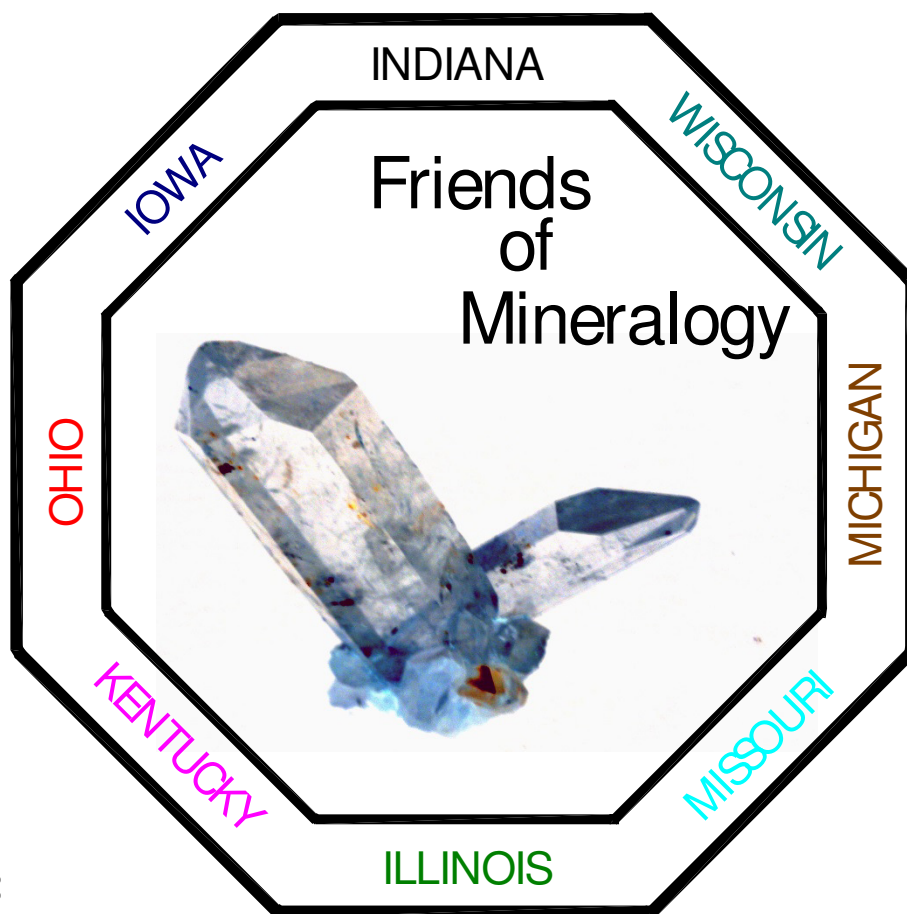


Friends of Mineralogy

Midwest Chapter Newsletter for

July – August 2014



Affiliations:

THE MINERALOGICAL RECORD

THE MINERALOGICAL SOCIETY OF AMERICA

AMERICAN GEOLOGICAL INSTITUTE

ROCKS & MINERALS MAGAZINE

Our purpose is to organize and promote interest in and knowledge of mineralogy; to advance mineralogical education; to protect and preserve mineral specimens and promote conservation of mineral localities; to further cooperation between amateur and professional and encourage collection of minerals for educational value; and to support publications about mineralogy and about the programs of kindred organizations.

Newsletter published bi-monthly in January, March, May, July, September and November. Please submit all information for publication in the newsletter by the 15th of the previous month.



FM Treasurer Jeff Spencer's display at the 2014 Geofair.

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The next FM meeting will be on Saturday, June 28th at 12:30pm. This is in conjunction with Bedford, Indiana Mineral show. See the note on the next page of the newsletter for more details.

2014 Officers

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Fund Raising (Committee Chair) - Vacant

Newsletter (Committee Chair) Tom Bolka, 2275 Capestrano Dr.
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“St. Joseph Lead Mine” – picture from the Valles Mines Field Trip

Treasurer's Report

Our National dues of \$416.00 and our insurance premium of \$650.00 have been paid. We are awaiting a check for \$500.00 from the National FM treasury for the donation to the Ohio Department of Natural Resource Bulletin 69 production costs. When it arrives, we will present that along with the \$500.00 from our treasury and \$400.00 in special donations from some of our members. That will make a total of \$1400.00 in donations to this worthwhile cause on behalf of the organization. Once paid, that will leave our treasury with a balance of \$998.29. Also, Dan Hall completed the audit of our 2014 records. We have 104 members on the roster currently.

Please send me any questions or concerns that you have.

Jeff Spencer

Treasurer - Friends of Mineralogy Inc. Midwest Chapter

jspencer@jsite.com

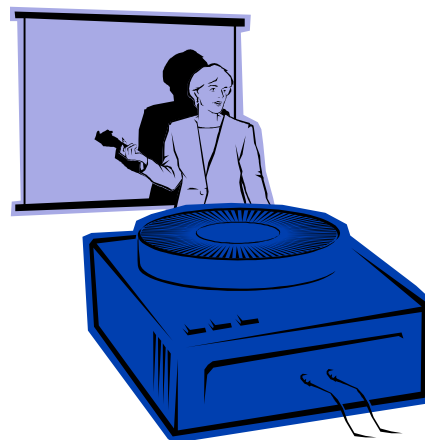
513-476-2163

Request for Speakers!

As we continue to set up symposia and other events for our Chapter, there is always a need for individuals who are willing to give presentations on topics of interest. Within our membership we have folks with degrees in Earth Sciences, folks with teaching experience, folks with extensive collecting experience, etc. I am seeking volunteers who would be willing to present on any topic of personal interest, either using existing presentations or shaping something new.

Please remember that the extent to which our Chapter thrives and becomes known as a premier collecting group depends on the willingness of our members to engage and assist. By sharing your passion and learnings through presentations, you will help stimulate interest within our group as well as help shape how others view our Chapter.

Thanks – Randy Marsh



Reminder of the Friends of Mineralogy Midwest Chapter meeting

Saturday, June 28 at 12:30 – Bedford, Indiana mineral show

Dr. Nelson Shaffer, PHD will be giving a presentation on “Minerals and the origin of life”

Additional details about the show:

9th Annual GEM - MINERAL - FOSSIL SHOW

Sponsored by Lawrence County Rock Club, Inc. - June 27, 28, 29, 2014

Lawrence County Fairgrounds, South of Bedford, IN

Directions: From the junction of IN 37 and US 50, south of Bedford, turn west on US 50W. Go about 0.6 miles, fairgrounds on right. Address: 11265 W US 50, Bedford, IN

President's Message

There are no formal minutes this month because we do not have a secretary to record the details of the meeting held May 3rd at the GeoFair 2014 in Cincinnati. However, the highlights of the meeting are that we authorized increasing the Chapter's donation to the Ernie Carlson memorial fund for Bulletin 69 from the previously authorized \$250 to \$500. We agreed that we would not commit to

meeting at the Lawrence County mineral show in Bedford (IN) in 2015. Our First VP, Randy Marsh, volunteered to head a committee, including John Rakovan and me, to develop a curriculum for safety training for collectors. John has a good friend who works in the field of mine safety who will be a valuable resource. Any FM members who have an interest in participating will be welcome. The ultimate goal will be for us to develop a curriculum that we and other chapters can use to insure greater safety for participants on field trips. Lastly, Randy had arranged to facilitate a teleconference for the meeting for those unable to attend in person. He had sent instructions for calling in to 13 members who had expressed a willingness to participate remotely. No one called in. Therefore, we may only try this again if there happens to be some critical agenda item.

The joint field trip to Missouri, by invitation from the FM Mississippi Valley Chapter, was attended by only Randy and me. We collected primarily at three different sites in the Valles Mines holdings, which is still over 3,000 acres in area. While we collected galena, smithsonite, baryte, goethite pseudomorphs after pyrite/marcasite, and minor sphalerite, my favorites were the baryte on drusy quartz (see the field trip report). We also collected some miscellaneous sulfides from a former silver mine in granitic rocks. It was a unique opportunity to get a guided tour of the former St. Joseph Lead Company mine and processing facilities, by Art Hebrank; it is now the Missouri State Historic Mining Site. We were able to watch a video that was made in the 1950s when the mine was still operating, as well as view restored mining equipment in the museum. The museum had many first rate minerals unique to the Missouri lead mining district, including a 500 pound galena mass that was not yet on public display.

Randy Marsh arranged a teleconference call with Maureen Moses, Communications Manager & Member Society Liaison, American Geosciences Institute (AGI). He and I talked approximately 45 minutes about how AGI might provide more visibility and support to Friends of Mineralogy, and how we might contribute to AGI's goals. We have subsequently exchanged email and will continue to communicate. Maureen mentioned that the paleontology member societies have been complaining about difficulty getting access to collecting sites; therefore, I offered her the editorial pieces I had written last year about barriers to mineral collecting. They may be re-published on the AGI website.

That's about it for this edition. I hope to see many of you at the next meeting at 12:30 PM at the Lawrence County Mineral Show on the 28th of June, following the collecting at the Lehigh Heidelberg Quarry. Following the business meeting, Nelson Shaffer will be giving a talk on the history of life and minerals.

Friends of Mineralogy

From The office of the President

Clyde Spencer

Mineral Collections from the Midwestern USA

A proposed Supplement to the Mineralogical Record

18 March 2014

TO ALL MIDWEST COLLECTORS

Wendell Wilson, Publisher and Editor-in-Chief of the *Mineralogical Record*, has asked me to contact collectors who live in the Midwestern USA and offer the opportunity to have a chapter devoted to your collection published in a forthcoming Supplement to the *Mineralogical Record* expected to be released in 2015.

For those of you familiar with this continuing series of supplements, each chapter includes a brief biographical collector's note plus specimen photos and captions that represent the interests of the participant(s). The special supplement is funded entirely by the participating collectors, and the per page cost will be \$435.

You may choose *any* even number of pages for your chapter. I note that chapters in previous supplements tend toward 4, 6, or 8 pages, but the choice is entirely yours. It is expected that the content of chapters need not look alike because readers will want to see what each collector likes about the mineral world. Crystals, geodes, cut and polished stones from anywhere or from the Midwest, self-collected or purchased specimens, micro and macro specimens...all interests are welcome.

For planning purposes, I am defining the Midwestern USA as including the eight states covered by the Friends of Mineralogy Midwest Chapter. These include: Illinois, Indiana, Iowa, Kentucky, Michigan, Missouri, Ohio, and Wisconsin. I'm open to suggestions for inclusion of other collectors in neighboring states should there be interest. The latest supplement featured 24 collections; I'd like to equal or exceed that number because of the broad range of interests in the Midwest.

Now, there are lots more technical details that I can share with you, but the purpose of this note is to simply ask you to let me know if you may be interested in participating. I'll get you more information to help you decide.

Sincerely,

Terry Huizing

513/574-7142

tehuizing@fuse.net

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### Quarry Travel Guide for July and August

**Field Trip Locality:** Great Lakes Aggregates – Sylvania Minerals

**Address:** 5690 Ready Road, South Rockwood, MI 48179

**Date of Trip:** Saturday July 12, 2014

**Time of Field Trip:** 8:30 am – 1 pm; check-in from 8:30 – 9:00 am

**Travel Time from Designated Point:** Total Time: 3:18 (from Grove City, OH; exit 100 on I- 71)

**County:** Monroe

**Age of Rock:** Upper Silurian and Lower Devonian

**Rock Units:** From the Lower Devonian: the Sylvania Sandstone, the Bois Blanc and the Garden Island formation.

From the Upper Silurian: the Raisin River Dolomite.

**Minerals Present:** Fluorite (clear to brown), Calcite. (yellow nailhead), Celestite (white to blue), Quartz (drusy on chert)

**Training Required:** MSHA

**Quarry Location:** From exit #26 of I - 75 in Michigan, drive 0.2 miles off of the exit ramp. Then turn right toward Ready Road on Huron Drive, 0.8 mile later turn right onto Ready Road. 0.3 mile later turn right toward the quarry office. 0.2 mile later you will arrive at the quarry office of great Lakes Aggregates, Sylvania Minerals.



## Field Trip Report “Valles Mines”

(Randy Marsh)

*Field Trip with the Mississippi Valley Chapter*

On Saturday May 17, Clyde Spencer and Randy Marsh met with the Friends of Mineralogy Mississippi Valley Chapter to participate in the Valles Mines trip they had set up. The day started with an orientation at the Valles Mines Offices/Museum where Steve Frazier talked about the history of mining there and Art Hebrank spoke about the geology/mineralogy of the area. The group then proceeded to explore some old hand diggings close to the museum in the hopes of finding some galena. As the area was quite overgrown, it made digging challenging, but a few small specimens were found. After enjoying a picnic lunch we drove to the Guaratee Mine dump where we searched for boxwork/drybone hemimorphite. Our final stop of the day was at a dam constructed of barite pit residuum. Here, we were able to find some excellent specimens of drusy quartz/Missouri lace agate with barite. Overall, a very good day of collecting!



**500 pound galena cube!**

On Sunday May 18, the group enjoyed an outstanding tour of the Missouri Mines State Historic Site and the processing plant of the former St. Joe Lead Company. We viewed the excellent mineral collection in the museum and watched a video from the 1950's that showed the actual mine in operation.

After that, Clyde and Randy joined a smaller group for a trip to the Silver Mine recreation area before taking on the 8 hour trip back home.

This was a great opportunity to learn about mining in Missouri, to explore a variety of different collecting sites, and to make new friends with our partner Chapter.



**Drusy Quartz and Baryte Specimen**

## Field Trip Report "Auglaize Quarry"

(Reggie Rose)

*Auglaize Plays Hard to Get but Bears a King*

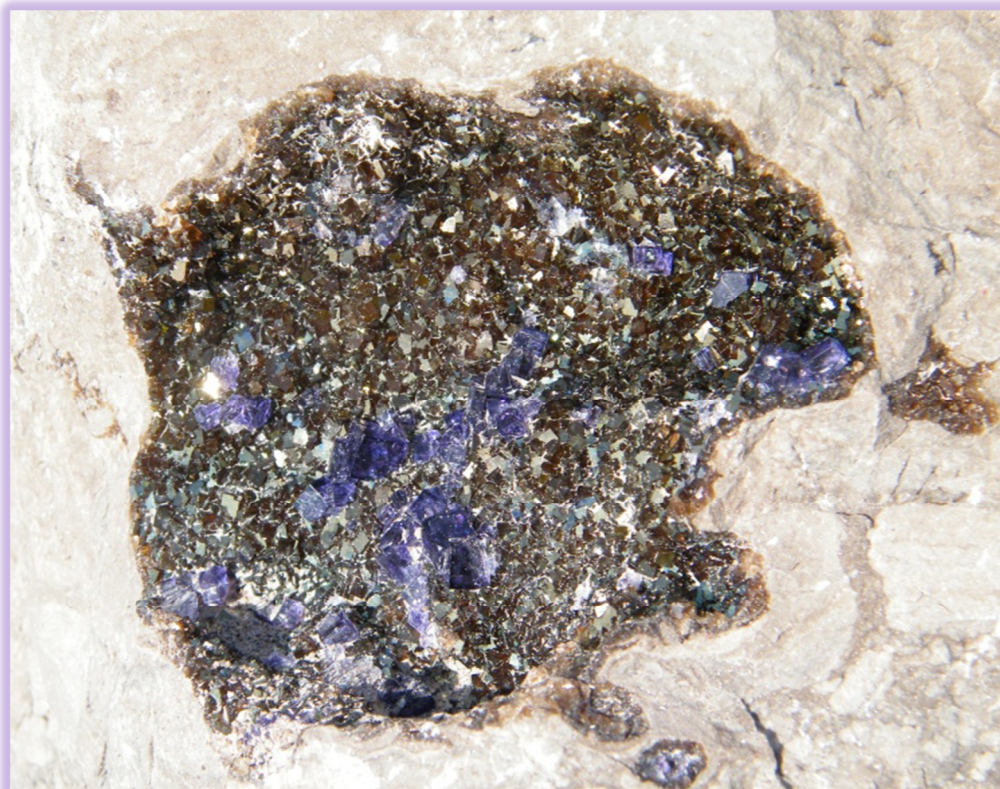
Do you remember ever having a crush on someone in junior high school? Maybe you asked her to the school dance, or if it was a Sadie Hawkins affair, you asked him to the dance. Then, do you remember not going to the dance because she/he artfully declined your invitation? That is Auglaize. Auglaize can be as elusive in yielding its specimens as that dance partner you never had. If twenty people go to Auglaize (we had 19), 2 or 3 will have a slow day, and 2 or 3 people will have a great day. The others will be somewhere in between.

I can only report on specimens that I see on the trip and on the collectors that collected them. Therefore, the report below reflects what I saw on the trip. With regards to specimens, I saw calcite (white rhombohedral and clear scalenohedral) and iridescent, glassy fluorite (both purple and amber-brown). Though sphalerite is found in this quarry, I saw none this year.

Remember what I just said about 2 or 3 people out of 20 having a good day? One has a good day at Auglaize if one finds the ever-elusive iridescent fluorite. Prize-holding boulders were concentrated in a ten meter line along the edge of the blast pile. There were in fact three who found fluorite in numbers or in a high-quality specimen. Our president, Clyde Spencer, found a boulder about the size of a small watermelon with a hint of a pocket in it. Splitting the boulder revealed multiple purple and amber-brown fluorite pockets - nicely done. Also finding fluorite was Michigan's John Lindsay. He found multiple hand sized specimens and a couple of larger boulders with fluorite including a

real beauty with both purple and amber-brown. However, the fluorite pocket of the day was found by Indiana's Alan Dewitt. Last year Alan and Amy Bach discovered a multiple specimen fluorite pocket. This year he outdid last year's find discovering a boulder with a museum quality two-color fluorite pocket in it. One glassy purple cube approached the 3/16" mark. Alan says that he had been to Auglaize approximately nine times before 2013 and had only discovered fluorite the last two years. Since Alan has struck it big the last two years at Auglaize, he holds the title of "King of Auglaize" until he is deposed.

To reflect on the above report, you should not be tepid when considering your attendance on a future trip. If you choose not to attend, you will miss out on one of the truly beautiful specimens we collect in our region, the ever-elusive iridescent fluorite.



*"The ever -elusive iridescent fluorite"*



## Field Trip Report "Penfield Quarry"

(Reggie Rose)

*Penfield is dolomite heaven*

Dolomite Products of Eastern New York has two open houses per year at two sister quarries. Their spring open house was the first Saturday in May at their Penfield, New York quarry, east of Rochester. Their fall open house will be held at the Walworth quarry, about ten miles east of Penfield.

FM Midwest was represented in early May by yours truly and two other FMMW members, Alan Dewitt and Mike Royal. Though this was a very small group, Alan and Mike made up for it with their collecting talent. This was an unusual trip not only because of the distance involved (411 miles from Central Ohio), but also because of the number of collectors attending (over 100!). I expected to have a good day, and the drive into the quarry did nothing to dispel my good feeling, as the group caravanned up toward the blast piles, even from a couple of hundred yards away, prolific white dolomite was visible adorning the blast piles.

There were plenty of good specimens to go around. The minerals I saw in the quarry included fluorite (clear, purple, brown and yellow), sphalerite (amber colored), rhombohedral calcite (clear to white), scalenohedral calcite (clear), selenite (clear), and dolomite (white and pink). The white dolomite was abundant, while the dolomite with a slightly pink hue was rare. Dolomite served as a partnering mineral for the other minerals appearing there, which made for many attractive dual mineral specimens. This author found a specimen partnered with calcite, sphalerite and fluorite. One purple fluorite I found stood alone and had rather large cubes for the site, about 3/16 of an inch on a side. The clear fluorites that I saw did not show cubic cleavage, but octohedral parting.

Though I enjoyed the "B" grade specimens that I found, Mike and Alan did better (which is to be expected). Mike found an amber sphalerite pocket encircling a vug in the matrix, and a three mineral specimen with calcite, dolomite and pyrite. Alan found at least two attractive dolomite - purple fluorite specimens. His specimen that was a mind blower was a piece of selenite that was just sitting on top of the pile. It was a clear specimen about 5.5"x 3.5" x 4.5", thicker than a brick, but not as long. It is a beauty, being clear and distinctly layered.

If you feel like you missed out on something, there is nothing but good news here. We can go back next spring to Penfield. We also can go to Walworth this fall for a two day trip in that quarry. As reputation has it, there is more fluorite found at Walworth than at Penfield. If I were to predict when the fall trip would be, I would say the second Saturday and Sunday of October. Like I said, (except for a long drive) the news is all good here.



*Specimens collected at the Penfield Quarry*



# Observations on How Minerals Should Not be Named

by

Clyde Spencer

*(Once again, I should dispel any thoughts that what I'm saying is endorsed by FM National or this chapter. These are my own opinions, albeit shared by some friends.)*

Historically, mineral names have been assigned to naturally occurring, inorganic substances with limited chemical variations, a limited range of characteristic physical properties, and crystallizing in a single crystal system. Anything less would cease to be a functional classification. Common impurities have been used to modify the root name, such as “argentiferous galena.”

When minor-elements are present in the crystal lattice in sufficient abundance to warrant modifying the root name, such as nickeloan pyrite or manganoan tantalite, the range of abundance of the particular element and competitors (*e.g.* iron and manganese) should be defined explicitly. That is, there should be no ambiguity about whether to call something a manganoan or ferroan columbite when both manganese and iron are present in the columbite. Currently, the recommended nomenclature is something like “tantalite-(Mn).” This is inconsistent with the nomenclature of the former bravoite now being recommended as being called nickeloan pyrite. These inconsistencies should be eliminated.

A “mixture” is something where there are two or more constituents that are physically intimate, but not chemically bound. That is, ‘limonite’ is commonly composed of various phyllosilicates and hydrous goethite; it is not a single mineral. It would be appropriate to describe a rock as being a mixture of minerals. But, it is careless to describe a mineral (solid-solution series) as a mixture of minerals. Therefore, the ‘plagioclase’ feldspar solid-solution series should not be spoken of as being a mixture (See andesine; <http://rruff.info/ima/>). The traditional plagioclase (which is more concise than albite-anorthite series) is, rather, composed of isostructural (triclinic) minerals with different chemical compositions (and different

properties), and characterized by completely miscible substitution of calcium and sodium for each other. When there is a continuum of essential cations, with infinite combinations possible, it probably makes more sense to have name(s) for at least the most abundant combination(s), along with acknowledgement of the hypothetical end-members even though they may be rare or non-existent. After all, the definition of a mineral is a material that is naturally occurring, not something that is theoretically possible.

While I have previously complained about the wholesale re-naming of minerals, part of the problem is that the practice of ‘grandfathering’ names nullifies any attempt at uniformity and predictability. There is, therefore, little logical reason to have any kind of preferred names for minerals. Another problem with slavishly bowing to the practice of ‘grandfathering’ is that archaic spellings are substituted for modern spellings. An example is “baryte” replacing the, until recently, more common “barite.” What is the justification for calling one end-member of a series “baryte” and the other “celestine?” If the naming committee is going to revert to archaic spellings then, to be logically consistent, we should probably call gold and silver by their ancient Latin names of aurum and argentum, respectively.

It is grammatically illogical to have mineral names such as ferrohornblende and magnesiohornblende and not have a recognized hornblende name for the prefixes to modify! That is, there is no need for a modifier to a basic name if the root-name mineral is not recognized; one might as well invent totally new names, such as the name of the person who first characterized the composition. Why

is there a ferrotschermakite and a tschermakite (amphiboles) instead of a magnesioischermakite?

The theoretical end-members of a solid-solution series typically have been given preference, in the revised naming, over the intermediate compositions, which are probably more abundant than the end-members. However, why has the intermediate actinolite been retained in the ferroactinolite-tremolite series when most other solid-solution series intermediate member names have been invalidated?

Similarly, why is there a magnesiochromite  $[\text{MgO} \cdot \text{Cr}_2\text{O}_3]$  and chromite  $[\text{FeO} \cdot \text{Cr}_2\text{O}_3]$  instead of ferrochromite? Magnetite appears to be an end-member of the chrome-bearing spinels. 'Chromomagnetite'  $[\text{FeO} \cdot (\text{Fe}, \text{Cr})_2\text{O}_3]$  becomes chromite  $[\text{FeO} \cdot \text{Cr}_2\text{O}_3]$  as the chromium content increases. Although a naturally-occurring cubic chromium oxide that is analogous to magnetite  $[\text{FeO} \cdot \text{Fe}_2\text{O}_3]$  has not been reported, synthetic spinel-structure  $\text{CrO} \cdot \text{Cr}_2\text{O}_3$  is well known. Perhaps pure natural  $\text{CrO} \cdot \text{Cr}_2\text{O}_3$  is unknown because this end-member, like many, is rare. With the current naming scheme, should a naturally occurring  $\text{CrO} \cdot \text{Cr}_2\text{O}_3$  be found, then all the current intermediate member names would have to be abandoned in favor of the pure end-members! A good naming protocol – robust and flexible – would not need major revisions just because a new mineral was discovered. It could be accommodated with little impact. In my judgment, solid-solution series should have more recognized mineral species than just the hypothetical end-members; at least the most common composition(s) should be a species as well. Sometimes that is actually the case, as is done with carbonates.

If there is evidence for immiscibility gaps in the composition of minerals exhibiting solid-solution substitutions, then the immiscibility gaps should be recognized as natural boundaries between species. In all cases, what occurs naturally and commonly should take precedence over hypothetical boundaries. For example, the now discredited andesine should be recognized as a mineral, rather than being generally "Albite-Anorthite Series" and specifically, albite

$[\text{Ab}_{70}\text{An}_{30} - \text{Ab}_{50}\text{An}_{50}]$ , because of its common association with the volcanic rock andesite.

The rock name, dunite, refers to the color of weathered outcrops of the type locality, Dun Mountain (NZ). The dunite is composed almost exclusively of an orthorhombic nesosilicate whose unweathered color is similar to that of olives. It is only fitting that it should be called olivine. As a common constituent of mafic and ultramafic rocks, it deserves to have its name recognized because it has utility in petrography (*e.g.* olivine gabbro). Whereas, the names of the rarer (almost non-existent) end-members (fayalite and forsterite) of the solid-solution series tells one little other than the fact that either magnesium or iron are the predominant cation. Mid-range, a less than one-percent difference would completely change the name. The name alone doesn't provide a clue about the relative proportion of Fe/Mg. One has to add that information to the name. On the other hand, using a separate name for intermediate compositions does tell one that they aren't dealing with something that is a nearly pure end-member. It seems that there is an unfortunate trend towards ambiguity in mineral names. It appears that what is currently called the "Olivine Group" is largely a ternary solid-solution series given token acknowledgement through the name "calcio-olivine," despite the original olivine root name having been invalidated. Most importantly, the name "olivine" (at least as a series) is firmly entrenched in the petrology literature and is still widely used today, despite any pronouncements by mineralogists.

If the way that naming platinum group minerals has been handled were applied to industrial alloys, we wouldn't recognize the alloys of brass or bronze (and numerous others), but only the dominant end-members of copper, zinc, and tin. Why have mineralogists felt a need to deviate so strongly from what has been the historical practice of naming intermetallic compounds that have properties different from their constituents, such as the eutectic melting point? Apparently electrum has been invalidated as a species, but there seems to be no acknowledgement that gold is an end-member of at least a ternary solid-solution series of all

the members of the copper group (which probably should be called a series), and usually has minor quantities of other elements present. The color, hardness, and melting point of this solid-solution series varies substantially with the relative percentages, and probably warrants additional names besides just the end-members. Again, probably the commonly occurring compositions deserve names, because the pure (24 Kt) end-member gold is unknown in nature.

Current solid-solution series naming is logically inconsistent. Why is it that sometimes a space is used between the root name and the modifying prefix, other times it is not, sometimes a hyphen is used, and other times a parenthetical suffix is used, *e.g.* “(Mg)?” How is one supposed to know what rule, if any, to follow?

Mineral groups should not be named after member mineral species (after all, they might change in the future), and especially not end-members such as pyrite when the only thing they share in common is the crystal system and simplified formula template; the name should reflect the characteristic(s) that the group members share in common, such as “tetragonal

orthosilicates.” The common anion, *e.g.* sulfide, oxide, *etc.*, should be recognized as a differentiator between species and groups even when minerals are isostructural. Perhaps a super-group should be used for all isostructural minerals, and a group for isostructural minerals with the same anion. However, I think that the best plan would be to use super-group, group, and sub-group names for minerals; *e.g.* “ferromagnesian chain silicates” as the super-group, pyroxene as the group, and further subdivided into monoclinic (clinopyroxene) and orthorhombic (orthopyroxene) sub-groups. Apparently, against all reason, the ‘modern’ classification has abandoned the traditional sub-groups in favor of just noting the crystal system.

Much of the work done by great mineralogists of the past has been undone by modern mineralogists, with apparently no over-arching rationalization other than to accommodate modern instrumental analysis.