T[illegible] Rockfinder
M[illegible]iana Gem & Mineral Society
Tom Noe, Editor
305 Napoleon Blvd.
South Bend, IN 46617

January, 1996

THE ROCKFINDER

Highlights of this issue –

CRYSTAL-GROWING, page 7
ADVICE FOR DISPLAYING, page 8
REVIEW OF NEW AGATE BOOK, page 5

MICHIANA GEM and MINERAL SOCIETY

1996 BOARD OF DIRECTORS

President	.....	Margaret Heinek	7091 E. East Park Lane, New Carlisle, IN 46552-9400
Vice Pres.	.....	Michael Slattery	52332 Carrage Hill Dr., South Bend, IN 46635
Secretary	.....	Marie Crull	17651 Byran St., South Bend, IN 46635
		Emily Johnson	62295 Pine Road, North Liberty, IN 46554
Treasurer	.....	Pam Rubenstein	1316 Catherwood Dr., South Bend, IN 46614
Liaison	.....	Jessica Zieger	11923 McKinley, Mishawaka, IN 46545
Past. Pres	.....	Jim Russell	27911 North Street, North Liberty, IN 46554

COMMITTEE CHAIRPERSONS

Programs	.....	Michael Slattery	52332 Carrage Hill Dr., South Bend, IN 46635
Hospitality	.....	Pat McLaughlin	515 N. Clay Street, Mishawaka, IN 46545
Educational	.....	Gordon Dobecki	11900 Laughlin St. Mishawaka, IN 46544
Librarian	.....		
Historian	.....		
Sunshine	.....	Sister Jeanne Finski	Bertrand Hall, St. Mary's, South Bend, 46556
Publicity	.....	Tom Noe	305 Napoleon, South Bend, IN 46617
Mambership	.....	All Members	

The Michiana Gem & Mineral Society, a non-profit organization, and is affiliated with the Midwest Federation of Mineralogical and Geological Societies and with the American Federation of Mineralogical Societies.

PURPOSE-

The purpose of the Michiana Gem & Mineral Society is to promote interest in and study of the earth Sciences and the lapidary arts, and sharing the knowledge and techniques.

Time 2:00 PM EST
General Meeting 4th Sunday of each month
June - Field Trip Meeting
July no meeting August - Annual Club Picnic
Annual Show Labor Day Weekend

Place ..... Our Redeemer Lutheran Church
805 S. 29th St (29th St & Wall)
South Bend, IN
December - Christmas Party

Board Meetings: 2nd Wednesday, 7:00 PM, South Bend Main Library, Basement Level

ROCKFINDER STAFF: Editor Tom Noe 305 Napoleon, South Bend, IN 46617
Co-Editor Margaret Heinek 7091 E. East Park Lane, New Carlisle, IN 46552-9400
Staff Bob Heinek/ Herb Luckert/Club Members

All contributions for publication should be in the hands of the Editor by the 10th of each month. Call (219) 289-2028 or (219) 654-3673. Permisssion is hereby granted to reprint, at any time, items publiched in the ROCKFINDER provided due recognition is given.

cut_____

Membership Dues are:

____ Individual $ 6.50 per year
____ Family $ 10.00 per year
____ Junior $ 2.00 per year

Please send your dues and this form to
Michiana Gem & Mineral Club
c/o Margaret Heinek
7091 E East Park Lane
New Carlisle IN 46552

Please make address corrections to the mailing label (reverse side) and/or fill in the optional information below.

Check your SPECIAL INTERESTS:

General Geology ___ Beads ___
Gems & Minerals ___ Silversmithing ___

Fossils ___ Artifacts ___
Cabochons ___ Rockhound ___

Faceting ___ Carving ___
Crystals ___ Micromounts ___
Other _____

List Family Members (spouse and children):

Name _____ Birth Mo/Yr ____
will attend meetings, yes ___ no ___

Name _____ Birth Mo/Yr ____
will attend meetings, yes ___ no ___

Name _____ Birth Mo/Yr ____
will attend meetings, yes ___ no ___

Name _____ Address _____

City St Zip _____ Phone _____ Birth Mo/Yr _____

THE ROCKFINDER

Volume 36
Number 1

January 1996

Published by:
Michiana Gem & Mineral Society

Meeting: Meeting: Sunday
Doors Open 1:30 PM
Meeting at 2:00 PM

Place: Our Redeemer Lutheran Church
805 S 29th St.(29th & Wall)
South Bend, IN

Hosts: Tom and Pat McLaughlin

---------- January's Program ----------

Fossil Hunting at Hueston Woods State Park in Ohio, by Louis Jordan, Jr.

Happy Birthday & Anniversary:

8th--Beverly Knowles
13th Lorraine Jordan
14th--Gordon Dobecki
14th Clarence Orrell
16th--Marilyn Meir
25th Cliff Maxwell
17th--Joseph Otousa

ANNIVERSARIES:

9th--Larry and Cindy Hess
28th--Dick and Joan Rosback

COMING EVENTS:

Gem and Mineral Show in Richmond, IN, March 8--10. More information next month.

If you are able to help for any length of time at the 1996 Science Alive program at the St. Joseph County Library, please contact Margaret Heinek. Dates are Friday, Feb. 9 (9:30--11:30 for at-risk students), and Saturday, Feb. 10 (10:00--4:00, all students). You can sign up for various time slots to suit your schedule.

MARGARET'S COLUMN

Well, we made it to another year, 1996! The Michiana Rock and Gem Club joined the Midwest Federation in 1962, which makes 1996 our 34th year. The name of the club was changed to the Michiana Gem and Mineral Society due to problems with "rock music" people showing up with their musical instruments. We had to explain we were not "rockers" but "rockhounds".

I sincerely hope all of our members had a good holiday season, and didn't put on too much around the middle. I think most of us tend to eat too many rich food from Thanksgiving through New Years.

Now down to business.....**DUES ARE DUE...** so if you have not paid yours, please do so, and this will help us get our roster out soon. We do not want to lose any of our members, so send your dues to either Pam or me now.

We have a new editor, Tom Noe. He would like articles for the ROCKFINDER. So make sure you get your contribution to him early in the month. If he asks you to help, please give him a hand. Thanks, Tom.

Tom Noe, Bob and I were at Paul Godollei's last month sorting some of the fossils. Paul's son, David, gave Bob and me a display of crinoids. He gave the club some loose crinoids which will be used at the Science Alive February 10th. I have agreed to have a display there on the 9th for special students. If anyone is interested in helping either on Friday for about 2 hours or on Saturday for a while, please let us know. Gordon will have his machinery there on Saturday and will need help. I am sure some of the older junior's help would be welcome.

One of our dealers, Ron Baird (Ron's Rocks and Fine Gems), had to drop out of the September show, as he suffered a spell at Geodon's show in November. Ron is in a re-hab center in Ohio, and we wish him well.

Our program this month will be given by Louis Jordon, Jr, on "Family Experience, Fossil Hunting at Hueston Woods State Park in Ohio". This is the area that Kathy Miller mentioned making reservations for next September. Also the Juniors are to bring in some of the displays for this meeting. So come and support them.

Sister Jean is our new Sunshine Chairman. Make sure she has your birthday and anniversary dates. Molly had most of them, but some of our new members may not be listed. Please, when you renew your membership, enclose your dates. We do not need the year, just month and day.

If you know someone that is ill, please let Sister Jean know, or if you can't get her, let me know. We do not want to forget anyone.

"PLAN YOUR VACATION AROUND OUR DATE IN '96"

Start making plans to attend the Midwest Federation/Geodeland Earth Science's Show and Convention, Western Hall, Macomb, Illinois. It will be held July 26, 27 and 28 1996 at the Western Illinois University and will have housing at the dorms, camping facilities, B&B and hotels.

We had such a good time the last time we attended a show at Macomb, so look forward to a good one.

WELCOME TO *'DIAMOND DAZE'*

The Riverside Convention Center in Riverside, California will be the setting for the combined CFMS-AFMS Convention and Show to be held August 6-11, 1996.

Hosted by five clubs from Orange County in Southern California, looks like a winner. Although August can be warm in that part of the world, never fear–the facility is completely air-conditioned and summer evenings are very pleasant. Leave your umbrellas at home; just bring sun block and/or your favorite hat. Riverside is about an hour's drive from most of the 'tourist stuff' you've heard about.

Make your plans on enjoying an exciting week.

MINUTES OF THE NOVEMBER 26 MEETING

President Heinek opened the meeting at 2:07 PM at the Lutheran Church, and welcomed Marge and John Hawkins, members living in Packwood, Washington. She introduced the speaker, Timothy Keel.

Jessie Zieger made a motion to accept the minutes as printed in the ROCKFINDER, second by Sister Jeanne Finske, passed.

The treasurer's report was given by Pam Rubenstein. As there were no questions, it will be filed for audit.

Bob and Kathy Miller were host and hostess. Thanks to the Millers for the nice treats.

Gordon Dobecki reported on his classes. Pres. Heinek thanked Gordon and Mike Slattery for getting the TV to the church and setting it up.

Herb and Phyllis Luckert displayed cephalopods, horn coral and brachiopods from Ohio. Carl Simpkins brought in leaf fossils from Southern Illinois. Margaret & Bob showed 2 Permiam blastoids from Indonesia.

Tom Noe, publicity, read the article he had written to send in to the AFMS *Each Club - Each Year - One Rockhound*, on Paul Godollei. Paul died Nov 16, after a very short illness. A fossil book or tape will be purchased for the library, in memory of Paul and Joseph Fashbaugh. Joe passed away in October. A memorial will be sent to the Midwest Federation Endowment in memory of Catherine McHugh who died Nov. 21.

Kathy and Bob Miller, Tom and Pat McLaughlin, John and Margie Hawkins, Marilyn and Jo Meier and Jim and Barbara McHugh thanked everyone for their kindness and comforting words on the death of their mother and mother-in-law.

In the absence of Ed Miller, Bob Miller and Tom McLaughlin presented the nominations for the slate of officers.

President	Margaret Heinek
Vice President	Tom Slattery
Secretary	Marie Crull (May -Dec
	Emily Johnson(Jan-Apr
Treasurer	Pam Rubenstein
Liaison	Jess Zieger

There being no nominations from the floor, Sister Jeanne motioned, seconded by Kathy Miller that the slate be accepted. All members voted in favor.

A glass for one of the club cases was broken at the show in September. Bill Crull motioned to have the glass fixed, seconded by Gordon Dobecki, all in favor.

Sister Jeanne was asked if she would be Sunshine Chairman for 1996. Mollie had indicated she would like for someone else to take over. Thanks Sister.

Bob Heinek asked if the club would like to make a Christmas donation to Battered Women, Salvation Army, Hope Rescue Mission and Homeless Center. Sister Jeanne motioned, seconded we donate $25.00 each. Motion passed.

Our speaker Timothy Keel from Notre Dame Library, presented slides and a tape program on Tornados. Tim is always very interesting to listen to.

Door prizes went to Jrs. Alec Rubenstein and Cliff Maxwell. John Hawkins, Tom McLaughlin, Kathy Miller and Herb Luckert won the adult.

Board Meeting will be December 13th at the library downtown at 7:00 PM.

There were 18 adults, 2 juniors and one guest present.

Respectfully submitted,
Marie Crull, Secretary

* * * *

CHRISTMAS PARTY — DEC. 3, 1995

President Heinek welcomed everyone for this time of sharing. A beautiful party was held with all the decorations, tree and all. Margaret thanked Kathy Miller, Marie Crull and Mike Slattery for the decorations.

Dec. minutes continued---

(Dec. minutes continued)-
Margaret asked for a moment of silence for our 3 club members who passed away in November.

A short meeting was held at which time Kathy Miller suggested a trip to Mazon Creek sometime after March 13th of 1996. Collecting is very good when muddy conditions are still available. Herb Luckert made a motion and gordon Dobecki second that we plan on this trip, all voted in favor. Kathy will check further on dates and times.

Our Labor Day weekend show will be August 30th, 31st and Sept. 1, 1996. Mark your calendars so you can participate and help!

A bus trip was also discussed for the 3rd weekend in September, 1996 to Hudson Woods, Miami, Ohio. Kathy Miller will check into the cabins and further reservations. Mike Slattery made a motion for this trip, seconded by Jessie Zeiger, The dates would be September 27, 28 and 29th. Motion carried.

The new officers for 1996 were installed by Bob Miller, as follows:

President	Margaret Heinek
V- President	Mike Slattery
Secretary	Marie Crull(May- Dec)
	Emily Johnson(Jan-Apr)
Treasurer	Pam Rubenstein
Liaison	Jessie Zeiger

Tom Noe lead everyone in Christmas songs, after which, a gift exchange was held. Drawings were held for Poinsettias and gifts.

There were 7 juniors and 20 adults present.

Marie Crull, Secretary

* * * * *

SCHOOL PROGRAM

A program at St. Joseph Grade School Mishawaka was presented by Bill Crull. Marie and Bill's granddaughter's 6th grade class is studying all types of rocks and gems. About 40 students really appreciated Bill's talk, and voted to have Bill come back the next day, as the teacher did not give any homework that day.

Each youngster was presented with a polished rock, and the teacher was given a geode for the class room. Bill will take more specimens later.

Bill told the class about the club show in September and invited the children and their parents to come.

* * * * *

THANK YOU'S to Bill Crull

"Thank you for wasting your time to teach us about minerals. I also thank you for the stone you gave me and just the stuff I learned that I didn't already know (but of course I didn't know more than 95% of the things you told us about)." Christopher.

"I think it was very sweet to take your time to come in our class. Lauren must be very lucky to have a grandpa like you.....Come again!" Ashley

"You have a very nice rock collection and I hope that you will continue collecting for a long time." Melissa.

"Dear Papa, ...I learned why some rocks where heavier than and what they had inside them. Thanks." Lauren.

"I think I might get an A on our test. I think I might look for gems someday." Joey

"Thank you for taking your time to come and show us your rock collection. Thanks again...your magnatite assitant". Kim.

"Thank you dearly for showing me different types of rocks. It amazed me that there are so many gemstones, rocks and minerals all around the world, and being a rock collector myself, it fasinates me to see so many rocks that I don't have in my collection. The one thing I learned is if you want something you have to work hard to get it and with your rocks you showed me that I can achieve anything or find any kind of rock I want, just by putting my mind to it." C.J. Nwokah

(This was just a sampling of the letters Bill was sent thanking him)

BOOK REVIEW

BANDED AGATES -- ORIGINS AND INCLUSIONS

by Roger K. Pabian and Andrejs Zarins

The search continues for the geological and chemical causes of the beautiful banded structures we all admire in agates. I'm sure we have asked ourselves the same questions which these two authors set out to answer: How do those lovely bands form? Why are they colored? Why are the bands sometimes squeezed out of shape? How do inclusions form in agates, and do they form before the bands or afterward? Does the banding form layer by layer by accumulation, or is another process at work?

The authors propose satisfying answers to all these questions and more, but the reader should be ready for some difficult technical reading. This is a scientific article with plenty of geologic and geochemical terms. Fortunately, there is a glossary of many of these multisyllabic terms, but a dictionary may still come in handy.

Unlike other authors have done, Pabian and Zarins consider the geologic environment in which agates form--the various types of strata and conditions which produce agates. (There are only five types). This helps to answer questions such as: Where does the silica in the agates come from when the surrounding layers contain no silica? and Where does the material for inclusions (plumes, needles, tubes, etc.) come from? As you might expect, the composition of the surrounding strata has a great impact on the formation and composition of agates. Pabian and Zarins try to understand agates as the products of specific conditions of deposition, weathering and geologic forces.

They spend a lot of time explaining the origins of thunder eggs and also of amygdaloidal agates (e.g., northern Mexican, Brazilian, Woodward Ranch). These sections, along with the sections on the numerous inclusions to be found in agates, are specific and detailed, with numerous insights into the nature of agate. They are more cautious, however, when treating agates such as Teepee Canyon, Dryhead and Nebraska blue agates. These agates, which occur in sedimentary or windblown strata, still have many secrets to yield. The vexing problem of the source of silica in these strata is often referred to organic origin; these authors suggest that it may also come from windblown ash of volcanic origin.

The authors are careful not to offer this 32 page booklet as the last word on agate formation, and they welcome further research and testing. They themselves examined about 15,000 agates from 18 different localities around the world, so other researchers may have a hard time catching up with them.

All in all, agate fans will be delighted with the accuracy and scientific basis of the conclusions proposed in this book. The interior photographs are super; the illustrations quite helpful. This is a comprehensive scientific guide to the processes of agate band formation and the origin of inclusions in agates. It is the state of the art in our understanding of agates, and we owe Mr. Pabian and Mr. Zarins a great debt of thanks.

The booklet is available from the Conservation and Survey Division, 113 Nebraska Hall, University of Nebraska--Lincoln, P.O. Box 880517, Lincoln, Nebraska 68588-0517. The cost is $4.50 plus $1.50 shipping.

by Tom Noe

* * *

If we (discoverers of the DNA double helix) deserve any credit at all, it is for persistence and the willingness to discard ideas when they become untenable. One reviewer thought that we couldn't have been very clever because we went on so many false trails, but that is the way discoveries are usually made. Most attempts fail not because of the lack of brains, but because the investigator gets stuck in a cul-de-sac or gives up too soon.

--Francis Crick

Ries' Ramblings

by Ed Ries, President, AFMS

This is the month when the groundhog comes out, sees his shadow and goes back to sleep for six weeks. If rockhounds did this they would miss a lot of the spring rock hunts and shows. Spring is the time of year when nature brings forth her flowers and green plants that we all love to see and smell. Have you ever noticed how nature recycles her plants, trees and even the grains of sand.

Have you ever considered how you could help your hobby and fellow rockhounds by recycling. Many of us are already recycling plastics, newspapers, glass, metal cans and tires. Why not recycle some of those rocks, minerals and fossils that we have accumulated over the years? Many times when we went on a hunt we came back with more than we would ever use. Consider that some of this material is no longer available to the younger rockhounds because the sites are now closed or have been covered by housing and commercial projects.

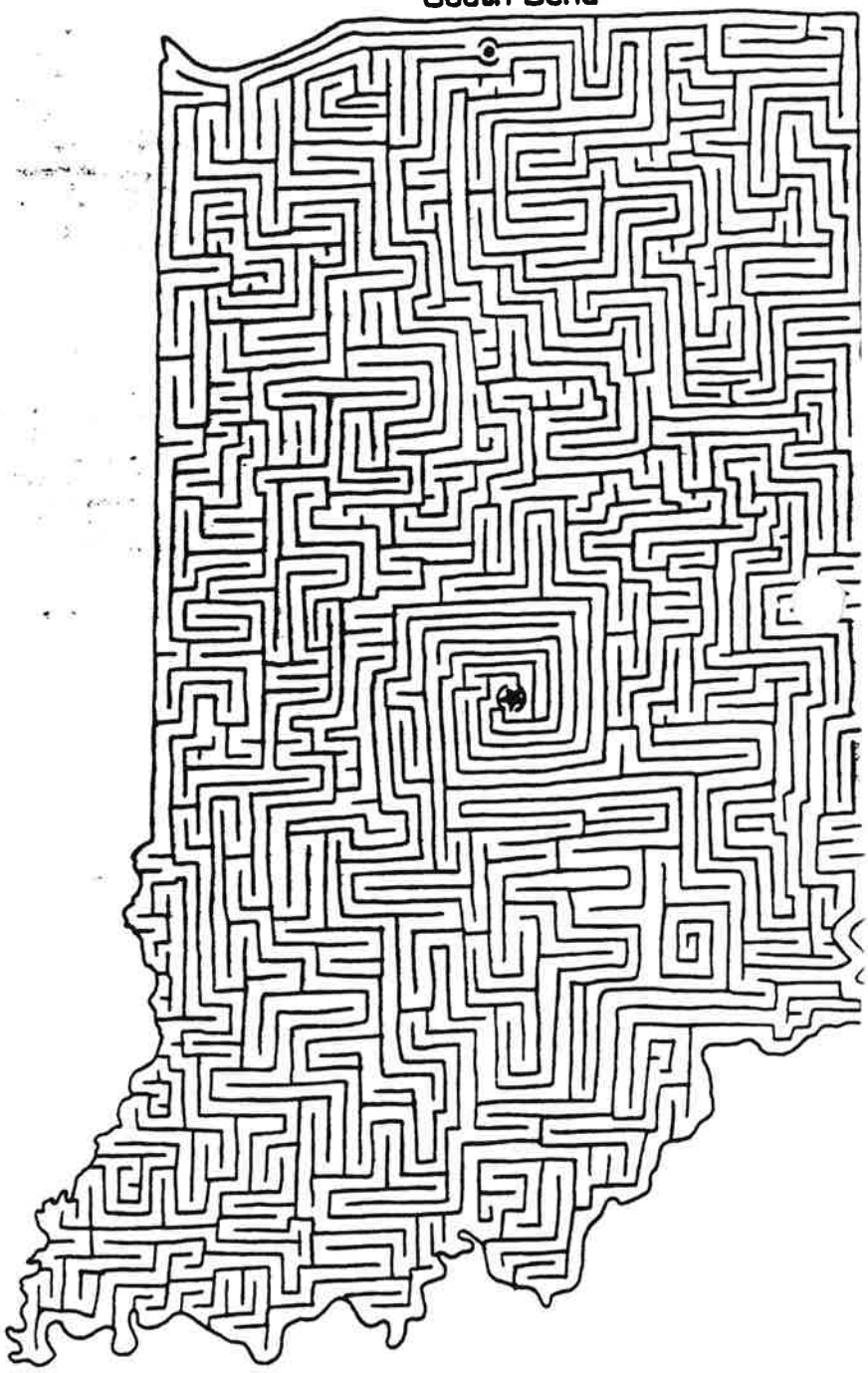
How do you go about recycling rocks, minerals and fossils? You donate them to your club or federation for use at their auctions. Your club can use the money for many different projects such as shop equipment, an endowment fund, or an educational fund. There are many worthy projects. The purchaser of this donated material receives something they are unable to otherwise get because they may not be able to go on field trips as you were able to do. Now you have helped your club, our hobby and a fellow rockhound, and you no longer have so many rocks, minerals and fossils filling up all those boxes.

They tell me that you can't take your money with you when you leave this world and the same can be said about rocks, minerals and fossils. Now you say that you will pass them on to someone else. That is very good, but will they really want all those extras that have accumulated? Why not get some joy and satisfaction now by starting to recycle this material. You will see some of the joy in others that you once had when you found this material. Have some fun and enjoyment now that spring is almost here.

Recycle today!, for tomorrow's world will be as different as the the typewriter is to the computer. We must adjust and accept what we cannot change and try to change what we can.

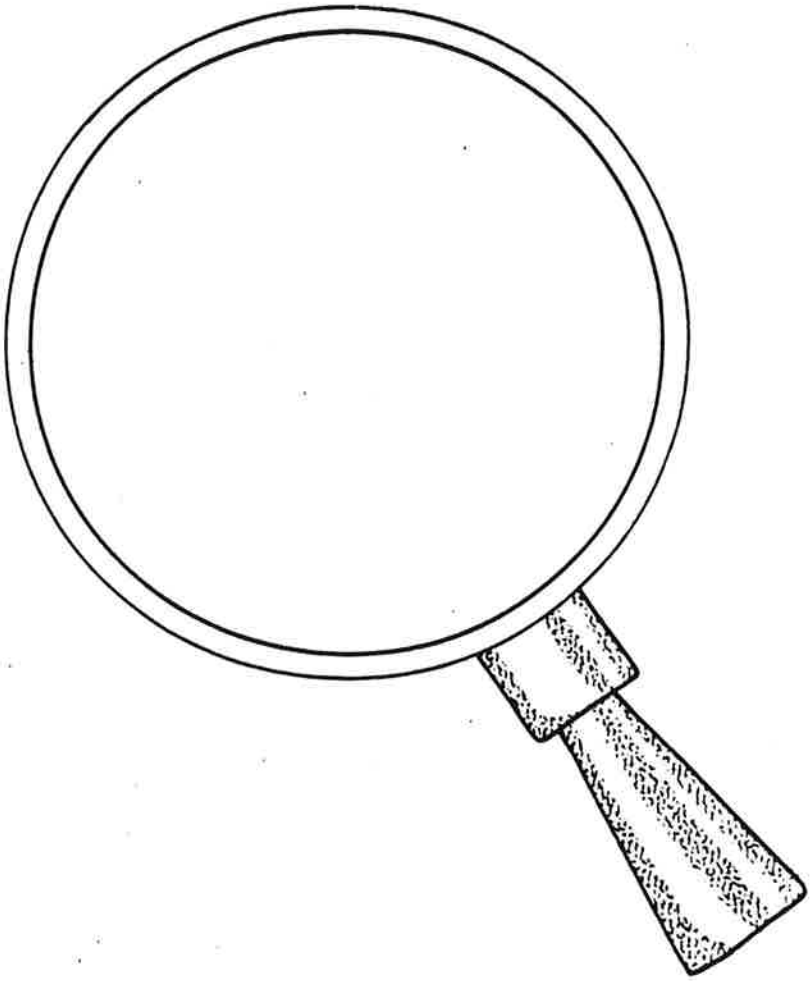
HELP! Everybody in Indianapolis is trying to attend the wonderful rock show in South Bend, but not everyone knows the way. Time is running short. Can you map out a way?

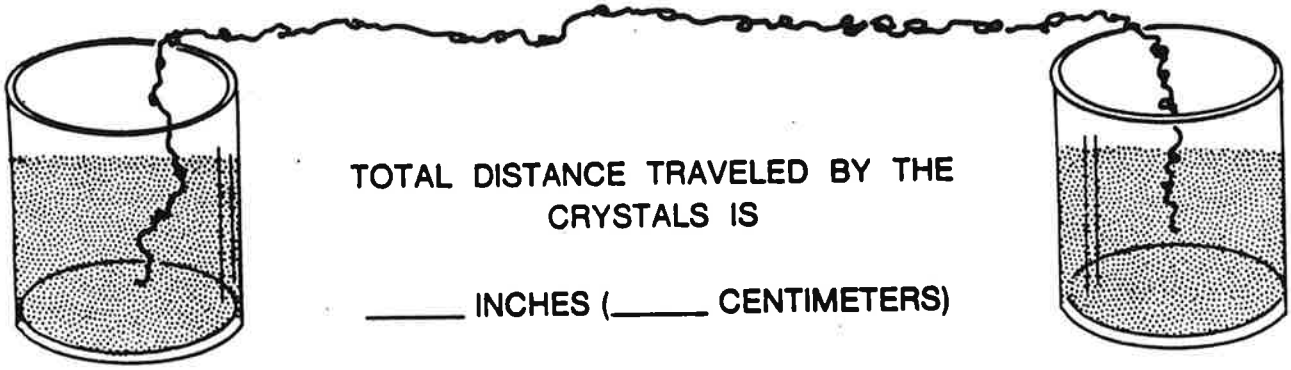
South Bend



Large Crystal Gardens

To make a crystal garden, place several lumps of charcoal or coal in a glass or metal container. Mix 6 tablespoons (90 ml) of ammonia, 6 tablespoons (90 ml) of water, 6 tablespoons (90 ml) of salt and 6 tablespoons (90 ml) of laundry bluing in another container. Pour mixture over coal or charcoal. Add food coloring for colored crystals. Grow crystals on sticks and small branches. Study the designs and shapes made by the crystals. What geometric patterns do you see? In the magnifying glass below, make a drawing of the favorite part of your crystal garden. Color it. Then see if you can make crystals grow along a string between two glasses that contain **salt** water. Measure the distance traveled by the crystals and record your results below.





TOTAL DISTANCE TRAVELED BY THE CRYSTALS IS

_____ INCHES (_____ CENTIMETERS)

SHARE YOUR HOBBY—SHOW YOUR COLLECTION: WHY DO WE DISPLAY?

by George Williams

FOR THE PLEASURE IT BRINGS

1. It is satisfying to see our collections attractively set up in a display. We can be rightly proud of what we show.
2. There is much joy and reward in sharing our collections with others who have a similar interest.
3. It's exciting to be part of a group project.
4. After working diligently at our hobby, we deserve a little praise and we can get this only by sharing.
5. Displaying in a show sets up opportunities to meet other people who have found pleasure in the same interests as you. Many life-long friendships have started this way.
6. Sometimes we get a little stale at what we do. Preparing for a show brings new inspiration and rejuvenates your interests.

IT'S AN EDUCATIONAL EXPERIENCE

1. Arranging a display makes you more critical of your material and challenges you to improve your quality.
2. Planning a display around a theme requires some study and you end up with a greater knowledge of your collection.
3. After fussing over your own display, you will look more critically at other exhibits allowing you to profit from others techniques.

THE FUN OF NON-COMPETITIVE DISPLAY

1. Here you have free reign to follow through an idea you have for an exhibit without any concern for fitting into the limitations of rules.
2. Try standing beside your exhibit for a time. Be ready to answer questions and greet strangers as they show an interest in what you have done. You'll exchange some good information and meet some great people.

ADVANTAGES OF COMPETITIVE DISPLAY

1. The rules direct you along certain paths designed to improve your collection.
2. Preparing for a competitive exhibit sharpens your critique of your collection.
3. Judging of your display by others considered to excel in a particular field gives you an honest opinion as to the comparative quality of your material--a basis for improvement.
4. You will become more discerning in your purchase of material or the high grading of your finds.

ENJOY COMPETITION

1. The trophy is a bonus. Don't go all out to get one. Instead, display for the educational value it gives you, the opportunity to evaluate and upgrade your collection.
2. Don't let yourself be embarrassed or disheartened by the judges' criticism. The more comments you get, the more basis you have for improvement. The most dangerous thing a judge can do is give you an undeserved score. Instead of giving the exhibitor inspiration and direction for improvement, it gives him a false value of his collection.
3. Try seriously to recognize what the judges are pointing out as possibilities for upgrading. Each year some exhibitors feel their display is above criticism. With this attitude they would be much happier displaying in the noncompetitive division.
4. Don't collect only to complete a competitive display. Broaden your collection, but use the guidelines for competitive quality in improving your techniques and selection of material.
5. Conversely, don't expect your entire collection to fit into a competitive category. Categories must be limited in scope so judging can be done on a comparative basis. You must select carefully from your collection to meet the limitations expressed in the rules for your selected category.
6. Don't forget the judges are human and thus prone to human error and judgement. I know of no case when a judge was intentionally biased, but many times they have been so accused. Every judge I have known has been most sincere in trying to evaluate every display fairly and with respect and concern for the exhibitor. Respect their integrity and you will profit.

CALGARY LAPIDARY JOURNAL 4/91

FOR SALE: Trim saw with 8" blade, metal stand, good motor, 2 wheels for transport; and grinder/polisher, double-end, metal stand, good motor, drip disk and belt, 2 wheels for transport. Both for $200. Call Herb Luckert at 282-1354.

I never did anything worth doing by accident, nor did any of my inventions come by accident; they came by work.

--Thomas Edison

Identifying True Amber (Succinite)

Since the screening of 'Jurassic Park' interest in the mineral Amber has grown significantly. Unfortunately so has the quantity of fake Amber coming on to the market. Some of these pieces have insect inclusions skillfully placed in the body of the material.

The British Natural History Museum recently discovered that a bee preserved in Amber thought to be the oldest known example of this particular species was in fact a fake and probably no more than 150 years old. (More of this bee later). Evidence of this nature, that even the best can be fooled should alert all collectors to the possibility of being misled or simply cheated.

In some cases Copal, which is tree rosin which has not yet fully fossilized to Amber and may be anything up 3-4 million years old is described as true Amber. Debate still rages in the UK about certain Kenyan deposits as to whether they should be called Copal or Amber and I have heard of similar arguments concerning deposits found in South America.

There are a number of simple tests which can be carried out on Amber to check its authenticity. I have listed here all these basic methods I have come across. More sophisticated and complex tests are possible but they require access to laboratory equipment. These more complex tests include: Refraction Index, Polarized Light test for Ambroid (Conglomerated and Pressed) Amber, Specific Gravity, Melting Point.

When examining a specimen you should try at least 3 of the following methods detailed here. If the item in question fails any one of the tests, it could well mean the piece is not true Amber.

(Test 1) HARDNESS.

Amber has a hardness on scale of 2 - 3 using Moh's scale. Using appropriate scratch sticks it should be reasonably straightforward to test the sample under question.

(Test 2) HOT NEEDLE.

Heat a needle point in a flame and then push the point into the sample for testing. With Copal the needle melts the material quicker than Amber and omits a light fragrant odor. Amber when tested does not melt as quickly as the Copal and omits sooty fumes.

(Test 3) SOLUBILITY.

Copal will dissolve in acetone. This test can be done by dispensing the acetone from an eye dropper onto a clean surface of the test specimen. Amber will however remain unaffected by contact with Acetone.

(Test 4) UV

Copal under a short-wave UV light shows hardly any color change. Amber fluoresces a very pale shade of blue.

(Test 5) FRICTION

Rub the specimen vigorously on a soft cloth. True amber may omit a faint resinous fragrance but Copal may actual begin to soften and the surface become sticky.

(Test 6) TASTE

This test was introduced to me by a Antique Trader who specialized in Amber beads. She explained that one of the most reliable tests she used was to taste the Amber specimen after washing it in mild soapy water and then plain water. Whilst she could make no distinction between Copal and Amber, she could easily identify Plastics and other common substitutes because of their unpleasant or chemical taste. Amber has hardly any taste at all. As a method for identification I have not seen this procedure recorded elsewhere. I can vouch for its effectiveness as a not destructive method of differentiating between Amber and certain other substances often misleadingly labelled Amber.

(TEST 7) INCLUSIONS

Infrequently Amber contains Flora or Fauna inclusions. By correctly identifying the trapped Insect or plant this should be a fairly good indicator of a pieces authenticity. Most inclusions from truly ancient amber or of species which are now extinct.

Anyone wishing to find out more about Amber in general or these test methods specifically would do well to consult one of two books currently available on Amber, they are:

Life In Amber
George O. Poinar, Jr.
Stanford University Press
ISBN: 0-8047-2001-0

and

Amber - The Golden Gem of the Ages
Patty C. Rice,
The Kosciuszko Foundation, Inc
ISBN: 0-917-00720-5

Now back to the bee I mentioned earlier. I am afraid that only the last of these tests would have identified this particular fake. The item consisted of a block of true amber into which had been drilled a holed large enough to receive the dead bee. Amber which had been melted was then poured back over the insect, encasing it in a genuine amber prison.

Garry Platt

E Mail Address: garry@gplatt.demon.co.uk

WHERE DOES THE COLOR GO?

Rubies are red, emeralds are green, but powdered rubies and emeralds are white. The color of transparent substances such as gemstones is due to the fact that they partly transmit and partly reflect light waves. To display normal color, a stone has to be in pieces that are large in comparison with the wavelengths of light.

BONE TOOLS TURN UP IN AFRICA

In April, 1995, scientists reported the discovery of barbed and pointed bone tools, presumably used for fishing, at seven sites along the banks of the Semliki River. The tools are about 80,000 years old, and include double-pointed blades and single points with ridges which could have been attached as spearheads on wooden poles. They were probably all fashioned from the r. of large mammals of the time.

Similar tools have been found in Europe, but they appeared only about 14,000 years ago there.