

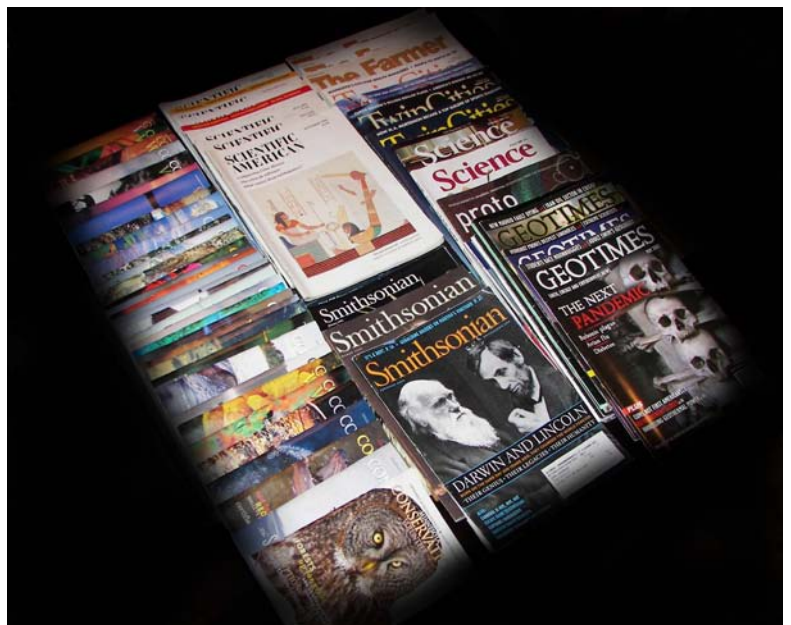
A STROLL THROUGH THE MINNESOTA GEOLOGICAL SURVEY

I've lost count of the number of times I have walked up the basement steps of the geological survey. It's like coming up from a dull gopher hole to find life teeming all around. The basement fluorescent lighting is dim and windows are rare, but upstairs, natural light filters through 7 to 10-foot-tall windows throughout the building. It allows a glimpse of Minnesota's various weather conditions whenever I'm able to step away from the lab. I've often come to the surface just before the end of my workday and found snowflakes falling that are the size of quarters, even though eight hours earlier it was a sunny warm day in mid-March. I feel disoriented when cut off from nature's daily cycle for long periods of time, as if I've missed out on some big event especially if the weather is changing.

I'm often meandering around the Survey towards the computer desk that dirt lab students are assigned to; entering lab results into the sediment database. Across from the computer are two five-foot Hewlett Packard color plotters. MGS staff uses them to print out and review geological maps that will later be sold in the Map Sales Department, which also happens to be located in the basement of MGS next to the dirt lab. Whenever I catch sight of the massive printers, I'm reminded of complaints from friends and family about their home printer woes. They are mostly concerned with the cost of ink cartridges and the drudgery in changing them. I don't pretend my voice isn't among those complaining, but every time I look at the plotters they put my own home printing woes into perspective –recalling the last paper jam I had, which also happened on a bad hair day, I couldn't imagine a 5 foot paper jam on any day let alone the cost to supply the ink.

Upstairs, the direction my feet take me depends on the task I'm currently tackling. I'm often in the cartography area because it's where my boss has his office. Oversized maps are laid flat on equally oversized tables. Sometimes I see geologists hunched over them, engulfed in their work with sharpened pencils, barely noticing I've walked by. From what I can tell they are drawing thin lines, notes and symbols for maps they are making, or that need updates. Their work depends on the samples they collect in the field, and the data produced by the textural processing that we perform in the dirt lab. A single project could last from a few weeks to several years.

Occasionally I look through the magazines laid out on the lunch table and anticipate which ones I will recover after the older publications have been sent to the recycling. Once a month I rummage through the large grey newspaper recycle bin in the basement. It's the most intelligent dumpster-dive I have ever done! I've stockpiled *Arc News* (the latest news in GIS technology), the *Smithsonian*, 12 issues of the *MN Conservation Volunteer* (an entire years' worth of subscriptions!) and *Proto*, a seasonal publication by Massachusetts General Hospital, for those interested in the latest research in medicine. The potential for knowledge is limitless and everlasting, now that I've transferred the survey's recycling center to my home –much to my roommate's dismay. I even have 7 issues of *Scientific American* from 1989-1996. The questions being addressed at that time (when I was around the ripe age of 10), ranged from computer



failure in airport baggage systems to whether magma helps build continents. I'm almost certain the latter was scientifically proven, but many of today's airline customers can probably attest to the uncertainty of the former.

The geological survey is usually calm with a quiet bustle. Cubicles and offices are everywhere, yet telephones aren't ringing off the hook with multiple voices talking at once. It's a relaxing environment to work in and people greet one another when they cross paths. The geological showcases I always walk past rock my world. Pardon the pun but it's amazing to see what the earth's inorganic processes can create. When I think of nature and what sorts of objects that word conjures up, I usually think of the greener stuff; oak trees, tulip bulbs, grasses, or the animals that feed on them. Sometimes I forget that rocks and inorganic materials are as much apart of nature as the trees, plants and animals I ordinarily associate with life on earth.

The survey has numerous rocks on display and large geologic maps posted on the walls. Tools of the trade from the 19th and 20th centuries can also be observed, such as vintage compasses and surveying instruments, some of which were donated by the family of a petroleum geologist who used the tools in the 1930s and 40s. A large 5x18 ft. floor map, that depicts the bedrock geology of the Mesabi Iron Range,



is directly under your feet when you first step inside. Above that, a very large mammoth tusk from the last ice age hangs high on the wall. The peculiar thing about the geological showcase is I never see anyone peering inside the well-lit display cases with flattened noses pressed against the glass. MGS has an excellent collection of fascinating rocks and other objects on display; including fossilized sea creatures long extinct and cartographic maps depicting the geology of Minnesota. The survey also has a Sales Department. It's the place to find that perfect state or local geologic map you've been waiting to patriotically hang front and center in your living room or office!



The price to view the collection is free and there are endless scenarios where one could take advantage of this practical opportunity. For example, on a first, second or third date to impress that special someone; there's nothing like a first kiss over sparkling metamorphic rock formations and topographic maps! Or, as an inexpensive alternative to hosting a lavish birthday party at, say, Chuck E. Cheese. Not that the Survey is looking to host a nine-year-old child's birthday celebration, complete with 15 high-spirited accomplices, but it's a cost-effective way to peek children's interest in the physical sciences – Chuck E. and his singing gang of fictional characters can't provide that.



Based on personal experience, I'm convinced some of the rocks stimulate food-cravings in the observer. I usually try to pick out a different rock to look at whenever I pass by the display cases, but one in particular always grabs my attention -Tetrahedrite on quartz. It has a clear quartzite appearance with black fragments speckled throughout. When the light hits it just right, the black fragments reflect a deep blue color and the stone develops a striking similarity to the perfectly baked top of a blueberry muffin. There's also a

gypsum rose formation that's extremely appetizing with its uncanny resemblance to a heaping bowl of corn flakes; all that's missing in the display is a carton of cold milk, a spoon and a bowl. It's no coincidence that these food-cravings occur because I pass the display cases around lunchtime, a simple reminder that it may be time to eat.

The ability to apply delectable attributes to inedible objects seems frivolous to me, but giving a rock a visual reference to remember its appearance by is also important in rock identification. I'll always be able to identify certain types of gypsum, even though the form it takes is actually considered by scientists to be a "flowering" of the material that occurs, when calcium sulfate crystallizes in clay or sand. The result can often be a petal-like structure that forms in the shape of a flower, or from my perspective, corn flakes. Using the flower description is probably the appropriate universal term of choice; everyone knows what flower petals look like but not everyone eats corn flakes for breakfast.



Meteorite debris collected in northeastern Minnesota is the hands-down hot item at MGS. On display are three rocks each roughly 1 sq. foot in size containing meteorite ejecta fragments. Found in 2007 on an exposed outcrop near the Gunflint Trail in the Boundary Waters Canoe Area, the 10 mile-wide meteorite impacted the earth about two billion years ago in what is today Sudbury, Ontario. Debris from the impact spread more than 500 miles and the force from it must have been extraordinarily turbulent. In all its absolute glory, the survey has a piece of it prominently on display. If that doesn't draw an eager crowd to the survey for a close-up view, I don't know what side is up anymore. [Read more about the meteorite find in this PDF document.](#)

Mackenzie Gainey
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