



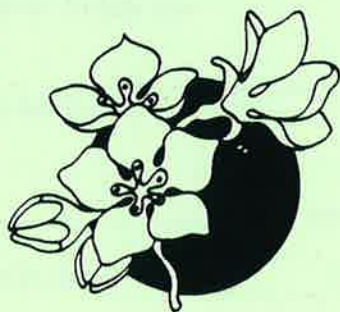
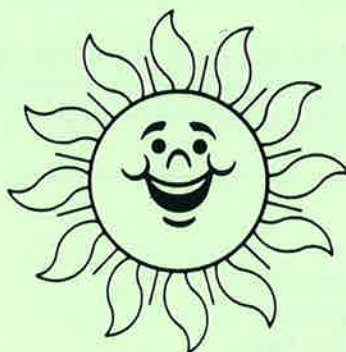
THE ROCKFINDER

Highlights of this issue --

- New Finds
- Prof. Shurr's Program
- Safety Report
- Fossil Stamps
- For Juniors



The Rockfinder
Michiana Gem & Mineral Society
7091 E East Park Ln
New Carlisle IN 46552



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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.

Time:	2:00 PM EST	Place:	Our Redeemer Lutheran Church
General Meeting	4th Sunday of each month		805 S 29th St (29th & Wall)
July - No meeting	June - Field Trip Meeting		South Bend, IN
	August - Annual Club Picnic		December - Christmas Party

Board Mtgs: 2nd Wednesday, 7:00pm, South Bend (Main) Library, Basement Level.

ROCKFINDER STAFF: Editor Larry Hess 15358 Kerlin Dr, Granger IN 46530
 Co-Editor Margaret Heinek 7091 E East Park Ln, New Carlisle IN
 Staff Bob Heinek / Club Members

All contributions for publication should be in the hands of the Editor by the 10th of each month.
 Call: (219 272-5431) Permission is hereby granted to reprint, at any time, items published in the ROCKFINDER provided due recognition is given.

cut ----- cut
 Membership Dues are: 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

___ Individual	\$ 6.50 per year
___ Family	\$ 10.00 per year
___ Junior	\$ 2.00 per year

Please make address corrections to the mailing label (reverse side) and/or fill in the optional information below.
 Check your SPECIAL INTERESTS: List Family Members (spouse and children):

General Geology ___	Beads ___	Name _____	Birth Mo/Yr _____
Gems & Minerals ___	Silversmithing ___		will attend meetings, yes ___ no ___
Fossils ___	Artifacts ___	Name _____	Birth Mo/Yr _____
Cabochons ___	Rockhound ___		will attend meetings, yes ___ no ___
Faceting ___	Carving ___	Name _____	Birth Mo/Yr _____
Crystals ___	Micromounts ___		will attend meetings, yes ___ no ___
Other _____			

Name _____ Address _____
 City St Zip _____ Phone _____ Birth Mo/Yr _____

THE ROCKFINDER

Volume 36
Number 4

April 1995

Published by:
Michiana Gem & Mineral Society

Meeting: Meeting: Sunday April 23
Doors Open 1:30 PM
Meeting at 2:00 PM

Program

Ed Miller

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

Happy Birthday & Anniversary:

3 Ed Miller
4 Jim Russell
5 Stan Kile
21 Jim McHugh
26 Ozzie Kytta
28 Bill Crull

16 Fred and Addie
Niebauer anniversary

Hosts:

Bess Wise
Addie & Fred
Niebauer



MARGARET'S COLUMN

Bob and I sincerely hope you did not have damage to your house during the storm on April 10th. I know Bob & Kathy Miller were without electric for a couple of days, due to lines down because of trees. Hudson Lake was without electric for several hours, but no damage to the residences. I imagine many of you remember the Palm Sunday storms thirty years ago.

Bob and I had attended the Michiana Rock Club meeting, and had gone to Niles to visit with Carlton and Doris Pletcher when we heard the church on US 31 near Lakeville had been flattened. That was really scary, as we knew some of our members lived down the road east of the church. They happened to be the 5th house on the road, but when they arrived home, their house was the 1st one. They lost 1 window glass.

Please add the following names to your roster:

STEEL, Bob, 1308 White Oak Dr., South Bend, IN 46617.

KILE, Stan & Jane, 3313 S. Whitcomb Ave., South BEnd, IN 46614.

BRUESKE, Hal & Bonnie, 52741 Arbor Drive., South Bend, IN 46635...children, Matt & Mike.

FOSTER, Henry, 48 Holstein, Niles, MI 49120.

Children of Horrall: James, Hannah, Jadah, Jonah and Micah.

How about a volunteer for DISPLAY CHAIRMAN for the September show? This is a very important committee, as you know, people like to view displays. They make a show. Think about YOUR display. If you need help with setting up a display, there are many that will be glad to assist you. We have cases for your use too.

The Kiddies Korner also needs items to use in the games, as well as helpers. I know it is early, but now is the time to plan.

Kathy Miller will have more on the field trip next month. She had planned on having an article in this issue, but due to the storm, no electric to work on the computer.

Tom Noe is acting editor this month, Larry had to be out of town until later this month. Thank you Tom! It is nice to have members that can take over in a "pinch".

Ed Miller will give the program this month, so come and enjoy.

* * * * *

We received word from Stanley Kile that his grandson, 19 yr old, Ryan Bahler, was killed in an auto accident three weeks ago. Our sympathy goes out to Stan and Jane. Ryan was the son of the Kile's daughter.

* * * * *

MINUTES OF MARCH MEETING

The meeting was opened at 2:07 by Pres. Margaret Heinek. 20 members and 2 juniors were present. Guests were speaker Professor Mark Shurr of Notre Dame and guest of Bess Wise, Ana Shankland.

Bess Wise motioned, Kathy Miller seconded the minutes of February meeting be approved as printed in the ROCKFINDER, passed.

Pam Rubenstein read the treasurer's report which was filed for audit.

A letter of thanks was read from Edna Douglas thanking the club for the Memorial Gift for Dale Douglas.

Hosts were Mike Slattery, Tom Noe and Louis Jordan, Jr.

Lorraine asked for volunteer hostesses for the May meeting. Lorraine also discussed alternative in obtaining sign-ups for snacks.

Paul Godollei was given a book/magazine on rocks and minerals for the

MINUTES- continued.

library by Kathy Miller. Paul suggested we have a "Feature of the Month Rock" display.

Kathy Miller suggested we have a Chaney Quarry trip on June 4th, as our June meeting. This will be a car caravan, which will be a 1 or 2 hour drive. Kathy and Bob had a display of Chaney material. She reported only 10 seats are left on the bus for the week-end trip to southern Indiana. Kathy is still contacting people and places for hunting while there. The bus will leave from K-Mart at the 20 by-pass and 31 south.

The program for April will be Ed Miller who will work on an Earth Science booklet and packet. A program will be needed for May and the suggestion was to show slides from the Midwest that Bob Heinek was given to make available for clubs to show their members.

Gordon Dobecki handed out a report on the cost of a TV and VCR. The club had previously passed a motion to investigate the purchase of them. Since we now have an area to store things, it was suggested the paper be studied and a discussion be made at the April meeting.

No old business.

New Business - We need someone in charge of displays for the September show. Lorraine asked for larger items for the Kiddies Korner. She remarked that most items were really too small, and the youngsters liked the larger items. If you do any sorting out remember Lorraine.

Bess Wise asked what happened to the club's old movie projector. Margaret reported it was discarded many years ago, about the time the meetings were at Rum Village Park. Bess asked if National or Midwest had converted their films to slides and VCR. A discussion on getting insurance to cover the TV and VCR if we purchase them.

Lorraine mentioned that Paul

Godollei, Bob Heinek and she will be working on up-dating the club's by-laws. It is hoped that they will be completed before the end of the summer. One item that has to be "spelled out" is how the election of officers be conducted if we continue having an October field trip.

Displays of fossils by Paul Godollei, minerals by the Millers and Indian artifacts by Bob and Rob Heinek.

An interesting program was presented by Prof. Mark Shurr on the St Joseph County area early residents, the Indians.

Acting Sec. Jessie Zeiger.

* * * * *

FORTUNE FOUND

A mysterious piece of 15th Century jewelry found by a treasure hunter, who at first believed it to be worthless, sold recently in London for 2 million dollars. Experts called the diamond-shaped gold and sapphire lozenge "the most important addition to Briton's known medieval jewelry since World War II."

Antique shop owner Ted Seaton found what is now called the Middleham Jewel while using a metal detector in a field. He thought it was a worthless ladies' powder compact when he dug it from the earth near Middleham Castle. Some romantic speculation said the jewel might have belonged to King Richard III, who owned Middleham. Seaton will share the millions with the owner of the land where it was found, the tenant who farms the land, and 2 of Seaton's friends who were with him the night of his discovery.

from Earth Science News, via Conglomerate 2/95

INTACT STEGOSAURUS FOUND

A fully articulated (connected) skeleton of a stegosaurus was recently recovered in Colorado, according to Dan Grenard, manager of the Garden Park Fossil area. It is a very rare find, with the bones still joined. The skull is complete and intact and the four spikes are still attached to the tail. Only the front feet were missing and were found nearby.

The dinosaur died in a riverbed about 140 million years ago (70 million years before the Rockies were formed). It is about 8 feet high at the hips and about 25 feet long. The skeleton weighs about 32 tons. For removal, the entire skeleton was encased in about 4 tons of plaster. Then, a 150 foot cable allowed a twin-rotor Chinook Helicopter to carry it about a mile to a flatbed truck. It will be preserved either in Canyon City or Denver, Colorado. About three years of work will be required to prepare it for viewing.

from Serpentina Gems, via Conglomerate, 2/95

Professor Schurr's Program by Tom Noe

A small time warp occurred at our March club meeting, taking us back 12,000 to 14,000 years ago, but leaving us in the same location - Northern Indiana. Professor Mark Schurr of Notre Dame then escorted us down through the ages to the present, describing the topography, inhabitants and culture of our area, as far as scientists have been able to understand them.

The marshy region which succeeded the glaciers was not very hospitable: probably a cold tundra with few trees. Yet paleoindians began hunting here almost immediately after the glaciers had retreated. Small bands followed the game they hunted, breaking camp every few weeks. We've found their spear points and know that they were related to the cultures in Ohio and Illinois.

As the climate warmed, beginning about 10,000 BC, pine forests (much like central Michigan nowadays) gradually formed, with typical forest game. At this time the spear points take on a new style, some with barbed points. The paleoindians either moved north, if they preferred the old ways, or stayed and adapted to the changing environment in our area. Use of indigenous plants was important for food, but farming was not practiced, as far as we know.

About 2,000 years ago, the Goodall culture developed, with pottery, trade links and growing sophistication. This culture failed about 400 AD, very suddenly, for unknown reasons.

The next culture introduced bows and arrows and corn, but their pottery seems not to have been as sophisticated as that of the previous culture.

By 1300 AD, the Mississippian culture had begun making a new type of pottery, tempered in the firing with crushed clam shells. At this point, all remnants of previous cultures disappear, and it is possible that the Mississippian culture leads directly to the Miami,

who were living here when the Europeans arrived.

Professor Schurr is studying the development of these cultures and the important geographic role that our area (the portage between the Kankakee River watershed and the St Joseph River watershed) has played over the past 12,000 years. He is especially interested in dating occupied sites by means of pottery remains, since these can be correlated with other pottery from surrounding states. He is also working to determine which environmental zone artifacts are found in: dunes, river valley, prairie, forest, marsh, wet prairie, etc. It appears that early inhabitants concentrated in the river valleys and edges of marshes, and gradually moved to the uplands as farming became more feasible.

He reminded us that any artifact from a previous culture is next to useless scientifically unless its location and conditions of discovery are recorded. There are numerous collections of artifacts in our area, but very few are useful to science because this information was not preserved with each item. He also noted that surface collecting has no restrictions in Indiana, but any digging for artifacts is forbidden without a permit from the State of Indiana.

Our thanks to Professor Schurr for a lively and informative presentation.

Amaze your friends - ask them if they know how long ago the "South Bend" formed in the St Joseph River. Professor Schurr dates this at about 6,000 years ago!

Note: If you have a tumbler or other rock polishing equipment for sale, contact Gregg Doud, 1850 College St., South Bend, IN 46623. He attended the April show at Century Center and is looking for this equipment.

SAFETY REPORT
Joe Hafell, Chairman

The following article was written by Mel Albright in the November *Rocky Mountain News*. I felt it was a good reminder to all of us.

"Are You the type of rockhound who has everything you need for your hobby? Do you consider your equipment complete?"

Safety Equipment! It's all available at your department store, the local hardware store, the pesticide store, or local stores specializing in safety. Most of it is inexpensive. All are inexpensive compared to the injuries, losses and deaths they may prevent. Here are a few:

HEARING PROTECTORS. These vary from foam plugs for your ears; special plugs that allow you to hear speech; earmuff types like you've seen on baggage handlers at the airport to super-duper ones that are electronic and cancel out undesirable sound waves.

MASKS. There is a great variety of types. The simplest are dust masks - with or without eye covering. Solvent masks are for use around solvents; chemical masks for use around undesirable chemicals and in pesticide spraying; specialty masks for asbestos, carbon monoxide, chlorine, etc. The most sophisticated have an air supply with them or have tubes reaching out of the danger zone to an air supply.

SHOES. Safety shoes have steel caps in the toes which protect your feet from heavy objects hitting them. Rubber boots protect you from water and dangerous sludges (or fresh cement). Hiking boots may be especially designed to support your ankles in rough terrain.

FIRE EXTINGUISHERS. There are three general types - no matter what chemicals are inside them.

Class A-- is for use only on fires such as paper or wood.

Class B --is for use on electrical fires.

Class C --is for use on solvent-type fires.

Some fillers are safe for use on more than one class of fire, and will be labeled as such. Best of all is **Class A,B,C** extinguisher, which is good for any fire. They come in several sizes. Little ones are cheap, but often run out too soon. Get a larger one.

GLOVES. Best for hand labor are leather types such as horsehide ones found in farm and garden stores. They protect hands and stop blisters. Another type is plastic or rubber which protect the hands from solvents, acids and hazardous materials.

EYE AND FACE SHIELDS. These come from the simple safety goggle (which will go over your glasses, if needed), to safety glasses (NO, your "safety" glasses from the optometrist do NOT qualify -- *industrial standard* safety glasses are needed). Face shields are also available, which cover both the eyes and the whole face.

APRONS. Cloth aprons protect your clothing from messes. Rubber or plastic ones protect you from liquids, chemicals and the like.

HARD HATS. Approved hard hats are readily available and work wonders in protecting your head from falling objects. For cold weather, wool liners are available.

The completely equipped rockhound has all of these. DO YOU??"

by Mel Albright.

--excerpts from *Rocky Mountain News* 11/94

● *To start a campfire, use two sticks - a small tree branch and a wooden match.*

● *An organized person is one who is too lazy to look for things.*

CFMS NEWSLETTER

FOSSIL STAMPS

Everything we know about early life we learn from the study of fossils. In the United States, we have a fine fossil heritage. The pride we have in our fossil heritage could be advertised to the world by releasing several sets of stamps picturing fossils.

Three sets of fossil stamps, one for each era, would be the best way to honor the science of Paleontology. (study of fossils).

Paleozoic Era (570 million to 225 million years ago) Includes Trilobites, Crinoids, Brachiopods, Armored Fishes, Ammonites, Plants, Ferns.

Mesozoic Era (225 million to 65 million years ago) First mammals, Reptiles (dinosaurs), Early Insects, Sharks and Bony Fish, Cycads and Early Flowering Plants.

Cenozoic Era (65 million to the present)

Early Birds, Early Whales, First Horses, Early Apes, Woolly Mammoth, Saber Toothed Cat, Man.

People at the Smithsonian Museum could consult with the postal people in design of the stamps. The Fossils could be shown in early reconstructed scenes or as fossils of today.

It takes thousands of letters to convince the postal service. I ask interested collectors (rocks and stamps) to write and request that our fossil heritage be recognized. Thank you.

Tony Verdi
1225 Ledge Rd.
Hinckley, Ohio 44233

Write to:
U.S. Postal Service
Citizens Stamp Advisory Committee
Room 5800
475 L'Enfant Plaza West, SW
Washington, D.C. 20260-6352



THE DUGWAY GEODE

The Dugway geode is one of the most interesting and attractive mineral forms found in Utah. Most are spherically-shaped rocks with an agate lining frosted with quartz crystals projecting towards an inner cavity. However, others have been found which have a solid fill of opal or amethyst crystals, some with brown opalite, and occasionally some are found with calcite crystals.

The two most frequently asked questions about the geode are: How were they formed, and how does one recognize them from other rocks?

It is relatively easy to recognize the geode because of the agate striations on the outer surface. The only caution is that occasionally the striations have been eroded smooth and, although still visible, can be hard to see.

Known throughout the U.S. as "Dugway Geodes," these interesting formations occur in great abundance on the western side of the Dugway Mountain Range in Utah's Tooele and Juab Counties. They were probably formed during the middle Tertiary period (approximately 40 million years ago) when lava flows were common occurrences in this area of Utah and southern Idaho. When cooled, many of these flows formed rhyolite rock, which is acidic and contains the greatest silica content of the normally encountered lavas. Gas cavities, or vugs, resulting from releases of gaseous materials are very common to most lava flows. These cavities persist throughout the transformation of the molten lava to rhyolite rock, and their formation represents the primary stage in the development of the geode.

As the lava changes from a liquid to a solid, contraction occurs, resulting in cracks. These cracks represent the secondary stage in the geode formation, as they provide an ideal reservoir for the channeling of silica dioxide (quartz) solutions which originate in the molten lava.

The quartz solutions begin to permeate the cracks and appear to be attracted to the inner wall of the cavity, where they are deposited in distinct layers. This is the tertiary stage. However, this process is not continuous and varies in both intensity and degree of mineral purity.

Temperature undoubtedly plays a significant but obscure role in the transformation of silica dioxide from a solution to agate, chalcedony or crystals. The different layers of agate bands found in many Dugway geodes are ample evidence of the various impurities within the depositional solutions, and the abrupt interruptions of the depositional process. A slight content change of the minerals within the solution will impart a different color agate, while a pure solution of quartz will form clear crystals.

It appears that the initial process of quartz deposition was conducive to agate formation, while the later process was conducive to the formation of crystals.

The outer surface of the cavity is reinforced by quartz during the aforementioned process, thus creating an autonomous unity within the surrounding rhyolite rock. At this point the geode is formed and awaits its time to be freed from the rhyolite by the process of erosion.

- John W. Barry, News & Views
via NAPA Gems, 1/95

via NAPA Gems, 1/95

.... FOR JUNIORS

EGGSHELL GEODES

Don't throw those eggshells away! If prepared properly, you can make your own geodes.

First make sure there are no cracks in the eggshell halves. There's a thin skin on the inside of the shells you'll have to remove, otherwise the crystals won't be able to attach themselves and grow. Carefully remove the inner skin with tweezers, or gently "roll" it out with your fingertip. Set the cleaned eggshell halves back into an egg carton so they won't tip over.

Mineral crystals grow out of solutions, sometimes over millions of years, sometimes fairly quickly. Your mineral crystals will grow in a matter of days. But first you must mix the solution. Start with salt. Dissolve the salt in about 1/2 cup of warm water until you can dissolve no more. You are making a "super-saturated" solution. Add some food coloring to the solution.

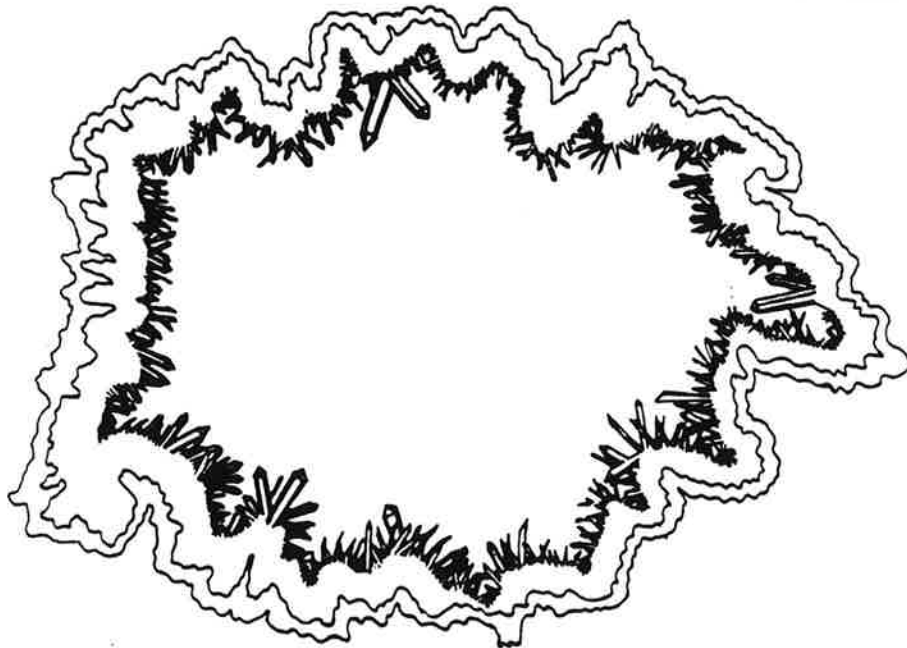
Fill the bottom of your eggshell halves with the salt water solution, then drop in a few extra grains of salt into the shells for "seed" crystals. Set the egg cartons aside until the solutions have evaporated. It may take several days depending on how much solution you put into each shell.

Note how and where the crystals grew in your geodes. What crystal shape do you see? Is the color what you expected? Now look at some grains of salt under a microscope or with a hand lens. What do you see, and how does it compare with your geodes? Try another super-saturated solution in your geodes, like sugar, alum, Epsom salts, etc.

By Anna Domitrovic

taken from ROCK TALK 1/94

THE GLACIAL DRIFTER March 1995



Trilobite scars are key to tracing origin of handedness

By Sarah Williams, Ohio State University

A researcher at Ohio State University has found evidence of "handedness" — the favoring of one side over the other — in the behavior of creatures that lived 500 million years ago.

This evidence of handedness in trilobites may link the behavior of Los Angeles Dodger southpaw Sandy Koufax to the biases of primitive marine animals.

"For a long time scientists have assumed that human beings are the only creatures that are handed. Now we not only know such biases are common among animals, but such biases go back to the Cambrian Period 500 to 570 million year ago," said Loren Babcock, an assistant professor of geological science at Ohio State.

His proof — bite marks left behind on the right rear end of the pill bug-shaped trilobites, distant relatives of today's horseshoe crabs. Babcock found that 70 percent of all scars left by predators were on the right side of the trilobites. In an article published in the magazine *Natural History*, He explains that the unusually high number of right-side scars suggests that the behavior of either the trilobites, their predators, or both tended to favor one side. Babcock's work was also published earlier this year in the *Journal of Paleontology*.

Babcock and his colleague Richard Robison from the University of Kansas studied the remains of 158 trilobites that had healed from injuries sustained while still alive. Each fossil had a region that was callused where the trilobites' crusty exoskeleton had been broken and had subsequently healed.

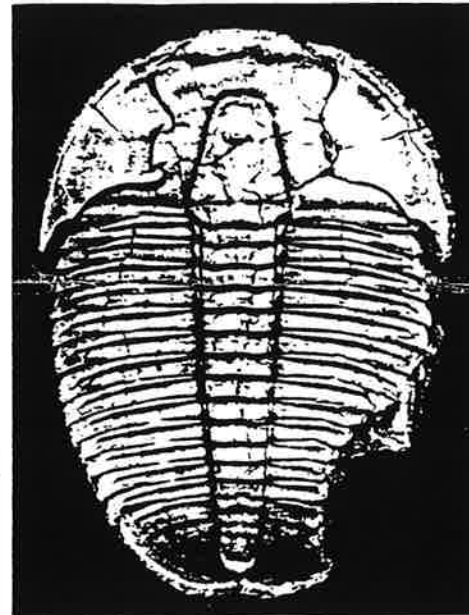
Seventy-seven of those had injuries of unknown origin — perhaps caused by accidents during molting or mating — while 81 were caused by attacks. Seventy percent of those scars caused by attacks were on the right side of the trilobites. Many of the scars on Cambrian trilobites were W-shaped, conspicuously matching the mouth size and shape of the trilobite's most likely predator, *Anomalocaris*. Scars on trilobites from later phases of the Paleozoic Era were caused by cephalopods (relatives of the modern Nautilus), fishes, and various arthropods.

After examining Cambrian and post-Cambrian specimens, Babcock and Robison found that almost three-fourths of all scars left by predators were confined to the right side of the primitive creatures.

"This was true everywhere we looked. Using specimens from every continent, no matter what kind

of sample we looked at, the pattern reappeared," Babcock said. "This is probably one of the strongest pieces of evidence to suggest that we are looking at real biological patterns of behavioral asymmetry."

The question is: which animal acted with a bias, the trilobite or its predator? "It's most likely that both animals were handed," Babcock said. "The trilobite probably veered to one side when trying to evade its attacker, and the predator probably tended to attack from the same side." Such asymmetrical behavior is commonly seen today, as when a horse tends to turn its head to the left, and when a panda bear chews food on the right side of its mouth.



OHIO STATE UNIVERSITY

Because scientists think there is an association between some forms of handedness and the development of complex nervous systems. Babcock's finding not only link trilobite scars with human handedness,

but may also link primitive behavioral biases to the specialization of the right and left hemispheres of the human brain.

But to pinpoint the beginnings of handedness in humans — which is probably closely linked to our brain's specialization and ability to perform higher tasks — researchers have been looking for evidence of behavioral biases, or asymmetries.

"Ninety percent of all human beings favor their right hand when writing, and evidence from Cro-Magnon cave paintings suggest that our human ancestors were right-handed," said Babcock. "Just how far back do these tendencies go and what advantage might handedness have conferred during evolution? We're still working on that question."

Via Dry Dredgers via B.G. Conglomerate