



GEOLOGICAL
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MINNESOTA
NEWS

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International Stone Carving Symposium

Saint Paul College
Saint Paul, MN
May 22-June 30, 2006

Saint Paul continues a world tradition of art and peace-making that began in Cold War Austria in 1959

By Brad Goldberg

The first International Stone Carving Symposium was created by the Austrian sculptor Karl Prantl in 1959. Several years earlier, he had placed what he called a "Border Stone" between his native Austria and its neighboring enemy, Hungary.

That act articulated that art had no borders, that people are essentially the same, and that perhaps artists were not restricted by the shackles of politicians. The seed of the border stone notion grew in his head.

Ultimately Prantl created the seminal idea of bringing together sculptors from around the world to gather at the Roman quarry of St. Margarethen in Burgenland, Austria. It was like an "Olympics" of stone sculpture, but without the competition. Rather, it was a discourse: sculptors created a dialogue with each other through the commonality of the material and their relationship with stone. Their conversation with stone was the unifying factor.

At night, following a day of conversing together with their tools and the obdurate material, the artists would gather for a communal meal which typically included the drinking of wine, fulfilling the

(continued on page two)

State Fair Booth Time Again

By Tom Schoenecker, State Fair booth volunteer coordinator

The Great Minnesota Get-Together is not too far off, so start thinking about the Geological Society booth and when you can work. This year, the Fair starts Aug. 24 and ends Labor Day, Sept. 4.

Booths in the Education Building are going to be arranged differently this year. The aisles will be turned so that they run perpendicular to the street. This should be less confining and give us much better access to the front of the building and to the street. I think it should give us more traffic and better exposure.

The Fair Committee starts work on the booth schedule in the next few weeks. Please check your busy summer calendars and be ready to sign up for a spot when you are called.

ANNOUNCEMENTS

Spring/Summer Events Calendar

June 10 Lilydale Brickyards field trip with Steve Erickson and Roger Benepe, St. Paul

Late July – early Aug. NE Iowa field trip (tentative.) Please watch the GSM website for updates.

Aug. 24-Sept. 4 GSM State Fair Booth, Education Building, Minnesota State Fair. Call Tom Schoenecker 952-474-4600 to sign up for your volunteer shift at the Fair

Hold the date--**Sept. 25** Fall Banquet
Scott Wolter, "Lake Superior Agate - Minnesota's State Gemstone"

GSM NEWS

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The purpose of this newsletter is to inform members and friends of the activities of the Geological Society of Minnesota. *GSM NEWS* is published four times a year: February 15, May 15, August 15, and November 15. *GSM NEWS* welcomes unsolicited Geology and Earth Science related articles (up to 500 words long) and photographs.

Deadline for article submission is three weeks before the date of publication. Contact the editor if you have something to submit.

OFFICERS:

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Send all GSM membership dues, change-of-address cards, and renewals to:

Gail Marshall, GSM Membership Chair
12232 Allen Drive, Burnsville, MN 55337
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GSM is a 501(c)3 nonprofit organization.
Membership levels are:

\$10 Full-Time Students

\$20 Individuals

\$30 Families

website: <http://www.gsmn.org>

Additional donations are always appreciated!

FROM THE DESK OF THE PRESIDENT

Hello Everybody,

This year's lecture series is over. We had a fantastic year with many wonderful speakers. The attendance was great. We averaged 75 to 80 people every lecture—outstanding!

Things to watch for over the summer: field trips, and the annual State Fair booth.

The first field trip was to the North Shore, May 19-21, led by Professor Ojakangas. Thanks to Bill Robbins for organizing that.

The second will be a half-day trip to the Lilydale Brickyards in St. Paul, the site of the Former St. Paul Brick Company. There, on Sat., June 10, we will be looking at recent history and ancient history. This trip will be lead by Steve Erickson and myself. Feel free to bring the family.

A late summer NE Iowa field trip is still possible. Watch our website for details, and if you have an email address on file with us, you will receive notice that way, too.

Another crucial item is the State Fair booth. We need everyone's help. It is a fun time and very important way to bring in new members. So start planning now to be able to spend a few hours helping out the GSM. Tom Schoenecker is in charge again this year. He will be contacting you soon about volunteering, or you may call him at (952) 474-4600.

Finally, take a look at next year's lecture schedule. Thanks to Steve Erickson for again doing an incredible amount of organizing work on this.

Looking forward to seeing all of you at the field trips, the State Fair, and at next season's lectures.

Roger Benepe

President GSM

Stonecutting Symposium from p. 1

original Greek definition of the word symposium: a drinking party with a free interchange of ideas.

So successful was this first Symposium that participants vowed to host such events in their own home nations. The idea spread to many Eastern and Western European nations, Israel, Japan, and The United States. A "movement" was born that continues today, 47 years later.

From mid-May through June of 2006, fourteen master stone sculptors from around the world and Minnesota are gathering in Saint Paul to create artworks from Minnesota stone. Working on the lawn of Saint Paul College at the highly visible intersection of Kellogg Boulevard and Summit Avenue, they are shining a public spotlight on the ancient art of stone carving.

International amity is being fostered as these artists from Japan, Germany, China, Mexico, Zimbabwe, Egypt, Finland, Italy, and Minnesota share their unique creative perspectives and cultural traditions, bringing forth sculptures from this vital Minnesota resource. The resulting artworks will be permanently installed in public places in Saint Anthony, Vadnais Heights, and throughout Saint Paul.

Get the details at: www.minnesotarocks.org

Fate of Historic Pillsbury Hall in Hands of State Legislature

By Harvey Thorleifson, Director, Minnesota Geological Survey

The study of geology at the University of Minnesota began in 1872 by an act of the State Legislature directing the Regents to establish a Minnesota Geological and Natural History Survey to investigate the geology of Minnesota and make that information available to its citizens.

In the spring of that year Newton Horace Winchell came to Minnesota as the State Geologist, and in the fall he started teaching as the University's first Professor of Geology and Mineralogy. The Department of Geology and Mineralogy was established in 1874, and the School of Earth Sciences was established in 1962, to include the Department of Geology and Geophysics, the Minnesota Geological Survey, and later the Limnological Research Center.

In 1990, the Institute for Rock Magnetism became its fourth component, and the National Center for Earth-surface Dynamics, based at St Anthony Falls Laboratory, is now closely allied with the School.

The contributions made by N. H. Winchell to the study of geology at the University of Minnesota were commemorated in 1988 with the renaming of the School as the Newton Horace Winchell School of Earth Sciences. The home of the School, Pillsbury Hall, was built in 1887, and thus is the second oldest building on the Twin Cities Campus of the University of Minnesota. It is listed on the National Register of Historic Buildings as part of the Old Campus District. Throughout its existence, Pillsbury Hall has been the home of geoscience on campus.

Because of its grandeur, the building is noted among students of art and architecture. Its Architect/Engineer was Leroy S. Buffington, while Architect/Designer was Harvey Ellis. Buffington also designed the 1881 Pillsbury

A Mill, as well as Eddy, Nicholson and Burton Halls on the Twin Cities East Bank Campus. The Romanesque design of Pillsbury Hall is the work of Harvey Ellis, who was employed by Buffington. Ellis also designed a Romanesque home for the Pillsbury Family.

Ellis' chief design inspiration was the work of Henry H. Richardson who had designed Sever Hall at Harvard University, said to be the specific source of the design for Pillsbury Hall. Pillsbury Hall is constructed from two Minnesota sandstones, yellow Hinckley sandstone as seen in Banning State Park quarries, and red sandstone from the Fond du Lac Formation. Wooden beams 40 feet long support the clay tile roof.

In the late 1880s, a gift of \$150,000 from Former Governor John S. Pillsbury allowed for completion in 1890 and much needed fireproofing of what was initially known as Science Hall, renamed Pillsbury Hall in his honor. A coal-fired heating plant located just south of Pillsbury Hall diminished the risk of fire, but covered the new building in black soot. In 1985, funds were allocated to clean Pillsbury's exterior, revealing colored stone, checkerboard patterns, and floral designs. While Pillsbury remains home to the School of Earth Sciences for now, the School long ago outgrew the building, and is now distributed in several buildings.

Plans are in place for Earth Sciences to move to different quarters, and Pillsbury may be inherited by another Department within a few years, depending on how events play out at the State Legislature. HT
[A historic building highlights the importance of its inhabitants' subject specialty. Pillsbury Hall is a jewel. Wouldn't it be better to re-use the site of the former underground bookstore for a complementary accessory building so that Pillsbury Hall, in renovated form, could maintain its historic connection with the geosciences? Where would Minnesota be without 3M? -Ed.]
(Short letters to the editor—100 words or fewer—will be considered for publication.)

WAYS TO GET INVOLVED

Science Summit a Success

This spring, the Science Museum of Minnesota (SMM) held its third annual *Science Summit* for Community-Based Science Organizations (CBSOs). GSM was invited to participate and staffed an educational exhibit of rocks and fossils the two days of the event (March 31 – April 1.)

The GSM exhibit was well-attended by hundreds of elementary school children and their adult chaperones. Being SMM visitors to begin with, they had scientific curiosity that abounded and they liked the chance to have a hands-on experience. Many kids had to be repeatedly reminded by their teachers and parents to separate from our collection because there were many other things yet to do and see at the museum!

Doug Zbikowski organized GSM's participation and he also put in at least a couple of shifts at the table. Doug wishes to thank the GSM volunteers who assisted him in staffing our exhibit: Kathy Ahlers, Steve Erickson, Dick Heglund, Carol Osterbauer, Ed and Sandy Steffner, Randy Strobel, and Conrad Zbikowski.

This was the third and last year of the National Science Foundation (NSF) grant to the SMM to hold the Science Summit (and other related grant activities.) It is uncertain whether the program, in any form, will continue. Doug says that from a participant's perspective, even without NSF funding, it seems that this inexpensive event is an excellent way for SMM to enhance the educational experience of its visitors. —Ed.



An Open Letter to GSMers:

My non-GSM wife and I volunteered to help at the Minnesota Rocks symposium, to

be held on the lawn of Saint Paul College from noon to 8:00 p.m. through June 30. It is sponsored by "Public Art Saint Paul". There is free parking in the college parking lot.

They need a LOT more volunteers, and I urge you to help with this unique and interesting event. Fourteen stone carvers, six from Minnesota and eight from other nations, will be sculpting large pieces (6 feet by 3 feet by 3 feet) of Minnesota stone: quartzite, granites, stromatolite, travertine, limestone and kasota stone, into whatever objects or images their talents move them.

Public Art Saint Paul stresses that for much of the time, the site will be noisy (or extremely noisy?) due to the power tools used during some parts of the carving process, so BYOE (bring your own earplugs.)

Volunteers can decide which days and shifts they want to work. Shifts are from 11:45 a.m. to 4:15 p.m., and 3:45 p.m. to 8:15 p.m., seven days a week. Volunteers must be 18 years of age or older. They would really like people to volunteer for multiple days. I've signed up for 6 and will definitely sign up for several more. Before or after your shifts, you should have plenty of time to wander around and watch the carvers at work.

The volunteers' main job will be to make sure all visitors know the rules, and there are some important ones. Volunteers will be almost exclusively in the large entry/exit tent. There will be rock displays and other geological materials, which we could probably help explain better than other volunteers. (There is no requirement that volunteers have any expertise in geology.)

To get the volunteer application form, log onto : www.minnesotarocks.org and select the "volunteer!" button and then "click here to download an application" ".pdf or .doc" You can email or fax or mail your application to Public Art St Paul .

I hope many of you will offer to help. This is going to be a really wonderful and memorable event. GSM is a "Partner" for this event as are the Minnesota Geological Survey and the American Institute of Professional Geologists.

--Paul Martin

Fluorite - A marvelous collection

By Ted Chura

In February, on the way back from Florida, my wife and I decided to check out the Rosiclare, IL area, which was known for fluorite. No mines operate anymore, as foreign competition has made it uneconomical.

At an antique store owned by Tracy Hawthorne on Main Street in Marion, KY, just south of Illinois we stopped and got to asking about fluorite. It turned out they have a fabulous museum in town which is only open Saturdays.

However, Sandra Hawthorne, Tracy's mother, was very helpful. They called around town and finally found Bill Frazer, who opened the museum and gave us a tour.

The Clement Mineral Collection is composed of thousands of fluorite crystal specimens, ranging in weight from a fraction of an ounce to hundreds of pounds. Each specimen was a "rare accidental find" among regular ore bodies, and was brought from deep underground. You cannot imagine the tremendous size and grandeur of some of these specimens.

Also on display are photographs, maps, letters, mining equipment, and other items from Mr. Clement's personal files and mining operations.

Mr. Clement graduated in 1915 from Vanderbilt University in Nashville, TN, with a B.S. degree. His interest in the fledgling fluorspar industry was centered in Crittenden County. He ran the Alpine, Holly Davenport, and National Fluorspar Companies from 1925 to 1950. From 1920 until his death in 1980, Mr. Clement accumulated what has become known as the largest and finest collection of fluorite specimens in the world. The museum also includes one wall of fluorescent minerals.

John D. Kiefer, Assistant State Geologist with the Kentucky Geological Survey, wrote, "The collection of fluorite specimens assembled by Ben Clement during his long association with the fluorite industry is unique and perhaps the best of its kind in the world. Specimens in the collection illustrate the wide variety of types and colors of fluorite and its many different mineral associations. Properly displayed and enhanced with descriptive diagrams and information, this collection would attract students from all over the United States and around the world."

The collection is owned by Clement heirs, leased to the city, and housed in a school addition. It is a struggling endeavor in need of

support. Go see this fabulous collection if you can.

For more on Ben Clement, see the Fall 2000 issue of *Matrix*, A Journal of the History of Minerals. Copies of that issue are sold in the museum.

In June, they are having their First Mineral & Gem Show, which includes tours, "digs", a silent auction, speakers, and vendor tables. They hope to make this an annual event.

Ben E. Clement Mineral Museum, est. 1955
A world-class collection of Kentucky and Illinois fluorite
205 North Walker Street, Marion, Kentucky
42064 www.ClementMineralMuseum.org.
The website is the best place to see pictures.
Open Saturday 9am-2pm
or by appt. at 270 965-4263.

Ted Chura is the immediate past treasurer of GSM, and he recently moved to Duluth.

2006-2007 Lecture Series Review

Banquet: September 25, Scott Wolter, Lake Superior Agate - Minnesota's State Gemstone

October 9, Michael Middleton, Univ. of Wisc., River Falls, Concepts of Geological Time
October 23, tbd

November 6, Jim Welsh, Gustavus College, Fundamentals of Geology: Formation of Igneous Rocks in Minnesota

November 20 Carrie Jennings, MN Geological Survey, The Ice Sheets of Antarctica
December 4, tbd

January 29, tbd
February 12, Jim Stout, Univ. of Minn.,

Fundamentals of Geology: Formation of Metamorphic Rocks in Minnesota

February 26, Chris Paola, Univ. of Minn., The Geology of the Mississippi Delta
March 5, Karen Campbell, St. Anthony Labs Geological and Human History of the Upper Mississippi River

March 26, Mark Jirsa, MN Geological Survey, "Challenges and opportunities: the story of geologic mapping to address land-use issues on the Mesabi Iron Range"

April 9 Dave Fox, Univ. of Minn., Studying Evolution in the Fossil Record

April 23, Vicki Hansen, Univ. of Minn.—Duluth, Yenus, Earth's Sister Planet

Banquet: May 7, 2007 Calvin Alexander, Univ. of Minn., Sinking Woodbury

Doing the North Shore in Style

By Doug Zbikowski



Silver Creek Cliff and tunnel (photo by Barry Brinkman):

Dr. Ojakangas diagrams the more than 200 foot-thick, black diabase sill that forms the bulk of Silver Creek Cliff. The paved walkway wraps around the cliff and its 1,400 foot-long tunnel.

The North Shore of Lake Superior is famous for its scenic vistas and beautiful waterfalls. It also reveals some of Minnesota's most illustrative volcanic outcrops. Walking us through these geologic wonders on our first field trip this year, May 19-21, was Professor Richard Ojakangas, now retired from the University of Minnesota, Duluth. Few know the Shore as well as Dr. Ojakangas, who has been a resident of the Duluth area with his famous wife, Beatrice (author of numerous cookbooks), for many years.

For most of the fifty-five GSMers partaking, the entire trip was aboard a comfortable and deluxe Voigt bus. On Friday afternoon, we rode from the Twin Cities to Duluth—stayed overnight at Canal Park Inn near the lift bridge—continued up the Shore on Saturday to Grand Portage—stayed at Grand Portage Casino Hotel—and returned to the Twin Cities on Sunday. Along the Shore, we enjoyed entertaining narration by Dr. Ojakangas, about seventeen stops of geological and/or historical importance, and cool and sunny weather (except for a short sprinkle on Saturday morning).



Ropy Lava (photo by Doug Zbrunewski)

At Sugarloaf Point, lichen spots a surface of ancient ropy lava. The lava flowed down-picture—Dr. Ojakangas's shoe points upflow for scale.

As always, the spirited comradary aboard the bus was, alone, almost worth the cost of the trip. Many thanks to Bill Robbins for organizing this three-day extravaganza. So what were some of the fascinating geologic features that we witnessed? Lava flows with ropy tops, pillow basalt, columnar joints, pipe amygdules, potholes, clastic dikes, diabase intrusions (sills and dikes), thomsonites, and agates—to name a few.

On a sad note: at the very last stop of our return trip, after trekking over many irregular rocky surfaces that

day, our beloved Dr. Ojakangas stepped on a loose and treacherous rock and fell—hurting an attachment near his knee. At that point, we were just SW of Split Rock Lighthouse, so the bus drove him directly to St. Mary's hospital in Duluth. Our bus ride to the Twin Cities was more somber than usual, as we all wished the best for him.

UPDATE: Bill Robbins reports that Dr. Ojakangas had surgery the next day to repair his knee, he is getting around on crutches, and he had no significant pain. Whew!

Plan now to attend...

**Lilydale Regional Park ("The Brick Yards") Family-Friendly Field Trip
Sat., June 10, 2006 9 a.m. to noon-ish**

Leaders: Roger Benepé and Steve Erickson, Geological Society of Minnesota

HIGHLIGHTS: This is a half day trip to the old Twin Cities Brick Company, now called Lilydale Regional Park. We will look at Ordovician Rocks containing lots and lots of fossils. Some of the fossils found are crinoids, corals, brachiopods, Bryozoans and for a few lucky hunters, TRILOBITES! We can also look at some of the remains of the Brick Company, with a few souvenir bricks. This will be for all ages, and a great event for kids. Adult supervision of children required—Roger and I are not good babysitters. This will start at 9 a.m. and you may leave whenever you feel covered enough in mud. Good hiking boots required. A stressful climb will be part of the days work.

WHEN AND HOW: We are meeting at 9 a.m., June 10th in the lower parking lot of the Lilydale Regional Park (aka "Joy Avenue"), for a trip into the old brickyard pits. To get to Joy, coming from I-94 into Downtown St. Paul, exit at Marion, then go south to Kellogg Blvd, passing the Science Museum, and follow Kellogg as it turns east, to Robert Street. Cross the Miss. River on Robert Street bridge, go down the hill to Plato Blvd and go to the end of that street, which is at Harriet Island Park. Turn left (south) at Justus Ohage Drive. Go 1 mile south to the sign marked "Lilydale Regional Park". There is an old railroad bridge that the street goes under, do NOT go past this! [Or, if you are coming up north on 35E, you may exit at MN Hwy. 13, just before the river, and at the top of the ramp head east (right), and you will see Lilydale Dr. about 50 yards from the ramp. Go 2.1 miles on this road and you will see Lilydale Regional Park.]

PREPARATION: Come prepared for any type of weather. Be prepared for stressful hiking up and down the river bluff. Good hiking boots are required. Suggested tools: rock hammer, chisel, and at least one bucket, (two if possible, makes a good portable seat). Bring water, and a snack or box lunch.

COST: For single people \$5.00 dollars for members, \$10.00 dollars for non-member. For family, \$10.00 dollars for members, and \$20.00 dollars for non-members. (GSM pays a permit fee to be able to enter the park.)

WAIYER: Each member will be required to sign a waiver on arrival and before participating in this field trip.

PLEASE CALL: Please RSVP via email Steve Erickson at sgaryerickson@aol.com or call him at home at 651-501-9851.



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