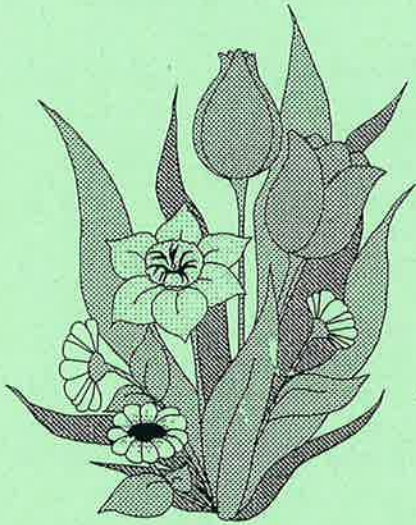


THE ROCKFINDER

Michiana Gem & Mineral Society
Tom Noe, Editor
305 Napoleon Blvd.
South Bend, IN 46617



THE ROCKFINDER

MAY, 1997

MICHIANA GEM & MINERAL SOCIETY

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THE PURPOSE of the Michiana Gem & Mineral Society is to promote interest in and study of the earth sciences and the lapidary arts, and the sharing of knowledge and techniques.

General meetings are held the fourth Sunday of each month, 2:00 pm EST, at Our Redeemer Lutheran Church, 805 S. 29th St., South Bend, IN. Exceptions include field trip meetings, June (field trip), July (no meeting), August (club picnic) and December (Christmas Party).

Board meetings are held the second Wednesday of each month, 7:00 pm, St. Joseph County Public Library, basement level.

The annual club show is Labor Day Weekend.

The Michiana Gem & Mineral Society, a not-for-profit organization, is affiliated with the Midwest Federation of Mineralogical Societies and with the American Federation of Mineralogical Societies.

Rockfinder staff:

Editor, Tom Noe, 305 Napoleon Blvd., South Bend, IN 46617
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Reporters, Bob Heinek, Herb Luckert, club members
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cut _____

Yearly Membership Dues (Payable before January 1)

_____ 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 Society
 c/o Margaret Heinek

7091 E. East Park Lane, New Carlisle, IN 46552-9400

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THE ROCKFINDER

Volume 37
Number 5

The Newsletter of the
Michiana Gem & Mineral Society

MAY, 1997

- Meeting:** Sunday, May 25, 1997
Doors open at 1:30 p.m.
Meeting at 2:00 p.m.
Guests are welcome.
- Place:** Our Redeemer Lutheran Church
805 S. 29th (29th & Wall)
South Bend, IN
- Hosts:** Molly Elwell & Pat McLaughlin
- Program:** To be announced

June Birthday

12 Jessie Zeiger

Anniverseries

8 Bill & Robin Schuster

24 Todd & Lynn Miller

25 Jim & Dawn Cytacki

25 Mike & Tracy Slattery



MAZON CREEK FOSSILS

Remember, summertime wanderers, members of the MGMS are authorized to collect at some of the Illinois localities which are noted for the Mazon Creek nodules. However, you need the proper papers to take with you on your trip. If you want to take advantage of this authorization, please contact Kathy Miller and make arrangements to take the permit with you on your trip.

UP AND COMING

June 27-29--32nd Annual Gem, Mineral-Fossil Show & Swap. Monroe County 4-H Fairgrounds, Bloomington, IN.

June 28-29--23rd Annual Rockhound Seminar, Washtenaw Community College, Ann Arbor, MI.

September 19-21--Club field trip to Corydon, IN, area.

October 24-26--Midwest Federation Show and Convention, Davenport, IA.

MARGARET'S COLUMN



It was so nice to see all of you at the last meeting. We had a couple who had picked up an application at the April show, and became members. Welcome Jason Crane & Sara Cole!

Ed & Marsha Miller came to the meeting, Marsha with her arm in a sling. Bad fall! It was good to see Sister Georgia back again. She had been reported ill since the early part of the year, so it's good to know she is better. Judy Heinek is doing real well after her by-pass surgery. Al Nagy has been in the hospital. We hope he's better now. I hope all others are well.

I hope the field trip to Michigan went well. The weather was really nice on Sunday. (Saturday was something else--rain, rain, rain.)

It won't be too long until we will be getting ready for the Labor Day show, so please start planning on your displays, work schedule, and where you want to work. Remember, if you plan to go on the bus trip in September, you must work at least 4 hours at the show, either set-up, the door, the Kiddie's Wheel, silent auction, demonstrating, cleaning up after the show, or something during the show. We will need someone with a wagon or truck that can go to the storage shed on Thursday before the show to pick up rock, table covers, games, displays and whatever else is needed at the Century Center. Tom Noe will need lots of help at the silent auction, so talk to him and find out when he needs you. So start making plans NOW and be ready to sign up.

We have a new librarian, Diane Schlundt. She will get the library set up and up to date. If you take books out, make sure you bring them back on time, so that some one else can use them.

I saw on Channel 16 that they were picking the "Teacher of the Year" and that Gordon Dobecki was one of the ten finalists. We wish him luck.

See you at the meeting on May 25th.

Recipe for a good rock club

Assemble a group of rockhounds in assorted sizes and personalities.

MEASURE ACCURATELY --

*One cup of friendly words,
One cup of understanding,
One cup of courtesy and patience.*

Sift carefully and remove all malice and ego. Add a dash of wit and humor, warm welcome for all and a heart full of cooperation. Praise when needed.

Mix well until blended into a smooth running organization. Sprinkle with good times and fun. Garnish with new members. Serve with warm greetings. Plenty for all. This is a tried and true recipe.

Cobb-I-Stones (Jan., 1991)

FIELD TIPS

On field trips, carry large plastic garbage bags. You can sit on one while digging, a bag can be used as a raincoat to cut wind and rain and a bag makes a great spread for lunch, and then can be used to carry trash home.

Slabs & Grabs (Jan., 1991)

What Is A Rockhound?

**A rockhound is a kind of nut
Whose mind is slightly undercut.
He swings a pick and drives a jeep,
And dreams of agates in his sleep.**

**He'll pick up any kind of stone,
Or piece of glass, or even bone.
If he can't name it, he'll assert
That he has found a piece of chert.**

From *Yellowstone Deposit* 9/96.



MINUTES OF THE MICHIANA GEM AND MINERAL SOCIETY FOR APRIL 27, 1997

President Heinek opened the meeting at 2:07 PM. The President welcomed our new members and everyone in attendance. She also mentioned all the birthdays and those who had an anniversary.

President Heinek said the minutes would stand as printed in the *Rockfinder*. All approved.

Pam Rubenstein gave the treasurer's report which will be filed for audit.

Hostesses for the meeting were Phyllis Smallwood and Pam Rubenstein.

A new librarian was appointed to take over for Bob Miller, Diane Schlundt. She will be very good to work with.

Historian Ed Miller had nothing to report.

Sunshine chairperson Sister Jeanne reported that Pat McLaughlin and Judy Heinek were recuperating from surgery.

Field trip chairperson Kathy Miller said the May 4th field trip was on track. Everything is in order also for the September 19th-21st trip so if you have any questions call Kathy. Pam needs your money by August 1st.

Marie Crull made correction in the March minutes which should be February, not January minutes.

The club has all dealers for the September show. David Peltz donated small fossils for the September show and Leo Heynssens donated rocks.

It was suggested that stickers be put on the magnet handout that say MICHIANA GEM AND MINERAL SOCIETY. All were in favor.

The program was on Cameos given by President Heinek for Emily Johnson.

Emily Johnson and her son will handle the kiddies' corner. Marie Crull will be in charge of the front door and Bill Crull was nominated to monitor volunteers at the door. You must work 4 hours to qualify for the bus trip.

Our new members are Jason W. Crane and Sara A. Cole.

Door prizes were awarded to: Ed Miller, Gordon Dobecki, Elma Heynssens, Jason Crane and Pam Rubenstein.

There were 23 adults and 2 juniors present.

Respectfully Submitted,
Marie Crull, Secretary



CLUB WEEKEND FIELD TRIP TO CORYDON, INDIANA, AND VICINITY

By Kathy Miller, Field Trip Chair

The Michiana Gem & Mineral Society has a Cardinal coach chartered for September 19-21, 1997. Our destinations are Corydon, Leavenworth and Clarksville, IN, to search for dolomite crystals, calcite and fossils.

The following is a brief itinerary for those going on this weekend field trip. Friday, September 19, we meet at the K-Mart parking lot on the corner of Ireland and 31 South. We will board the Cardinal bus at 3:45 PM and leave at 4:00 PM. There will be one stop on the way to Corydon, where our motel is located. Arrival time will be between 9 and 10 PM.

Saturday we board the bus at 8:30 AM and take a historical tour of Corydon. (Bring your camera.) Corydon was Indiana's first state capital. A representative of Corydon's Chamber of Commerce will be our guide. This tour will include a visit to the Zimmerman Art Glass Company, which is world-renowned for its work.

At 10:30 AM we will enter the Corydon quarry to collect. It is still an active working quarry, so everyone will be able to find specimens. You will need to arrange for a brown bag lunch.

In the afternoon, time will be allowed to come back to the motel for clean-up; those who wish to go into the town of Corydon for a brief time may do so. You will be picked up at a designated place and time, then all will continue on to our restaurant for the evening meal.

Reservations have been made at The Overlook Restaurant for 7:30 PM. We will ride through the most scenic part of the Ohio River Valley and the beautiful Wyandotte Woods, a real Kodak treat (bring your camera). We will enjoy a great dinner (from the menu) and great company.

Sunday we will leave at 8:30 AM for the

Falls of the Ohio Interpretive Center. It is a 20-mile ride from Corydon. The center overlooks the fossil beds, offering panoramic views of the Ohio River and the Louisville skyline (bring your camera). A guide will take those who wish down to the fossil beds on the Ohio. Access will only be offered at 10 AM. This particular weekend is The Falls of the Ohio Festival, an annual event. You can see the fossil beds, tour the center, purchase fossils from swappers in the parking lot, or attend a program. As a special treat, 16 tons of rock from two fossil quarries will have been brought in just for that weekend for folks like us. The director at the center said to be sure to bring our rock equipment, since the fossils found in the 16 tons will be good. They are putting the material at the back of the parking lot. I know where I'll be.

On the way home, singing "16 Tons" like Tennessee Ernie Ford, we will stop at a fast-food restaurant (driver's choice), then sit back, watch a good movie on the bus, returning home about 6 PM.

What to Bring...

Rock equipment - collecting bag, rock hammer, chisel, pick, rake, and a box for your specimens to be stored under the bus.

Collecting clothes - extra socks, eye protection, *old shoes or boots*, rain gear (be aware of weather) and a camera.

Food - bring a small cooler for pop or snacks that can fit under the seat of the bus, and another cooler (if desired) for the bottom of the bus containing extra drinks, your brown bag lunch for Saturday, and/or more snacks for the bus and your motel room. The Budgetel did say that they serve morning coffee/juice and a danish/donut to the rooms.

This is going to be another great Michiana Gem & Mineral field trip for members of *all* ages. Let's look forward to a great rockhound weekend.

The American Federation Code of Ethics

I will respect both private and public property and will do no collecting on privately owned land without the owner's permission.

I will keep informed of all laws, regulations, or rules governing collecting on public lands and will observe them.

I will, to the best of my ability, ascertain the boundary lines of property on which I plan to collect.

I will use no firearms or blasting material in collecting areas.

I will cause no willful damage to property of any kind--fences, signs, buildings, etc.

I will leave all gates as found.

I will build fires in designated or safe places only and will be certain they are completely extinguished before leaving the area.

I will discard no burning material--matches, cigarettes, etc.

I will fill all excavation holes which may be dangerous to livestock.

I will not contaminate wells, creeks, or other water supply.

I will cause no willful damage to collecting material and will take home only what I can reasonably use.

I will support the rockhound project H.E.L.P. (Help Eliminate Litter, Please) and will leave all collecting areas devoid of litter, regardless of how found.

I will cooperate with field trip leaders and those designated in authority in all collecting areas.

I will report to my club or federation officers, Bureau of Land Management, or other proper authorities, any deposit of petrified wood or other material on public lands which should be protected for the enjoyment of future generations for public educational and scientific purposes.

I will appreciate and protect our heritage of natural resources.

I will observe the "Golden Rule," will use "Good Outdoor Manners" and will at all times conduct myself in a manner which will add to the stature and public image of rockhounds everywhere.

SOME COLLECTING SITES IN INDIANA

By Charles Oldham

(This information is condensed from a much longer article I have, which you can see if you are interested--Tom)

Indiana Hwy. 56 road cut, Canton, IN. Ramp Creek limestone, Mississippian Age. Geodes with inclusions of quartz, calcite, dolomite, sphalerite, barite and pyrite. Whole geodes can be found high in the road cut; lower down, the talus piles have mostly broken ones. Be very careful at this location; it is steep and sheets of rock can drop without warning.

Indiana Hwy. 37 road cut, one mile south of Harrodsburg Exit. Ramp Creek limestone at the bottom; Har-rodsburg limestone at the top. Various zones will have geodes with millerite, barite and sphalerite. Quartz and calcite common. Also pyrite and honessite reported. Some geodes get to 15 inches in diameter (near the interface of the formations). Golden barite crystals have been found, and calcite crystals several inches long. The road cut just north of the same exit has these same formations, capped by some Salem limestone. Add chalcedony and strontianite to the reported minerals. This cut is very hard rock, impossible for an ordinary rock hammer, but a severe winter may dislodge something. Be very cautious on the upper layers.

Old Indiana Hwy. 37 road cut, Harrodsburg exit. Same formations as the previous cut. Geodes grapefruit size and smaller, some with amethystine quartz. Barite crystals common.

Indiana Hwy. 37 road cut, 5 miles north of Bloomington. Ramp Creek limestone. Many minerals in geodes, but most prized are sprays of aragonite associated with earthy brown limonite.

Condensed from *Kyana Gemscoop* (May, 1996)

Drawing on my fine command of language, I said nothing.

Robert Benchley

1996-1997 SCHOLARSHIP GRANTS

By Louellen Montgomery, President
AFMS Scholarship Foundation, Inc.

AFMS Scholarship grants have been awarded for the 1996-1997 school year. The students were selected by the honorary award winners from six of the regional federations. The honorary winners were chosen by the regional federations. All grants are for \$2,000 per year. The first grant of \$300 was made in 1965. Since then, 345 students have received scholarship grants totaling \$770,650. The generous support of AFMS societies and their members has made this possible.

MIDWEST FEDERATION

Keri Anderson graduated *magna cum laude* from Western Illinois University with a B.S. in geology. She is studying for her M.S. in geology at the University of Minnesota-Duluth, with an emphasis on geophysics and sedimentology. Her thesis is on the seismic stratigraphy survey of western Lake Superior.

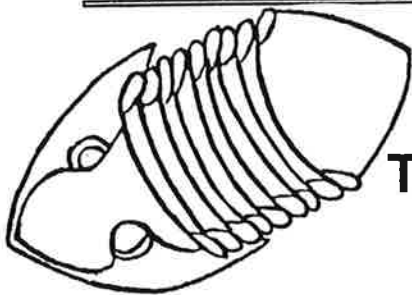
James David Jacobson received his B.S. in geology from Western Illinois University. He is working toward his M.S. degree in environmental geophysics at Indiana University. His research will involve the application of geophysical techniques to solve environmental problems.

AFMS Newsletter (Apr., 1997)

28.3 KARAT MONSTER NEAR FT. COLLINS

A 28.3 karat gem quality diamond, the fifth largest stone of its kind ever found in North America, has been found in a new diamond mine in the Rocky Mountains northwest of Fort Collins, Colorado, officials for the owner, Redaurum Ltd., said recently.

The gem is the third largest gem quality stone to come from the Kelsey Lake mine, which only started commercial production in May 1996, Officials for the London-based company said. Earlier, gems of 14.2 karats and 9.4 karats were found.



Trials & Tribulations of Trilobites

by Dolores Rose

The word trilobite (try-low-bite) came from the Greek (*tri*, three + *lobas*, lobe, + *ate*, possessing), "possessing three lobes", which describes the appearance of the trilobite, as it was "three-lobed" both vertically and horizontally. It had a central raised ridge along the back called the *axial lobe*, flanked by flattish side lobes called *pleura*. The *pleura* may have ended in points or spines or been rounded. Its body was encased in a chitinous exoskeleton of calcium carbonate known as the *carapace*. The head was called the *cephalon*, which contained six segments that were fused into a single continuous shield. The shield had three longitudinal lobes: the *glabella*, the most prominent bulbous protrusion in the center, the *fixed cheeks* on either side next to the *glabella*, and *free cheeks*, the movable portion, on the outside edges. Their very efficient, crescent-shaped compound eyes were located on the *free cheeks*. The calcite crystal lenses fixed at different angles to register movement and light from different directions, allowing most trilobites a 360 degree view of the ocean floor. Some trilobite's eyes were *holochroal*, consisting of 100-15,000 closely packed hexagonal lenses that resemble today's living insect's eyes. Others had *schizochroal* eyes, featuring groups of lenses relatively few in numbers.

The middle section of the trilobite was the *thorax*, which consisted of from 2-29 segments, allowing the trilobite to bend or roll into a ball when threatened.

The posterior or tail portion was the *pygidium*, which was composed of several segments fused together.

The underside of the trilobite was not covered with an exoskeleton, so those soft parts did not fossilize. It is very rare to find a completely preserved trilobite. There are a few examples that showed the head had a mouth, four pairs of legs, and two jointed antennae, which waved around as it moved and helped find food and warn of danger. The mouth led to a stomach under the *glabella* and tapered into an intestine running back to the *pygidium*. A simple heart was located above and behind the stomach. It apparently pumped a watery blood into a segmented vessel running through the axial lobe.

The trilobite had many pairs of legs, a pair on each segment. They had two parts, a long stiff and pointed part for walking, or gripping the sea floor when it wanted to crawl ahead, or brace itself against the current, and another branch bearing a fine fringe of blade-like filaments or gills for respiration. All of the legs appeared to have been the same structure, differing only in size. It probably swam by bending its body and then straightening it out with a quick jerk, much like a modern day shrimp does.

The trilobite was a bottom-feeding scavenger that burrowed through the mud. They probably fed on dead shellfish, fish, and algae — one of nature's house cleaners.

Like all arthropods, the trilobite had to molt in order to grow. Many had *facial sutures* across the head shield where the skeleton would split to allow the animal to crawl out of its old covering. With much wriggling, twisting, and squeezing, it could then pull itself out of the armor. A new armor would then gradually harden over him. A healthy trilobite would have many years of molts. Most all of the fossils we fossil collectors prize are really exoskeletons that were the remains of the molt.

Five hundred million years ago at the beginning of the Cambrian Age, the trilobite was abundant and well developed. Though there is no evidence of Precambrian trilobites, it would seem certain that they originated some time prior to the Cambrian, as they had reached their maximum development during Cambrian and Ordovician time and were the dominant life form. More than 1,500 genera and about 10,000 species from $\frac{1}{10}$ inch to 28 inches long evolved during this time frame. They diminished in numbers at the end of the Paleozoic time and became extinct at the end of the Permian Age, more than 230 million years ago.

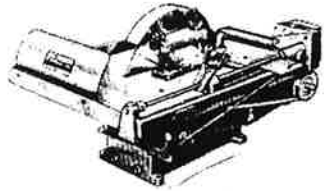
A living arthropod has been regarded a close kin. The *Cephalocarids* is a tiny, primitive shrimp-like animal with segmented bodies much like a trilobite. First found in 1955, it may be the nearest living relative to the ancient trilobite.

REFERENCES:

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2. Prehistoric Animals, by Sam & Beryl Epstein, copyright 1956, pp. 15-17.
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CUTTING STRATEGIES FOR AGATE NODULES

By Tom Noe



There's nothing quite like it for excitement-cutting into crystal-lined geodes, dark and mysterious thundereggs or colorful agate nodules such as Lagunas or Condors. Each piece is unique. It might be fairly ordinary...or a moderately pleasant arrangement of colored bands...or a spectacular example of patterns and colors, destined for your personal museum. You'll never know what's inside until you saw it open and look.

Here are a few hints about what should happen before you start sawing, as you evaluate this humble hunk of possibilities and decide where to make your cuts.

First, clean the nodule or geode thoroughly. Scrub it. Get rid of dirt, lichens, extraneous matrix, etc. Sometimes an exposed agate surface has developed a whitish coating. If so, you can grind off some of this coating to expose the genuine colors of the agate. If the nodule is coated all around with hard, dirty layers, consider tumbling it overnight in rough grit.

Also, chisel out as much soft matrix as you can from large cavities and irregularities in the surface. The goal is to know where the matrix stops and the agate starts.

After cleaning, do a thorough exam of the spruced-up agate. You want to find out everything possible about the interior before you actually start cutting. Here is where an amateur has a big advantage over a dealer. He can't afford to spend lots of valuable time considering where to make cuts; an amateur can take all the time needed to make sure the cut is just right.

Wet the nodule, and look over the entire surface carefully. Check for spots of color change, chipped surfaces, areas which are lighter or darker than the rest. Chipped surfaces will not only tell you what the true colors are, but also how translucent the agate is.

Dark spots or areas of color change on the surface might be signs of inclusions within the

nodule. Many agates form by the gradual filling of hollows in rock layers. If crystals or minerals happen to be in the hollow already, they can become encased in agate (like fruit in Jell-O, sort of). The point where they were attached to the rock ends up on the surface of the agate nodule. Inclusions are a very attractive feature of some nodules, so you should look for signs of them on the surface.

Also, hold the agate up against a strong light. What will this tell you? Probably not very much, but it's worth a try. Many of the most colorful nodules are opaque. Obviously, the ones which are the most translucent will have the faintest colors. You might be able to see some inclusions, though.

If your painstaking inspection doesn't reveal anything about what's inside the agate, life just got a lot simpler. (Meaning, you have less to think about).

Now let the agate dry out thoroughly and look for any cracks or structural problems. This is important because fractures will limit your cutting options. One thing you definitely do not want to do is to listen to a nodule coming apart as you are sawing it. This can be very exciting but quite expensive, since you may need to repair or replace the blade. I say this from experience.

If you see fractures, you might as well go ahead and try to split them apart. I use a small hammer with a very small chisel or a tough knife blade. If the fracture splits easily, fine. If it doesn't split after a few generous taps, I stop. Perhaps the fracture has healed, or perhaps it isn't weak enough to be a problem. The goal here is to insure against cracks that are just on the point of giving way.

So, now you know as much as you can about the nodule without actually cutting into it. It's time to consider your collecting goals. Will you be cutting for specimen halves? For small slabs to tumble? For transparent thin sections? Do you want to expose inclusions? Regular patterns? Irregular patterns? Are you after slabbing material for cabs? You need to plan your cuts, based on the objective you have in mind.

Personally, I like to cut nodules into halves, with each half displaying a full banded pattern and a complete circumference of the original nodule. To achieve this, I have to avoid

cutting through any chipped areas on the surface, because then I wouldn't have a complete circumference. Even when a nodule is badly chipped, I can usually find at least one cut that I like, but it may take some doing.

Theoretically, it is possible to pick any three points on the surface of any hunk of rock and make a single saw cut passing through all three points. You probably learned this in high-school geometry—something about a plane passing through any three points on a sphere. Good theory. In practice, though, you may not be able to make this work. Hold the nodule up and rotate it in your hand. If you have only one point that you want to cut through, you have many, many options. If you have only two points to hit, you still have many options. If you need to hit three points, there is only one option.

It helps to think "circumference" constantly as you consider where to make your cuts.

One consideration I have is that I want to expose larger surfaces rather than smaller ones. So, I will often try to cut a nodule lengthwise, down the long axis. Sometimes, on the other hand, I'm looking for a circular cross-section, and that usually means cutting across the width of the nodule.

When I cut to expose inclusions, I plan very carefully. In a very translucent nodule, I can cut somewhere to one side of an inclusion: the whole thing might be visible inside the nodule, as if looking through a window at it. If the nodule is not very translucent, I'll usually cut right down the middle of an inclusion (if the surface shows me where to cut).

If there are two inclusions, you can have some fun. The possibilities are endless with three or more.

So, you are turning the nodule this way and that in your hand, considering where the plane of the saw blade will intersect this theoretical sphere which actually has irregular edges. The realities of our physical universe will now begin to separate the men from the boys.

Pick out a prime cut—the one that meets all or most of your collecting goals. This is the cut you would make in a perfect world. Relish it; this may be the last time you will see it.

I don't think I need to go into the principles

of getting a good cut. The most important requirements are looking out for fractures, clamping securely and keeping the leading edge of the rock at approximately 90° as it contacts the saw blade. Experience will tell you how much you can fudge these principles and get away with it.

If your prime cut is workable, go ahead. Saw away. If something is preventing your prime cut, you are now ready to join the real world. (Hey, I never promised you a rock garden.) Start looking for a new prime cut. Think and consider. Rotate that rock some more and try for a third option.

Somewhere along the line, you may realize that your original goal may need to be adjusted. Instead of cutting for a display specimen, perhaps the best you can do with this nodule is to get some slabs for jewelry. In any event, keep at it, thinking and considering. This nodule has been waiting millions of years for you to bring out its inherent beauty; you can volunteer a few more minutes to come up with a bright idea. If totally befuddled, just set it aside and wait a week or two before coming back to it.

Of course, no matter how detailed and creative the planning process, these nodules still bring surprises, but that's what it's all about.

LOOKING TOWARD THE LABOR DAY SHOW

Think about what sort of displays you want to create for the show. It's great to bring in some of your summer finds and show them off. You can also display your jewelry creation or rock art. The club has some extra display cases for those of you who do not have your own cases.

We need workers, also! As you know, active members of the club receive free bus transportation for our major field trips. "Active" means that you help out by volunteering your time and talents. The Labor Day show is a prime opportunity for volunteering: for set-up, taking tickets, helping with the kids' activities, staffing the silent auction and so forth. Many hands make light work, and there are many time slots available. Our cooperation will mean a great show for the public, the dealers and the club.