufacturers and other businesses are moving to the south because it is getting colder in the north.
9. Wars follow periods of colder climate and drought because the resulting famine causes countries to look for ways to share the food of other countries with space and climate for growing. One useful indicator of impending famine in Central Africa was the lush vegetation in the north in the past 20 years, producing huge masses of locusts which moved south as the north became drier. Mid-Africa had been lulled by its lack of locusts and was not prepared.
10. According to Dr. Browning, the so-called "ozone window" implicated in the Greenhouse Effect is a natural rather than a man-made phenomenon. We have been subjected to climactic changes in the past which man could not possibly have produced. In the past there have been great natural variations in the amount of carbon dioxide in the air. Surprisingly, more carbon dioxide is released into the air by the vast colonies of termites in the tropical areas than by man's activities. People living on the fringe of the variable line between drought and moisture are forced to "choose" between an excess of termites or an excess of locusts.
11. The three great periods of bubonic plague which decimated the world came after great famines. Bodies weakened by malnutrition are much more susceptible to disease. AIDS is now the plague that has developed in Africa after the great famine there.
12. By the year 2050 AIDS may have reduced the world's population by half. Previous forecasts gave the year as 2060, but AIDS is moving faster than anticipated.

13. It may be that no cure can be found for AIDS because the virus mutates so rapidly. As many as fifty-one different strains have been found in a single person. However, some people seem to be really immune, perhaps as many as fifty percent of the population.
14. White Americans and Europeans seem to be the only groups of people who feel that they have to confront nature, that they have to stand and "stick it out" regardless of unpleasant temperature changes, Blacks, who do much better where it is warmer, are moving up along the East Coast.
15. Work ethics differ with different groups. Americans in production will lay off workers if machines can do the processes more cheaply. In European countries, workers are not so liable to be replaced by machines because it would damage their self esteem. In third world countries the work ethic permits their working until they have almost enough and then slacking off. For this reason they will never be really successful no matter how much money is given in aid to offset famine.
16. Anticipation of global weather conditions and changing climates is necessary for wise investment. For instance, early alerting to the possibility of an extended period of dry weather across the farm belt last summer caused one company to invest in such stocks as the IMC Fertilizer Group and Pioneer Hybrid International because their products would be in greater demand under drought conditions.

What of the future? Dr. Browning predicts that the next three years will probably be hotter and drier than usual with great dust storms from high winds. This will not cause the Soviet Union to be a good neighbor. Whenever there has been a crop failure for three years in a row in the Soviet Union, the Soviet leader has been deposed. Therefore Gorbachov should not last longer than 1992. Whenever there has been a crop failure for three years in a row in the Soviet Union, the price of gold has gone down because the Soviets have to sell gold reserves in order to keep their economy going, thereby putting more gold on the market. Dr. Browning predicts the price of gold will drop around 1992.

--Florence (Boring) Lueninghoener

Footnote: The changes in magnetic variation (the degrees of difference between true north on the map and magnetic north on the compass) are dramatically shown by examining aeronautical charts for Nebraska. In 1959 the line of 9 degrees East variation was located about 32 miles east of the Lincoln Municipal Airport. By 1971 it had moved 7 miles west of the airport. On the 1983 chart, it is shown at 5 miles east of Lexington, Nebraska. These charts are each twelve years apart in time, yet the westward movement was 41 miles between 1959 and 1971, and 87 miles between 1971 and 1983, due to tidal forces within the earth. F. B. L.

## GEMS AND CATASTROPHES

Roger K. Pabian

A search through the gemological literature indicates that no gem is related to any kind of global catastrophe that might have lead to the extinctions of trilobites or dinosaurs. Smaller scale, more localized, catastrophes such as violently explosive volcanic eruptions have formed some of the kinds of rocks in which a few gems have formed, however. Welded ash flow tuffs from andesitic or rhyolitic magmas are the host rock in which many agates have formed. The many famous thunder egg beds in Oregon are situated in rhyolitic rocks. The magma from which these rocks formed had a consistency of, say, peanut butter, as opposed to corn syrup. Thus, instead of the lava flowing easily out of the spout, the lavas were ejected violently. The cooled lava first formed a rock called a vitrophyre, a volcanic glass. As the vitrophyre devitrified (the minerals in the rock became crystalline), much silica was freed and this became the source of the silica for the agate.

Ash flows from explosive eruptions are also responsible for agatized woods in such areas as Saddle Mountain, Washington, and the Tom Miner Basin, Montana. Numerous layers of wood bearing ash in the latter area testify to recurrent vulcanism in the area. Agatized limb casts have been found in ash flows in the Wiggins Fork area near DuBois, Wyoming. Limb casts occur when the wood of the tree is completely burned out, the hot ash acting like a natural burn out oven in lost wax casting. None of the wood is present and the void is completely filled with agate or euhedral quartz.

Fine, powdery turquoise may occur in rhyolitic rocks in such places as Colorado and Arizona. The turquoise is disseminated through the rock and is often in aggregates of microscopic size. Much of this rhyolite has been mined and pulverized; the powder washed in a flotation process. Because turquoise has a slightly higher specific gravity than most of the minerals in rhyolite. The less dense quartz and feldspars are floated off and the turquoise powder settles to the bottom of the flotation vat. The powder is eventually reclaimed and it is mixed with pyrite, ground up battery casings, and other things to create a natural appearance. This mixture is impregnated with epoxy resins and makes up reconstructed turquoise.

Catastrophes can carry over into the gem cutting shop, however, and these have little, if anything, to do with asteroid collissions or violent eruptions. These microcatastrophes in the lapidary shop are something that will truly effect the outcome of at least our day, but probably not much more. In each of the gem cutting operations, sawing, trimming, dopping, grinding, sanding, and polishing, a catastrophe awaits our stone. The impending catastrophe never presents itself as a dark cloud in a small corner of the shop or as a deformed little humanoid that hides in a mouse hole. These microcatastrophes are anonymous and invisible and are known only by the marks they leave. We can try to prevent them from happening.

**Sawing.**--Damage happens to the rock during slabbing if the rock can wiggle in the vise. Use wood wedges to help stabilize the rock. You can glue the rock onto a board with a white glue such as Elmer's (TM). Be sure to let the glue dry for at least one week, so that there are no white spots in the set glue. This is my favorite method as you have good control on orienting the piece of rough. Keep the lubricant oil clean and cool.

**Trimming.**--When you are trimming, small burrs or nicks on the blade can hammer away at the slab and cause it to fracture. These burrs or nicks can usually be pounded out of the blade with a hammer on a small anvil. Overheated oil can cause damage to the blade and, therefore, to the rock. Change oil often.

**Dopping.**--The sudden temperature changes associated with dopping can cause a stone to fracture or even shatter. I use an old electric skillet for this operation. The trimmed and marked stones are placed face-down on a piece of aluminum foil in the skillet. A small can of wax and dop sticks are also placed there, the ends of the dop sticks in the wax. The heat is raised slowly and the stone is subjected to far less stress. The dop wax is the same temperature as the stone and "cold wax stress" is eliminated. Used electric skillets can be found at many thrift stores for very reasonable prices.

**Grinding.**--Silicon carbide grinding wheels should be kept well dressed and sharp. A mounted industrial diamond and a star wheel dresser are needed. Soft bonded wheels are far better even though they wear faster. It is pointless to save 10 cents worth of grinding wheel if you are risking 10 dollars in rough gems. If the stone begins to feel like it is bouncing as you grind, it is time to re-dress and sharpen the wheel.

Diamond grinding wheels should be sharpened occasionally by grinding an old carbide wheel, a brick, or a piece of limestone to wear off areas of metal build-up. Built-up bits of metal can hammer away at the stone and cause chipping, especially around the girdle.

**Sanding.**--Most sanding catastrophes result from an excessive heat build-up in the stone. This can happen at the contact point between the stone and the sandpaper even in wet-sanding operations. Usually, the surface speed of the sander is too fast. With new sandpaper, a surface speed of 600 feet per minute is adequate. If the stone is kept in constant motion, dry-sanding can be accomplished at this speed and dry-sanding gives a much better surface to polish.

Sandpaper, like grinding wheels, needs to be cleaned. Clumps of dust can build up on the sand paper, leaving the equivalent of a 100 grit scratch on a 400 or 600 grit sanding surface. This appears almost like a furrow across the stone.

Extremely dull sandpaper that is running too fast can cause orange peeling on your stone, or, worse, deep burning, that may require re-cutting the entire stone.

**Polishing.**--Overheating of the stone can play a major role in our small-scale shop catastrophes, most of which are fracturing the subject of the two previous hours of work. The prevention of fractures can be avoided by prevention of excessive heat build up. The first step is to use the proper polishing compound and proper polishing surface. Hard felt and tin oxide may work for one material and ruin another. Check the lapidary manual to learn the right compound, the right surface, and the right surface speed at which to polish.

We may not be able to stop an asteroid from crashing into the earth or to slow down heating or cooling trends, but we can control catastrophes in our own little shop.+++

# # #

**OOPS!**--Volume 29, Number 10 is, in reality, Volume 30, Number 1. That's why we are going directly to Volume 30, Number 2 this month. Since no reader caught this oversight, the Rolls Royce Silver Arrow will not be awarded this month. Sorry, RKP.+++

## MIDWEST FEDERATION OF MINERALOGICAL AND GEOLOGICAL SOCIETIES

Member of The American Federation of Mineralogical Societies

## NEWSLETTER



Published monthly  
Except  
June, July, August

SEPTEMBER 1989 - Issue 289

Judith Washburn, Ed.  
107 Deer Creek Road  
Rochester, IL 62563

## President's Message...



## LETTER FROM YOUR PRESIDENT

Here it is, late July, and the heat of summer is with us. The year is passing quickly and so far we have visited the National Show in Portland and, of course, our own Federation Show in Kalamazoo just a few weeks ago.

I know it would be nice to be able to thank each of you personally for the effort and work you have done this year to keep the Federation strong and healthy. The committees have continued their work and kept the ship of state stable. Some committees seem to have more to do than others, and the chairs are overworked. It should not be construed that I favor one over the other, but we have to notice the contributions of publications, endowment, show and program committees and especially their chairs. Unfortunately we did not get all of the committees activated this year so we shall continue to push for volunteers.

The auditing committee was reactivated during the year and up until now has audited the books of the Endowment Fund. They will audit the remainder of the Federation funds at the close of the year, October 31.

An ad hoc committee to strengthen the organization of the Endowment Fund was created and they came up with a document that will serve the management of the fund and at the same time represent no divergence from the current constitution or operating procedures. A lot of paper went through the mail to bring about an understanding.

Most of all, for the past year, I want to thank the current officers. Through their good works we have made countless phone calls, typed numerous memos, and spent hours in discussion. A president can only do what he does if the officers help, for they provide the information for the operation of the organization to guarantee continuing success.

So many thanks to all, nameless here, but not in my memory.

Ben Moulton  
MMF President

## ELECTION RESULTS

At the annual council meeting in Kalamazoo this summer, the following officers were elected for the 1989-90 term:

President -	Glenn Hanning
1st Vice President -	Huntsville, Illinois
	Margaret Heinek
	New Carlisle, Indiana
2nd Vice President -	Harold McClure
	Dayton, Ohio
Secretary -	Jean Reynolds
	Clarendon Hills, Illinois
Treasurer -	Kitty Starbuck
	Vicksburg, Michigan

We wish these folks the best of success as they begin their terms after the fall meeting.

## AFMS SCHOLARSHIP HONOREE AWARD

Nominations for the winner of the AFMS Scholarship Honoree Award from the Midwest Federation should be submitted to the MMF Board of Selectors early. The Board must submit its nominees to the Jury of Awards by January 1, 1990, so the Jury can conclude its deliberations by January 15, 1990.

Nominees for the award within the Midwest Federation shall be residents, or closely identified with the area served by the Federation's clubs. They should be known for achievement of outstanding contributions to the earth sciences, the interests of the Federation, and the activities of geology, paleontology, mineralogy, archaeology, gem cutting, jewelry making, and other aspects of the lapidary arts.

MMF Board of Selectors  
Margaret Heinek  
Harriet George  
Harry Raplus

President Dr. Benjamin Moulton R.R. #21, Box 103 Orre Neute, IN 47802 812-234-3070	First Vice President Mr. Glenn R. Hanning Rte. 1 Huntsville, IL 62344 217-667-2285	Second Vice President Mrs. Margaret Heinek Rt. 1, Box 370E New Carlisle, IN 46352 219-654-3673	Secretary Miss Jean Reynolds 107 Tuttle Ave. Clarendon Hills, IL 60514 312-323-1682	Treasurer Mrs. Kitty Starbuck 7634 Y Avenue East Vicksburg, MI 49097 616-649-1991
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## Editor's Note

If you're one of the lucky ones who's been able to take the summer off and sit back, put up your feet, and rest on your "laurels" - SNAP TO IT! We're back on track and ready to tackle a new fall season. There are meetings to plan, shows to put on, and field trips to take. If you're like some of the rest of us who have been frantically on the move all summer long - this

will be a snap!

If you remember back to your last issue of the Newsletter, you may remember I told you that your Board took action at the spring meeting to expand the mailing of the Newsletter to include all bulletin editors. We're hoping this will help increase the communications between the Federation and the local clubs. This is the way your Newsletter will be mailed:

2 Copies will be sent to EVERY club

[You indicated who should get these copies on the data sheet filled out last winter.]

3 Copies will be sent to clubs that publish a bulletin/newsletter [One copy will automatically go to your editor.]

Putting together a mailing list was a little bit tricky. If your editor was not receiving a copy of the Newsletter, their name was added to the list. If your editor was one of those already on our list, we went back to the data sheet and selected a liaison officer or secretary as your third recipient.

WE NEED YOUR HELP in making sure that we are getting the Newsletter to the correct people. [Some clubs change officers after the data sheets are sent in to us.] At your earliest opportunity, PLEASE check to make sure the mailings for your club are correct. If changes need to be made, contact me as soon as possible so that we can correct the list before the next mailing.

## Tip for Editors:

Statistical studies have been done regarding the placement of text on a printed page and how often the material in that particular spot is read. The results indicate that 41% of all readers will read material in the upper left quadrant of the page. Only 14% will read what's placed in the lower right quadrant. Give this some thought when planning the layout for your next newsletter!

## ATTENTION ENDOWMENT FUND DONORS

Any individual or organization that has contributed to the fund since April 1989, and has not yet received a thank you note or a certificate if one is due - we ask you to please be patient. There has been some confusion in the changing of the administration of the program. If the wait seems too long, please contact me.

Ben Moulton  
MMF President

## Program News -



#169. THE TYRELL MUSEUM OF PALEONTOLOGY (59 slides) by E. Wallace of Temple, Tex. This Program takes you to Drumheller, Alberta, Canada -- well known for its dinosaur and mammal fossils. Many varied specimens are shown along with the area where the fossils are being found.  
First Place Winner in Individual Category. Approx. 30 minutes. Suited for adults and Juniors.

#170. MICROMOUNTING (80 slides) by Micromineralogists of the National Capitol Area. A good, brief introduction to this fascinating area of mineralogy. As an special highlight you are shown exactly how a Scanning Electron Microscope is used to identify an unusual specimen. Some finished specimens are shown.  
First Place Winner, Club Category. Approx. 30 minutes. Well done and suited to a wide audience.

COMPLETE INFORMATION REGARDING RENTAL of these and any others in the MMF Program Library are available in the 1989 MMF Directory, pages W-7 to W-10 or in the new PROGRAM PLANNERS MANUAL. Contact: Marge Collins, 3490 S. Harman, Canton, MI 48108 (313)722-6043, if these sources are not available.



## CAROUSEL FUND FINAL REPORT

We are indebted to the following Clubs and individuals who contributed to the Carousel Fund. A total of \$927.00 and 55 Carousels were donated, bringing this project to completion.

## CLUB DONORS

Badland/Sandhills Earth Science Club, S. Dak.  
Blue Water Lapidary Society, Mich.  
Carlton County Gem & Mineral Club, Minn.  
Cass River Gem & Mineral Society, Mich.  
Corn Palace Rock Club, S. Dak.  
Coulter Rock Club, Wisc.  
Earth Science Club of Missouri, Mo.  
East Ohio Lapidary Club, Ohio  
Evansville Lapidary Society, Ind.  
"500" Earth Sciences, Ind.  
Geodeland Earth Science Clubs, Ill. & Iowa  
(this group of Clubs hosted the 1988 Show/Convention)  
Grand Rapids Mineral Society, Mich.  
Illinois Valley Gem & Mineral Club, Ill.  
Indian Mounds Rock & Mineral Club, Mich.  
Ishpeming Rock & Mineral Club, Mich.  
Licking County Rock & Mineral Club, Ohio  
Michiana Gem & Mineral Society, Ind.  
Midwest Mineralogical & Lapidary Society of Dearborn, Mich.  
Petoskey Rock & Mineral Club, Mich.  
Plymouth Rock & Mineral Society, Mich.

Richland Lithic & Lapidary Society, Ohio  
 Rockport Lapidary Club, Ohio  
 Rosebud Geological Society, S. Dak.  
 Stark County Gem & Mineral Club, Ohio  
 Tulip City Gem & Mineral Club, Mich.  
 Wabash Valley Gem & Mineral Society, Ind.  
 West Central Ohio Rock Club, Ohio  
 West Suburban Lapidary Club, Ill.

INDIVIDUAL DONORS

Sister Mary Angeline, Livonia, Mich.  
 Don Brown, Livonia, Mich.  
 Leo Latoski, Calumet, Mich.  
 Rev. Donald Lichtenfalt, Royal Oak, Mich.  
 Dr. Benjamin Boulton, Terre Haute, Ind.  
 Miss Alice Mundt, Muskegon, Mich.  
 Helen Smith (Mrs. H.), Newark, Ohio

On behalf of all the Clubs who use Kodak projectors -

THANK YOU

Marge Collins  
 Program Request Committee



ALL AMERICAN CLUB AWARDS

The following Midwest Federation clubs entered profiles of their clubs for consideration in the AFMS All American Club Awards competition: (in alphabetical order)

- \*Earth Science Club of Northern Illinois  
 Glen Ellyn, Illinois
- \*Gem City Rock Club  
 Quincy, Illinois
- Grand Island Earth Science Society, Inc.  
 Grand Island, Nebraska
- Licking County Rock and Mineral Society, Inc.  
 Newark, Ohio
- \*Neville Public Museum Geology Club  
 Green Bay, Wisconsin
- \*Southern Illinois Earth Science Club  
 Cartersville, Illinois
- Wisconsin Geological Society  
 Wauwatosa, Wisconsin

The four starred clubs received enough points to be sent on to the national competition. The Southern Illinois Earth Science Club won a 2nd Place trophy in this competition. A hearty congratulations to this club for representing the Midwest Federation so well!

Several problems caused us to get a late start with the competition last year. We have most of these straightened out now and look forward to a larger participation this year. Watch the October Newsletter for the up-dated rules and regulations. Remember, putting together a club profile or scrapbook not only gives you the chance to enter the competition, but gives your club a permanent record of the year to treasure for a long time.

Florence Anderson, Chairperson  
 MMF All American Club Awards



Scholarship Fund

SCHOLARSHIP COMMITTEE NEWS

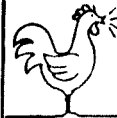
Since my last report in the Newsletter, we have received more than \$2,200 from thirty clubs and individuals. Because of this generous support of the American Scholarship Foundation, twenty-five clubs have advanced their scholarship status as follows:

State Line Gem & Mineral Soc.	2000K
McDonnell-Douglas Gem & Min. Soc.	1800K - 1900K
	2000K
Wisconsin Geological Society	3700K - 3800K
	3900K - 4000K
500 Earth Sciences	1700K - 1800K
	1900K - 2000K
	2100K
St. Louis Mineral & Gem Club	1300K
Earth Science Club of Missouri	3600K - 3700K
Corn Palace Rock Club	700K
Heart of Wis. Gem & Min. Soc.	2600K - 2700K
	2800K
Chicago Rocks & Minerals Soc.	1700K - 1800K
Evansville Lapidary Soc.	1000K
Independence Gem & Mineral Soc.	1100K - 1200K
	1300K
Central Missouri Rock & Lapidary Soc.	2300K
Lake Erie Gem & Geological Soc.	1400K - 1500K
	1600K - 1700K
Richland Lithic & Lapidary Soc.	2300K
Blackhawk Gem & Mineral Club	900K
Gem City Rock Club	3000K
Hawkeye Gem & Mineral Club	3000K - 3100K
	3200K
Shawnee Mission Gem & Mineral Soc.	300K
DesPlaines Valley Geological Soc.	1200K
Rock Hobby Club	3000K - 3100K
Siouxland Gem & Mineral Club	800K
Muncie Rock & Gem Club	2600K
Earth Science Club of Northern IL	1200K
Vigo Rock & Gem Club	400K
Bruckner Center Gem & Mineral Club	300K

Keep up the good work with your generous checks. The two-thousand dollar scholarships that are being given to twelve students each year, and are renewable for another year, make it possible for these young people to complete their education in the earth sciences.

If each club would send their contributions to me, rather than to the officers of the Foundation, it would simplify bookkeeping and speed acknowledgement of the contributions to the clubs.

Marian Parch, Chairperson  
 MMF Scholarship Committee



THE MIDWEST FEDERATION HAS SOMETHING TO CROW ABOUT

MIDWEST FEDERATION EDITORS AND AUTHORS THAT WON MMF AND AFMS AWARDS ARE AS FOLLOWS:

MINI BULLETIN

- 1st Place - LEAVERITE NEWS  
 Esther & Dick Allen, Editors  
 St. Croix Rockhounds
- 2nd Place - KORN KRIS NEWS - Rose Hella, Editor  
 Corn Palace Rock Club
- 3rd Place - THE GEMROCK - Rebecca E. Bowen, Editor  
 Independence Gem and Mineral Society
- 4th Place - THE FRACTURED AGATE - Virginia Reeves, Editor  
 Chippewa Valley Gem & Mineral Society

- 6th Place - FLINT FLASHES - Helen Smith, Editor  
 Licking County Rock & Mineral Society, Inc.
- 7th Place - THE OPAL - Lillian Keck, Editor  
 West Suburban Lapidary Club
- 8th Place - 3 M ROCKHOUND NEWS - Aileen Wiatrom, Editor  
 3 M Prospectors Club
- 9th Place - THE SHIELD - Joe & Nancy Oha, Editors  
 Akron Mineral Society
- 10th Place - THE PICK AND DOP STICK - Dorothy McNamee, Editor  
 Chicago Rocks & Mineral Society

NEW BULLETIN / NEW EDITOR

- 1st Place - THE ROCKY READER - Doris Caldwell, Editor  
 Toledo Gem and Rockhound Club
- 2nd Place - FLINT CHIPS - Melissa K. Strayer, Editor  
 West Central Ohio Rock Club
- 3rd Place - THE G.O.L.D. DIGGER  
 Miriam & James Galvin, Editors  
 G.O.L.D. Greater Oak Lawn Digger

LARGE BULLETIN

- 1st Place - ROCKHOUND NEWS - Rosa Bord, Editor  
 Heart of Wisconsin Gem & Mineral Society
- 2nd Place - "Serendipity Gems" - Luella E. Bond, Editor  
 Evansville Lapidary Society
- 3rd Place - EARTH SCIENCE NEWS - Jean Reynolds, Editor  
 Earth Science Club of Northern Illinois
- 4th Place - THE TRILOBITE - Margaret Littell, Editor  
 Wisconsin Geological Society, Inc.
- 5th Place - HGACS NEWSLETTER (QUARTERLY)  
 Jane Hatz, Editor  
 Michigan Geology and Gemcraft Society

ORIGINAL ARTICLES - ADVANCED

- 1st Place - ERONOSAURUS: An Australian "Sea Monster that 'Got Away'" - Allen A. Debus, Author  
 Earth Science Club of Northern Illinois
- 2nd Place - RECONSTRUCTING PTEROSAURS (SERIES) - Allen A. Debus, Author  
 Earth Science Club of Northern Illinois
- 3rd Place - WHAT'S IN A VUG - VUG MINERALS FROM THE PRAIRIE DU CHIEN DOLOSTONE - Dr. William S. Cordus, Author  
 St. Croix Rockhounds
- 4th Place - THE GEOLOGIC CALENDAR - Dennis Manning, Author  
 Wisconsin Geological Society, Inc.
- 5th Place - GENERAL MINERALOGY AND PETROLOGY OF THE MOON - Dennis Manning, Author  
 Wisconsin Geological Society, Inc.
- 6th Place - NEW MADRID FAULT ZONE - Dennis Manning, Author  
 Wisconsin Geological Society, Inc.
- 6th Place - TWILIGHT OF THE PTEROSAURS - Allen A. Debus, Author  
 Earth Science Club of Northern Illinois
- 6th Place - ICE AGE THEORIES (SERIES) - Allen A. Debus, Author  
 Earth Science Club of Northern Illinois
- 7th Place - ORIGINS OF MARKING LECTURE NOTES - Diane Dare, Author  
 Earth Science Club of Northern Illinois
- 8th Place - STATE STONES -- IOWA - Diane Dare, Author  
 Southern Illinois Earth Science Club
- 9th Place - ILLINOIS STATE GEOLOGICAL SURVEY: ILLINOIS STATE GEOLOGICAL SURVEY FIELD TRIP - Diane Dare, Author  
 Southern Illinois Earth Science Club
- 10th Place - STATE STONES -- MISSOURI - Diane Dare, Author  
 Southern Illinois Earth Science Club

SMALL BULLETIN

- 1st Place - GEM CITY ROCK NEWS - Hazel Euntz, Editor  
 Gem City Rock Club
- 2nd Place - THE ROCK TABLET - Carol Anderson, Editor  
 Neville Public Museum Geology Club
- 3rd Place - the new LOESS Bulletin - Judith Washburn, Editor  
 Lincoln Orbit Earth Science Society
- 4th Place - THE LOUP SCOOP - George "Chic" Cihacek, Editor  
 Loup Valley Gem & Mineral Society, Inc.
- 5th Place - THE ROCKFINDER - Ed Miller, Editor  
 Michigan Gem and Mineral Society, Inc.

**ORIGINAL ARTICLES**

- 1st Place - I WATCHED WHILE THEY CARVED MT. RUSHMORE WITH DYNAMITE - Henry Schaefer, Author  
Chicago Rocks & Mineral Society
- 2nd Place - THE UNIQUE VICTORIA COPPER MINE - Nelson Short, Author  
Michigan Gem and Gemcraft Society
- 3rd Place - CREATURE CORNER (SERIES OF 9 ARTICLES) - Andrew May, Author  
Earth Science Club of Northern Illinois
- 4th Place - DINOSAUR EGGS - Virginia Reeves, Author  
Chippewa Valley Gem & Mineral Society
- 5th Place - TEREDOS PETRIFIED WOOD - George Gleisner, Author  
Wisconsin Geological Society, Inc.
- 6th Place - THE GOOD OF THE SOUTH DAKOTA BADLANDS - Carol Anderson, Author  
Neville Public Museum Geology Club
- 7th Place - THE OREODONT - Dolores Rose, Author  
Grand Island Earth Science Society, Inc.
- 8th Place - ROCKS FROM OUTER SPACE - Melissa K. Strayer, Author  
West Central Ohio Rock Club
- 9th Place - FIRST ANNUAL RED METAL RETREAT - Ed Koblish, Author  
Heart of Wisconsin Gem & Mineral Society
- 10th Place - LAPIDARY DID YOU KNOW - Harold Jesko, Author  
Wisconsin Geological Society, Inc.

**JUNIOR ARTICLES (11 to 17)**

- 1st Place - CALENA - Dawn Hessler, Author  
Toledo Gem and Rockhound Club
- 2nd Place - NOW GLACIERS MOVE - Chris Psychal, Author  
Wisconsin Geological Society, Inc.

**JUNIOR ARTICLES (up to 10)**

- 1st Place - EURYPTERIDS, THE SEA SCORPIONS - Jeff Rogers, Author  
Lincoln Orbit Earth Science Society

**POEMS**

- 1st Place - MY ROCKHOUND VALENTINE - George "Chic" Cihacek, Author  
Loup Valley Gem & Mineral Society
- 2nd Place - CALL OF THE ROADCUT - Carol Anderson, Author  
Neville Public Museum Geology Club
- 3rd Place - CRYSTAL MANIA - George "Chic" Cihacek, Author  
Loup Valley Gem & Mineral Society
- 4th Place - 'T WAS THE NIGHT BEFORE THE ROCK SALE" PARODY OF "T WAS THE NIGHT BEFORE CHRISTMAS" - John R. Washburn, Author  
Lincoln Orbit Earth Science Society
- 5th Place - NOW IT ALL BEGAN - Dolores Rose, Author  
Grand Island Earth Science Society
- 6th Place - TIME TO CASH IN - Mary Fox, Author  
Southern Illinois Earth Science Club
- 7th Place - ODE TO AN AMMONITE - Dolores Rose, Author  
Grand Island Earth Science Club
- 8th Place - FOSSILS - Mona Harms, Author  
Grand Island Earth Science Club
- 9th Place - ODE TO THE BADLANDS - Dolores Rose, Author

- 10th Place - Grand Island Earth Science Club  
FOSSIL HUNT - Mona Harms, Author  
Grand Island Earth Science Club

**SPECIAL PUBLICATIONS**

- 1st Place - 25th ANNIVERSARY 1963 - 1988 - Ardath M. Garland, Author  
Calumet Gem & Mineral Society
- 2nd Place - FOCUS ON FOSSILS (G.I. MUGGET SPECIAL SHOW PUBLICATION) - Mary McCartney/Dolores Rose, Authors  
Grand Island Earth Science Society, Inc.
- 3rd Place - FOSSILING WITH LLOYD "NELLY" OWEN - Lloyd "Nelly" Owen, Author  
Evansville Lapidary Society
- 4th Place - MICHIANA GEM AND MINERAL SOCIETY PROGRAM - Margaret Reinek, Author  
Michiana Gem and Mineral Society
- 5th Place - ROCK TABLET SPECIAL EDITION - Milton Schmitt, Author  
Neville Public Museum Geology Club

**SPECIAL INTEREST BULLETIN**

- 3rd Place - ROCKHOUND POEMS - John D. Vicker, Editor  
(A collection of poems from exchange bulletins in the MWF area)  
Member of Heart of Wisconsin Gem & Mineral Society

**1989 AFMS BULLETIN EDITORS AWARDS**

**MINI BULLETIN**

- 4th Place - LEAVERITE NEWS - Esther & Dick Allen, Editors  
St. Croix Rockhounds, Forest Lake, MN

- 7th Place - WASTODON TRACKS - Gert Larson, Editor  
Badlands Sandhills Earth Science Club, Missoula SD

**SMALL BULLETIN**

- 3rd Place - The New LOESS BULLETIN - Judith Washburn, Editor  
Lincoln Orbit Earth Science Society  
Rochester, IL

**LARGE BULLETIN**

- 3rd Place - EARTH SCIENCE NEWS - Jean Reynolds, Editor  
Earth Science Club of Northern Illinois, Clarendon Hills, IL
- 5th Place - THE TRILOBITE - Margaret Littel, Editor  
Wisconsin Geological Society, Inc.  
Milwaukee, WI
- 8th Place - SERENDIPITY GEMS, Luella E. Bond, Editor  
Evansville, Lapidary Society, Boonville, IN
- 9th Place - C.I. MUGGET - Mary McCartney & Dolores Rose, Co-Editors  
Grand Island Earth Science Society,  
Grand Island, NE

**NEW EDITORS/BULLETINS**

- 8th Place - THE ROCKY READER - Doris Caldwell, Editor  
Toledo Gem and Rockhound Club, Toledo OH
- 9th Place - FLINT CHIPS - Melissa K. Strayer, Editor  
West Central Ohio Rock Club, Morris-town, IN
- 10th Place - 25th ANNIVERSARY 1963-1988 - Ardath Garland, Author  
Calumet Gem & Mineral Society, Inc.  
Hammond, IN
- 7th Place - ROCK TABLET SPECIAL EDITION - Milton Schmitt, Author  
Neville Public Museum, Green Bay, WI
- 10th Place - FOSSILING WITH LLOYD "NELLY" OWEN - Lloyd "Nelly" Owen, Author  
Evansville, Lapidary Society, Boonville, IN

**POETRY**

- 1st Place - MY ROCKHOUND VALENTINE - George "Chic" Cihacek, Author  
Loup Valley Gem & Mineral Society, Inc.  
Schuyler, NE

- 5th Place - CALL OF THE ROADCUT - Carol Anderson, Author  
Neville Public Museum Geology Club,  
Green Bay, WI

**ADULT ARTICLES - ADVANCED**

- 3rd Place - KRONOSAURUS: An Australian Sea Monster that 'Got Away' - Allen A. Debus, Author  
Earth Science Club of Northern Illinois  
Clarendon Hills, IL
- 4th Place - WHAT'S IN A VUG - VUG MINERALS FROM THE PRAIRIE DU CHIEN DOLOSTONE - Dr. William S. Cordua, Author  
St. Croix Rockhounds, Forest Lake, MN
- 5th Place - THE GEOLOGIC CALENDER - Dennis Hanning, Author  
Wisconsin Geological Society, Inc.  
Milwaukee, WI

**JUNIOR ARTICLES**

- 2nd Place - EURYPTERIDS, THE SEA SCORPIONS - Jeff Rogers, Author  
Lincoln Orbit Earth Science Society,  
Rochester, IL
- 3rd Place - CALENA - Dawn Hessler, Author  
Toledo Gem and Rockhound Club, Toledo, OH
- 7th Place - NOW GLACIERS MOVE - Chris Psychal, Author  
Wisconsin Geological Society, Inc.  
Milwaukee, WI

**CONGRATULATIONS** to the above editors and authors for their outstanding entries. To place in any of the MWF/AFMS categories is a rewarding achievement.

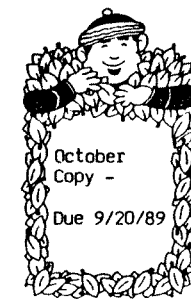
The BAC Committee and I would like to thank all of the editors that participated in the 1989 Bulletin Editors Contest. Please plan on entering again next year, each year we add a few more entries from our MWF editors. The Bulletin Editors Contest promotes camaraderie among fellow editors, sharpens skills, keeps bulletins updated, is a satisfying endeavor for healthy competition, and it is just plain fun. There were so many higher scores this past year that we know your name will be listed above next year.

This year in Kalamazoo, MI, the bulletin editors had 3 well-attended functions geared toward them. The Bulletin Editors Breakfast had 63 in attendance, 5 more than last year. We were very pleased to award 27 trophies and many certificates. The breakfast and fellowship were enjoyed by all.

As BAC Chairperson, I have had nothing but good reports, both verbally and by mail on the 1989 Bulletin Editors Workshop/Seminar. Both Judith Washburn and I, as "greenhorns" are very pleased with the feedback responses we have received. A workshop packet was sent to James Fowler, AFMS Club Publications Chairman, his reply, "It is one of the most comprehensive packets I've seen." Groundworks are now in the making for next year in Evansville, Indiana.

A Bulletin Editors Booth became the gathering place for editors to meet, exchange ideas, pick up bulletin material, personal identification (that was fun), and a place to rest their feet. Again we were overwhelmed with responses from editors. So many bulletins were made available, nobody went home empty-handed. Please keep this in mind for next year. We would like to see your booth in Evansville, IN, as successful as this past one. Thank you editors, for your cooperation in sharing.

*Natley Miller, BAC*



**LAPIDARY ARTS**

It was very encouraging to see how well the Lapidary Arts self-help booth did at the 1989 MWF show/convention in Kalamazoo, MI. The Lapidary Arts Committee received handouts for the booth from 33 specialized clubs, lapidary related museums, magazines and equipment suppliers. We would like to thank all those involved who contributed. The hobbyist and general public alike enjoyed browsing through all the material.

Plan on stopping by our booth next year in Evansville, IN. If there is an area you would like to see at the booth that we did not cover this year let us know. If you would like to donate material relating to the hobby feel free to bring it to next year's show/convention, or send it to me and I will see to it.

For those that were unable to attend the 1989 MWF show and would like to receive some of the latest catalogues from equipment dealers, brochures from lapidary museums, information on a specialized club in your field, or any of the MWF Committees, please let me know, I will see that you get your request.

The Lapidary Arts Committee is like a Roofers Union card ... it covers everything! We are here to help you - the hobbyist.



Bob Miller, Lapidary Arts Chairman  
1106 Clayton Drive  
South Bend, Indiana 46614  
Doris Kemp, Assistant

**WINNERS - 1989 COMPETITIVE EXHIBITS**

Trophy 1 & 24	Max Schultz Livingston Gem & Mineral Soc.
Trophy 18, 20 & 21	William J. Horton Livingston Gem & Mineral Soc. Midwest Faceter's Guild
Trophy 20S & 19S	Rockport Faceters Ohio
Trophy 36	Pat & Bob Rutkowski Midwest Mineral. & Lap. Soc.
Trophy 15	Midwest Mineral. & Lap. Soc. Michigan
Trophy 30S	Mineralogical Soc. of Cleveland
Trophy 8	Ohio Carl Yagley Michigan Mineralogical Soc.
Trophy 16	Bob Miller Michiana Gem & Mineral

There were twenty entries with twelve trophies awarded. Congratulations to all.

Margaret Heinek, Chairperson  
Uniform Rules Committee

## Youth NEWS

### GALENA by Dawn Hessler

Gaena is a heavy silvery-gray mineral. It has about 86.6 parts of lead and 13.4 parts of sulfur by weight. Its crystals are cubic shaped.

This mineral is found in Mexico, Spain, Canada, the Hartz Mountains of Germany, and the United States. In the United States, gaena is found in Missouri, Idaho, Illinois, Iowa, Wisconsin, Colorado, and Montana.

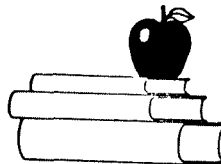
Gaena is the most important source of lead. Its crystals were used in early radio sets. Coarsely grained gaena is used to glaze pottery. It is also used to make bullets and radiation shields.

Gaena is a shiny rock and shines silver. It is fun to hold because it is so heavy compared to other rocks. I think a lot of people think gaena is very pretty, like I do!

References: The World Book  
Ziml Rocks and Minerals  
McGowenl Rocks and Minerals

1st Place MWF Junior Article - 1989  
11-17 Class

3rd Place AFMS Junior Article - 1989

**EDUCATION THROUGH SHARING HONORS PROGRAM**

The winners of this award at the Midwest Federation level of competition were:

**First Place** - Diane Dare  
Southern Illinois Earth Science Club

**First Runner-up** - Thomas Robak  
Neville Public Museum Geology Club

We are pleased to announce that Diane Dare received **First Place** recognition in the AFMS competition.

**FIELD TRIPPER OF THE YEAR AWARDS**

The winners of this award at the Midwest Federation level of competition were:

**First Place** - Bruce Spike and Arnold Mulzer  
Ishpeming Rock & Mineral Club

We would like to see more entries in these two areas next year. Certificates will be given to all those who enter to show that their clubs honored them in this way. See upcoming MWF and AFMS Newsletters for details, or write to me and I'll send you a copy of the rules.

Carol Anderson, Chairperson  
Education Through Sharing  
918 13th Avenue  
Green Bay, WI 54304

**OUR DEEPEST SYMPATHY**

Our sympathy goes out to Otto Enswinger upon the loss of his wife, Wanda. Wanda, a member of the West Suburban Lapidary Club, Elmhurst, IL, passed away on June 5, 1989. She contributed much to the club and the hobby over the years and was exchange editor of The Opal Newsletter for several years.

Otto is a charter member of the West Suburban club and still an active member. He is the past president of both West Suburban and The Earth Science Club of Northern Illinois. Otto has been very active in the Chicagoland Gem & Mineral Club. MWF folks will remember that Otto served the Federation as treasurer for several terms.

Wanda will be missed very much by all who knew and loved her.

Submitted by Lillian Keck, Editor  
The Opal  
West Suburban Lapidary Club  
Elmhurst, IL

MIDWEST FEDERATION NEWSLETTER  
Judith Washburn, Ed.  
107 Deer Creek Road  
Rochester, Illinois 62563



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## OTHERS WRITE

## NEBRASKA'S STATE FOSSIL

Nebraska is one of a few states that has a state fossil. In 1967 the mammoth was designated Nebraska's state fossil by an act of the Nebraska State Legislature (LB 252).

Mammoths are extinct relatives of the living Indian and African elephants, having migrated to North America from Asia some one and one-half million years ago. These animals were very much at home on the rich, grassy, mostly treeless plains of Nebraska. They became extinct in the New World at the end of the last major glaciation about 10,000 years ago. Some scientists say that man may have hunted these great creatures to extinction; others would say that the mammoths were already on the road to extinction long before the onset of the early hunters. Clovis type projectile points have been found associated with mammoths in Colorado, Wyoming and South Dakota but as yet no clear cut associations have been discovered in Nebraska.

The mammoth is indeed the most common of Nebraska's vertebrate fossils, occurring in Pleistocene (Ice Age) deposits that blanket much of the state. In the University of Nebraska State Museum's collections are mammoth remains from 85 of our 93 counties.

Most workers on Ice Age faunas would agree that there were four mammoth species in North America: 1) Mammuthus meridionalis - the "Southern Mammoth" - an early primitive species with very thick enamel tooth plates; 2) Mammuthus columbi - "Columbian Mammoth" - a somewhat intermediate form with less thick enamel tooth plates; 3) Mammuthus jeffersonii - "Jefferson's Mammoth" - the most advanced and latest of Plains species with numerous and very thin enamel tooth plates; 4) Mammuthus primigenius - "Woolly Mammoth" - the most advanced of all mammoths, its remains have not as yet been identified from Nebraska. It, of course, is commonly found in Alaska and the prairie provinces of Canada on into the northeastern United States.

Most of the specimens found in Nebraska are probably Columbian and Jefferson's mammoths. They most commonly occur in the loess canyon areas of central and south-central Nebraska and in commercial gravel pits throughout the state.

We have on exhibit at Morrill Hall on the UNL campus what is considered to be the world's largest mammoth. Its remains were found in Lincoln County near Wellfleet in 1922 and is affectionately referred to as "Archie" by the museum staff. The Denver Museum of Natural History makes a similar claim to exhibiting the world's largest mammoth. It was found near Angus in Nuckolls County in 1931. Suffice it to say that the "World's Largest Mammoth" was indeed a Cornhusker!

by Dr. George Corner, vertebrate paleontologist,  
collections manager of Highway Salvage Paleontology



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October, 1989. p. 98

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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.**

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