



MNCA Website dcmicrominerals.org
The Mineral Mite



Vol. 52 – No. 4

Washington D.C. – A Journal for Micromineralogists

April 2019

April 24 Time: 7:30 p.m. – 10 p.m.

Long Branch Nature Center, 625 S. Carlin Springs Rd. Arlington, VA 22204

**Program: University of Delaware
Mineralogical Museum**

Dave Hennessey and Kathy Hrechka will share the discoveries of their recent trip to the University of Delaware Mineralogical Museum. Curator, Sharon Fitzgerald, Ph.D. gave them a first-class tour. The Mineralogical Record published a special edition of The Collector and his Legacy: Irène du Pont and the Mineralogical Collection of the University at Delaware.

President's Message:

By: Dave MacLean



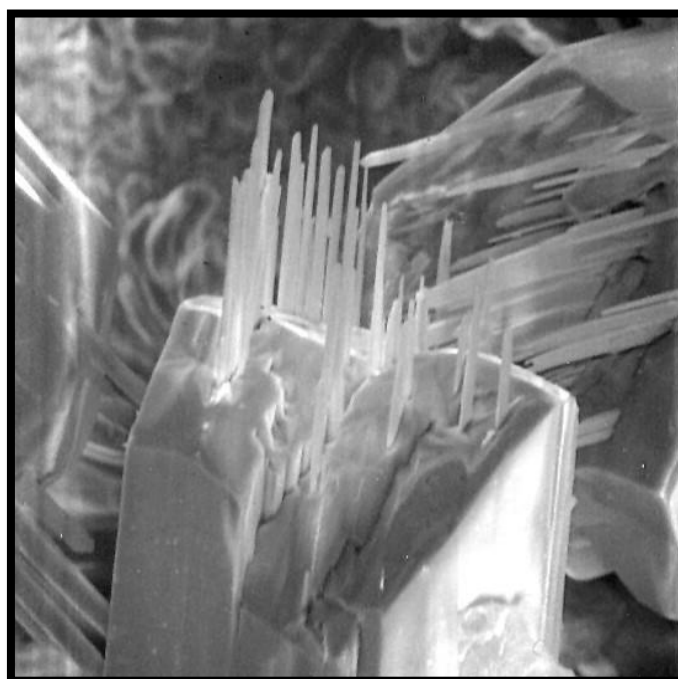
Our '19 Atlantic Micromounters Conference was a super success under the capable leadership of Kathy Hrechka and with the help from many of us. Awesome outcomes are the result of all of us working together.

Continued page 2

Photo of the Month



Skodowskite with Uranophane Musonoi, Congo
Dr. Robert J Lauf's program Electron Microscopy:
The Final Frontier of Magnification



Skodowskite with Uranophane SEM Musonoi
Program presented on April 5, 2019 at our Atlantic
Micromounters' Conference in Alexandria, VA

President's Message continued

We found out from Dr. Robert Lauf the power of electron microscopy, the variety of colorful uranium and thorium minerals, ortho silicates and from Michael Pabst the wonders of lanthanide (rare earth) minerals. Herwig Pelckmans showed us how to obtain more info out of Google and Mindat. The auction was one of the liveliest in several years, with lots of eager and aggressive bidding for attractive minerals.

Previous Meeting Minutes: 3/27/18

By Bob Cooke, Secretary

President Dave MacLean called the meeting to order at 7:45 PM March 27, 2019. No past presidents or guests were present. Nine MNCA members were present.



Minutes of the February 2019 meeting were approved as printed in the Mineral Mite. Members discussed the passing of Carolyn Weinberger and approved a donation of \$100 to the Leukemia and Lymphoma Society in her honor. Kathy Hrechka and Dave Fryauff will represent MNCA at her funeral.

Erich Grundel suggested MNCA consider a digital microscope to replace, or at least augment, the optical microscopes currently used at MNCA demonstration events. Kathy Hrechka and Germain Broussard agreed to bring their digital microscopes to the next meeting so members could evaluate the technology. Michael Pabst mentioned the option of viewing minerals via a DSLR camera connected to a laptop computer.

Dave Fryauff announced a collecting field trip to Vulcan Manassas Quarry on March 30 at 7:30 AM. Dave is in the process of scheduling a trip to National Limestone Quarry for mid-April and will email details to members. He also discussed the Super Dig at Franklin, New Jersey on April 27/28.

Dave MacLean asked members if there was any interest in hosting an MNCA demonstration table at the GMU Maker Fair in June. There was only marginal support for the demonstration table and members agreed not to participate in this year's Maker

Fair. Dave will ask Robert Clemenzi for advanced schedule information on next year's show so that MNCA can consider participation in the 2020 event.

Kathy Hrechka provided an update on the Atlantic Micromounters' Conference (AMC) for April 5 & 6. Setup will begin at 4 PM on Friday. Al Pribula and Barbara Sky will be vendors. The group recommended Dr. Michael Seeds be considered as a guest speaker for the 2020 AMC. The meeting adjourned at 8:40 PM.

Previous Program Reviewed: 3/27/19

By Bob Cooke, Secretary

Program: Cornish Mineral Legacy by Dr. Robert Bowell - Dr. Robert Bowell was a featured speaker at the Dallas Mineral Collecting Symposium in August 2018. The theme for the symposium was history of mineral mining and collecting. Cornwall has been (and currently is reemerging as) an active center of hard rock mining for more than 4,000 years. This presentation will explore the legacy of "Cousin Jack" (as Cornish miners were called) and the rich inheritance associated with the country.

Mineral Collecting Field Trip Note:

By David Fryauff

We are booked for the National Limestone #1 (Middleburg) & #2 (Mount Pleasant Mills) quarries in Snyder Co. PA on Saturday, June 29th at 9 am in the Middleburg quarry office. These are popular and welcoming quarries and EFMLS clubs throughout the east coast have booked virtually all the other Saturdays in April, May, and June.

Need I mention that these quarries are great places to collect both minerals and fossils. The Wavellite pit at Mount Pleasant Mills is one of the best sites in PA for the collection of phosphate minerals, but they are generally of a size loved only by micromounters.

**Atlantic Micromounters' Conference
April 5-6, 2019 Success**

Speaker, Dr. Robert Lauf of Tennessee

Author, Robert Lauf holds a Ph.D. in Metallurgical Engineering from the University of Illinois. His scientific career included over twenty years at Oak Ridge National Laboratory, where he conducted research on topics ranging from nuclear fuel, coal by-products, materials synthesis, microwave processing, sensors, optical materials, and biomineralization. He has been granted fifty U.S. Patents for his inventions, many of which have become successful industrial products. He is now a Registered Patent Agent and technology consultant.



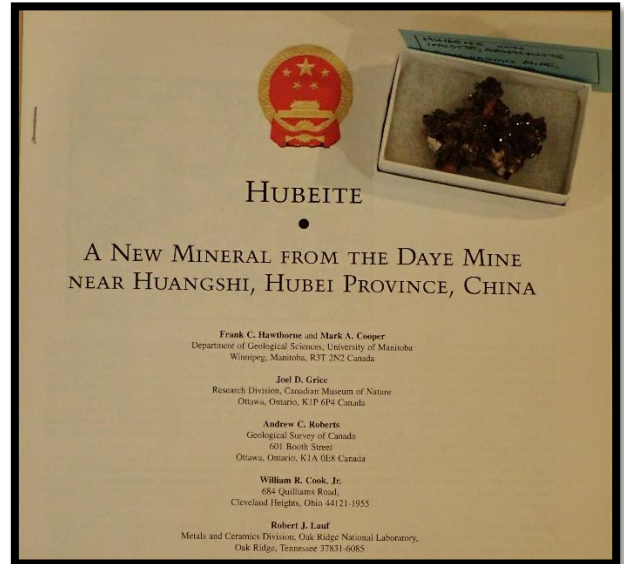
Hubeite from Hubei, China: While at Oak Ridge National Laboratory, he received samples of an unknown mineral assemblage from a new find in China. The Rocksmiths acquired it and wanted to know what it was. Microanalysis and XRD indicated it to be a new mineral. Jaye Smith had also sent pieces to several other folks. All involved collaborated on the description of hubeite, which was published in The Mineralogical Record, volume 33, November-December 2002. A sample of hubeite from Hubei, China originally studied along with a signed copy of the article was offered in the live auction at the conference.

Dr. Lauf's topics included:

1. **Electron Microscopy: The Final Frontier of Magnification**
2. **Mineralogy of Uranium and Thorium**
3. **Orthosilicates.**

Polarizing Adaptor for the Stereo Microscope: Dr. Lauf wrote an article about optical Mineralogy, which featured a Motic polarizing kit to be used with a stereo microscope. He revealed that this device is useful for thin section, as well as sand grain analysis. He also stated, "the use of this low-cost polarizing kit can open up a lot of interesting possibilities for the mineral collector to use the tools of optical mineralogy to gain insights into his or her collections." His article was featured in Mineral News volume 31, April 2015 published by Tony Nickischer of Excalibur Minerals.

Graphite from Ticonderoga, New York: Dr. Lauf visited the Lead Hill mine and recovered a variety of specimens, particularly graphite single crystals in marble. These were of interest for radiation damage studies, which led him to write an article for The Mineralogical Record, volume 14, January-February 1983. He provided the publication along with Ticonderoga graphite from New York.



Cuprosklodowskite Musonoi, Congo

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Grossular v hessonite Calxico, CA

Michael Pabst PhD of Virginia presented Rare Earth Minerals on Saturday evening.



Bastnesite Zagi Mountain in Pakistan, FOV 60 mm.
For sale \$12,500 at 2019 Tucson Show



Topaz w fluorite and hematite Thomas Range, UT



The previous four mineral photos were featured amongst Dr. Lauf's conference talks.



Zircon is from Rutherford Mine, Amelia Courthouse, VA, FOV 3 mm, Duresky specimen.

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Joaquinite San Benito County in California, FOV 2 mm. Pabst specimen, also has Benitoite and Neptunite.

Conference Photos



On behalf of the Micromineralogists of the National Capital Area club members, we thank Dr. Robert J. Lauf along with our 2019 attendees for a successful conference. We appreciate Dr. Michael Pabst for presenting "Rare Earth Minerals". Herwig Pelckmans saved the day by bringing chocolates from Antwerp, Belgium.

Thank you, Kathy Hrechka, Conference Chair

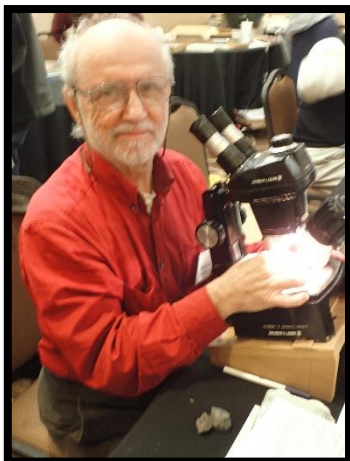
Erich Grundel, Legacy MNCA

In the Fall of 1979, a chance encounter with Dr. Lance Kearns at James Madison University led to yearly field trips to JMU. Also, as treasurer of the Mineralogical Society of the District of Columbia, I saw to it that JMU students would receive scholarships from the Foshag fund. Other clubs have followed in our footsteps.

In the 1970's and 80's I led MNCA field trips to new mineral locations I had discovered. Among them were Sugar Grove, West Virginia; Buck Hill, Virginia; some long-abandoned Virginia manganese mines and others. I've also discovered new locations in other places in North America. All these locations are still viable, and some are still being actively investigated by members, such as Tom Tucker, and others. These places are known to collectors throughout the world thanks to lectures and published articles.

I've also been a tinkerer. I have several homemade gadgets for micromounting. Among them are a continuously rotating viewing stage; a device for mounting sub-millimeter specimens; and various pedestal holders in lieu of growing a third arm.

Early on I advocated for using cell phones for microscopy and photography of microminerals. Currently I am investigating, with the help of MNCA members, using digital microscopes for our educational outreach. Over the 60+ years I have been a collector I have accumulated an unwieldy horde of material. Slowly I have been giving it away and, now and then, adding a new specimen to my collection.



Carolyn Weinberger

By David Nock,
EFMLS President



Dear EFMLS Rockhound Family,
Carolyn went to join our fellow Rockhounds in that great collecting field in the sky, early Monday morning, 3/25/19.

It's with great sadness that I inform you that our "Queen of the EFMLS," Carolyn Weinberger has passed away. She finally succumbed to her multi-year battle with her disease. Carolyn's passion for most and especially the latter part of her life was running our Federation. A giant hole now looms in our extended Rockhound Family. She truly gave us her full-time effort. Carolyn was our foremost advocate (and our extended family of the American Federation of Mineralogical Societies) of our hobby and was our EFMLS News newsletter Editor for I don't know how many years. A lot of years.

On March 25, 2019, Carolyn Weinberger (nee Mayer); beloved wife of Steven Weinberger; dear sister-in-law of Marshall and Marcia Klein; cherished daughter of the late Hilde and George Mayer; also survived by Robert Levi, a dear cousin.

Services were held at SOL LEVINSON & BROS., INC., 8900 Reisterstown Road, at Mount Wilson Lane on Friday, March 29, at 1 pm. Interment Baltimore Hebrew Cemetery - Berrymans Lane.

Contributions in her memory may be sent to Leukemia & Lymphoma Society, 100 Painters Mill Road, Suite 800, Owings Mills, MD 21117.



Rhodonite and Pyroxmangite

By Michael Pabst PhD, Treasurer

We are back to pink manganese minerals with Rhodonite $Mn^{2+}SiO_3$ and its polymorph Pyroxmangite $Mn^{2+}SiO_3$. (The readers of this column will not confuse the silicate Rhodonite with the carbonate Rhodochrosite $Mn^{2+}CO_3$, which we have already examined.) Rhodonite is triclinic pinacoidal, meaning that it has no right angles and only one pair of symmetrical faces. At least in many micromount specimens, the crystals tend to be thin and fragile, so finding an esthetic complete crystal to photograph is difficult.

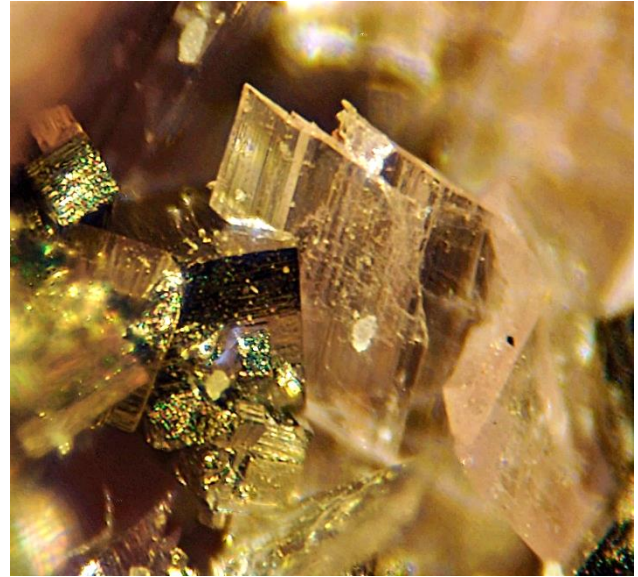


There is a polymorph of Rhodonite called Pyroxmangite, also $Mn^{2+}SiO_3$. They are both triclinic-pinacoidal with similar parameters, and I believe they can only be distinguished by x-ray diffraction, or by a guess based on locality. There are some beautiful crystals of Pyromangite, but, alas, I don't (knowingly) have one in my collection. Here, from Mindat, is a photo of Pyroxmangite from a classic locality in Japan: www.mindat.org/photo-332225.html.

Beautiful, cherry-red, blocky crystals of Rhodonite are found at Broken Hill, New South Wales, Australia. I have often passed up Rhodonite specimens from Broken Hill, because they were too damaged in the process of revealing them in massive Galena or other matrix to pass microscopic observation, but I wish I had bought this one, pictured on Mindat: www.mindat.org/photo-20974.html.

One of the most famous Rhodonite localities is the San Martin Mine in Peru. Here is an example from Mindat: www.mindat.org/photo-694458.html. Scaling down to a micromount, I present the next photo, which is a specimen of Rhodonite and Pyrite from the San Martin Mine.

In the next article, I will present two more black manganese oxide minerals, Chalcophanite and Hollandite, which will complete the table of manganese oxide minerals in my article on Pyrolusite and Manganite in the February 2019 *Mineral Mite*.



Rhodonite and Pyrite, San Martin Mine, Chiurucu, Huallanca District, Bolognesi Province, Ancash Dept., Peru. FOV 1 mm. Photo by Michael Pabst. Stack of 7 photos taken with stereomicroscope.

Here below is a less magnified view of part of the Rhodonite from Peru, to acquaint you with the first impression you get looking at this specimen before high magnification:



Rhodonite from San Martin Mine, Peru. Less magnified, FOV 15 mm. Photo by Michael Pabst. Stack of 13 photos taken with Olympus 60 mm macro lens.

Continued next page

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Here is a tiny Rhodonite from Italy in my micromount collection:



Rhodonite, Valgraveglia Mine (Gambatesa Mine), Monte Copello, Reppia, Genova Province, Liguria, Italy. FOV 1 mm. Photo by Michael Pabst. Stack of 4 photos taken with stereomicroscope.

Next are two photos of two specimens of Rhodonite and Andradite garnet from Franklin, New Jersey.



Rhodonite and Andradite, Parker Shaft, Franklin, Sussex County, NJ. FOV 2 mm. Photo by Michael Pabst.



Rhodonite and Andradite, Franklin, Sussex County, NJ. FOV 2 mm. Photo by Michael Pabst. There are many photos of red chunks of Rhodonite on the Web that might appeal to the unenlightened (the great un-scoped masses out there). However, I am too sophisticated (cheap) to be interested in big chunks. But at the last Tucson Show there were several museum quality Rhodonite specimens on display that I coveted. See the photo below:



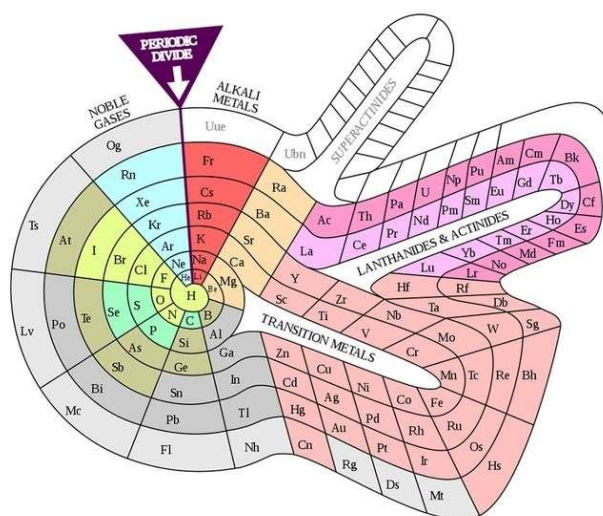
Rhodonite from the Chiurucu mine, Huanuco, Peru. Displayed by the Los Angeles County Museum of Natural History at the Tucson Gem and Mineral Show, February 2019. I guess the specimen is about 4 inches high. Photo by Michael Pabst.

150th Anniversary: Iconic Periodic Table Could Have Looked Very Different

Article adapted from *Popular Mechanics* by Mark Lorch/*The Conversation* January 7, 2019

Mark Lorch is a Professor of Science Communication and Chemistry at the University of Hull. This article was originally featured on *The Conversation*.

On its 150th anniversary, a chemist looks back at the various tables we almost ended up with.



Theodor Benfey's spira table (1964).
DePiep/Wikipedia

The periodic table stares down from the walls of just about every chemistry lab. The credit for its creation generally goes to Dimitri Mendeleev, a Russian chemist who in 1869 wrote out the known elements (of which there were 63 at the time) on cards and then arranged them in columns and rows according to their chemical and physical properties. To celebrate the 150th anniversary of this pivotal moment in science, the UN has proclaimed 2019 to be the International year of the Periodic Table.

ELEMENTS					
	Hydrogen	1		Strontian	46
	Azote	5		Barytes	68
	Carbon	5		Iron	50
	Oxygen	7		Zinc	56
	Phosphorus	9		Copper	56
	Sulphur	13		Lead	90
	Magnesia	20		Silver	190
	Lime	24		Gold	190
	Soda	28		Platina	190
	Potash	42		Mercury	167

John Dalton's element list.

Wikimedia Commons But the periodic table didn't start with Mendeleev. Many had tinkered with arranging the elements. Decades before, chemist John Dalton tried to create a table as well as some rather interesting symbols for the elements (they didn't catch on). And just a few years before Mendeleev sat down with his deck of homemade cards, John Newlands also created a table sorting the elements by their properties.

Mendeleev's genius was in what he left out of his table. He recognized that certain elements were missing, yet to be discovered. So, where Dalton, Newlands and others had laid out what was known, Mendeleev left space for the unknown. Even more amazingly, he accurately predicted the properties of the missing elements.

Periodic Table continued

			Ti = 50	Zr = 90	? = 180
			V = 51	Nb = 94	Ta = 182
			Cr = 52	Mo = 96	W = 186
			Mn = 55	Rh = 104,4	Pt = 197,4
			Fe = 56	Ru = 104,4	Ir = 198
		Ni = Co = 59	Pd = 106,6	Os = 199	
H = 1			Ag = 108	Hg = 200	
	Be = 9,4	Mg = 24	Cu = 63,4	Cd = 112	
	B = 11	Al = 27,4	Zn = 65,2		Au = 197?
	C = 12	Si = 28	? = 68		
	N = 14	P = 31	? = 70		
	O = 16	S = 32	As = 75		Bi = 210?
	F = 19	Cl = 35,5	Se = 79,4		
	Li = 7	Na = 23	Br = 80		
		K = 39	Rb = 85,4		
		Ca = 40	Sr = 87,6		
		? = 45	Ce = 92		
		?Er = 56	La = 94		
		?Yt = 60	Di = 95		
		?In = 75,6	Th = 118?		
			Ba = 137		Tl = 204
					Pb = 207

Dimitry Mendeleev's table complete with missing elements. *Wikimedia Commons*

Notice the question marks in his table above? For example, next to Al (aluminum) there's space for an unknown metal. Mendeleev foretold it would have an atomic mass of 68, a density of six grams per cubic centimetre and a very low melting point. Six years later Paul Émile Lecoq de Boisbaudran, isolated gallium and sure enough it slotted right into the gap with an atomic mass of 69.7, a density of 5.9 g/cm³ and a melting point so low that it becomes liquid in your hand. Mendeleev did the same for scandium, germanium, and technetium (which wasn't discovered until 1937, 30 years after his death).

At first glance Mendeleev's table doesn't look much like the one we are familiar with. For one thing, the modern table has a bunch of elements that Mendeleev overlooked (and failed to leave room for), most notably the noble gases (such as helium, neon, argon). And the table is oriented differently to our modern version, with elements we now place together in columns arranged in rows.

Group	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18														
Period	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18														
1	1 H																	2 He														
2	3 Li	4 Be											5 B	6 C	7 N	8 O	9 F	10 Ne														
3	11 Na	12 Mg											13 Al	14 Si	15 P	16 S	17 Cl	18 Ar														
4	19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr														
5	37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe														
6	55 Cs	56 Ba	57 La	58 Ce	59 Pr	60 Nd	61 Pm	62 Sm	63 Eu	64 Gd	65 Tb	66 Dy	67 Ho	68 Er	69 Tm	70 Yb	71 Lu	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn
7	87 Fr	88 Ra	89 Ac	104 Rf	105 Db	106 Sg	107 Bh	108 Hs	109 Mt	110 Ds	111 Rg	112 Cn	113 Nh	114 Fl	115 Mc	116 Lv	117 Ts	118 Og														
				90 Th	91 Pa	92 U	93 Np	94 Pu	95 Am	96 Cm	97 Bk	98 Cf	99 Es	100 Fm	101 Md	102 No	103 Lr															

Today's periodic table. *Offnfopt/Wikipedia*

But once you give Mendeleev's table a 90-degree turn, the similarity to the modern version becomes apparent. For example, the halogens—fluorine (F), chlorine (Cl), bromine (Br), and Iodine (I) (the J symbol in Mendeleev's table)—all appear next to one another. Today they are arranged in the table's 17th column (or group 17 as chemists prefer to call it).

Period of experimentation

It may seem a small leap from this to the familiar diagram, but years after Mendeleev's publications there was plenty of experimentation with alternative layouts for the elements. Even before the table got its permanent right-angle flip, folks suggested some weird and wonderful twists.

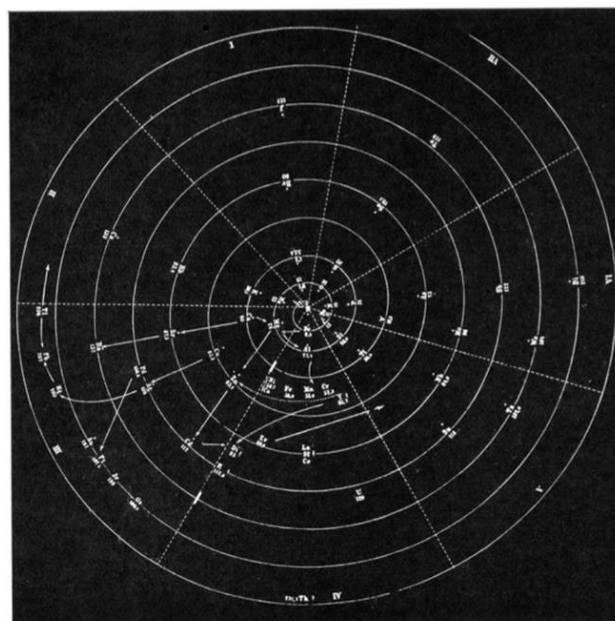


FIGURE 14.—BAUMHAUER'S SPIRAL

Heinrich Baumhauer's spiral. *Reprinted (adapted) with permission from Types of graphic classifications of the elements. III. Spiral, helical, and miscellaneous charts, G. N. Quam, Mary Battell Quam. Copyright (1934) American Chemical Society.*

One particularly striking example is Heinrich Baumhauer's spiral, published in 1870, with hydrogen at its center and elements with increasing atomic mass spiraling outwards. The elements that fall on each of the wheel's spokes share common properties just as those in a column (group) do so in today's table.

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There was also Henry Basset's rather odd "dumb-bell" formulation of 1892.

Nevertheless, by the beginning of the 20th century, the table had settled down into a familiar horizontal format with the strikingly modern looking version from Heinrich Werner in 1905. For the first time, the noble gases appeared in their now familiar position on the far right of the table. Werner also tried to take a leaf out of Mendeleev's book by leaving gaps, although he rather overdid the guess work with suggestions for elements lighter than hydrogen and another sitting between hydrogen and helium (none of which exist).

FIGURE 8.—WERNER'S PERIODIC TABLE

Heinrich Werner's modern incarnation.

Reprinted (adapted) with permission from Types of graphic classifications of the elements. I. Introduction and short tables, G. N. Quam, Mary Battell Quam. Copyright (1934) American Chemical Society.

Despite this rather modern looking table, there was still a bit of rearranging to be done. Particularly influential was Charles Janet's version. He took a physicist's approach to the table and used a newly discovered quantum theory to create a layout based on electron configurations. The resulting "left step" table is still preferred by many physicists. Interestingly, Janet also provided space for elements right up to number 120 despite only 92 being known at the time (we're only at 118 now).

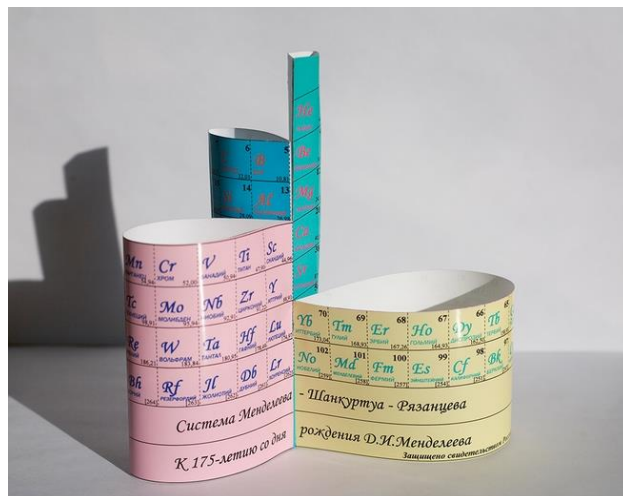
Charles Janet's left-step table.
Wikipedia, CC BY-SA

Settling on a design

The modern table is actually a direct evolution of Janet's version. The alkali metals (the group topped by

lithium) and the alkaline earth metals (topped by beryllium) got shifted from far right to the far left to create a very wide looking (long form) periodic table. The problem with this format is that it doesn't fit nicely on a page or poster, so largely for aesthetic reasons the f-block elements are usually cut out and deposited below the main table. That's how we arrived at the table we recognize today.

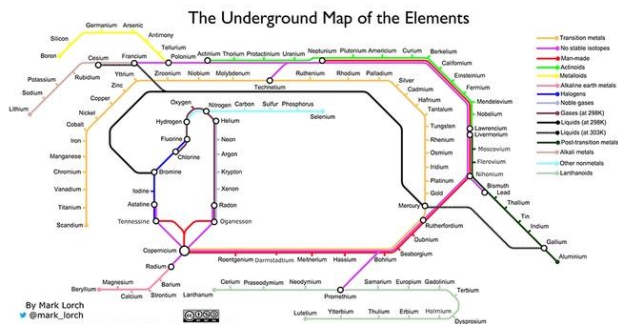
That's not to say folks haven't tinkered with layouts, often as an attempt to highlight correlations between elements that aren't readily apparent in the conventional table. There are literally hundreds of variations (check out Mark Leach's database) with spirals and 3D versions being particularly popular, not to mention more tongue-in-cheek variants.



3D 'Mendeleev flower' version of the table.

Тимохова Ольга/Wikipedia, CC BY-SA

How about my own fusion of two iconic graphics, Mendeleev's table and Henry Beck's London Underground map below?



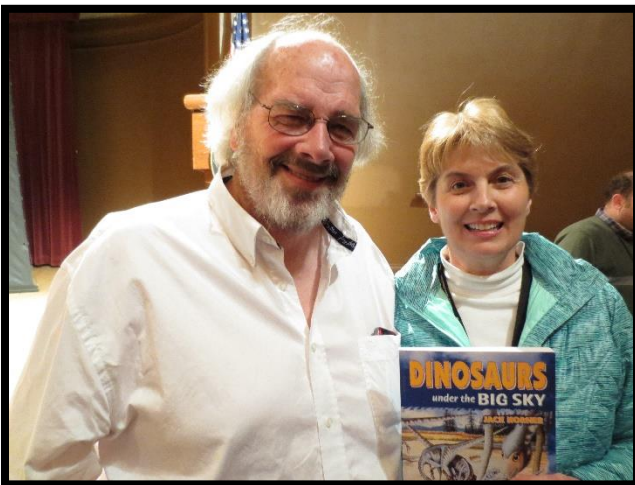
The author's underground map of the elements.
Mark Lorch, Author provided

**Smithsonian - Nation's T-Rex
"Deep Time" opens June 8, 2019**



Theropod dinosaur skull (cast)
Tyrannosaurus rex
Lived 67–66 million years ago
Hell Creek Formation, McCone Co., Montana
USNM 481103

The original of this skull cast was found in 1988 by rancher Kathy Wankel. The entire, original *Tyrannosaurus* skeleton can be found in the David H. Koch Fossil Hall | Deep Time exhibition as of June 8, 2019.



Dr. Jack Horner MOR with Kathy Hrechka



FedEx delivered our Nation's T-Rex from the Museum of the Rockies in Montana on April 2014. The new dinosaur hall renovation would take 4 years.



Kathy Wankel with Dr. Kirk Johnson 2014

Article & photos by Kathy Hrechka

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**American Federation of
Mineralogical Societies**

(AFMS)
www.amfed.org

AFMS Purpose: 2018

Purpose of the AFMS: To promote popular interest and education in the various Earth Sciences, and in particular the subjects of Geology, Mineralogy, Paleontology, Lapidary and other related subjects, and to sponsor and provide means of coordinating the work and efforts of all persons and groups interested therein; to sponsor and encourage the formation and international development of Societies and Regional Federations and by and through such means to strive toward greater international good will and fellowship.

The A.F.M.S. Newsletter is published monthly except January, July and August by the American Federation of Mineralogical Societies. Address corrections and changes Subscription Information, Distribution Questions: Each Regional Federation Club is entitled to receive three (3) copies of the AFMS Newsletter. These are usually sent to the President, Editor and Federation Director or Secretary.

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**Eastern Federation of
Mineralogical and
Lapidary Societies**

(EFMLS)
www.amfed.org/efmls

**Communication and Involvement
Are the Keys to Our Success!**

**Please read the EFMLS bulletin attached in
original monthly email to MNCA members.**

Geology Events:

April 2019

3: Mineralogical Society of DC – MSDC meeting
Smithsonian NMNH, Constitution Avenue lobby
7:30 pm to head up to the Cathy Kerby Room.
www.mineralogicalsoocietyofdc.org

**9: The Gem, Lapidary and Mineral Society of
Montgomery County, Maryland - GLMS-MC**
7:30 pm - Rockville Senior Center, 1150 Carnation
Drive, Rockville, MD
www.glmsmc.com

**19: The Gem, Lapidary and Mineral Society of
Washington, DC - GLMS-DC meeting**
7:00-10pm - Chevy Chase Community Center,
5601 Connecticut Ave., NW, Chevy Chase, MD
www.glmsdc.org

22: Northern VA Mineral Club - NVMC meeting
7:30–10pm Long Branch Nature Center
625 South Carlin Springs Road in Arlington, VA
www.novamineralclub.org

**24: Micromineralogists of the National Capital
Area - MNCA meeting**
7:30–10pm Long Branch Nature Center
625 South Carlin Springs Road in Arlington, VA
www.dcmicrominerals.org

**May 10–12, 2019 Canadian Micro Mineral Asso-
ciation: 56th Annual Spring Symposium** - Brock
University, St Catharines, (Niagara) Ontario, Canada
Presenters; Dr. Aaron Lussier & Dr. Mike Seeds
Details contact CMMAfrank@gmail.com

Mineralogical Society of America Centennial (1919-2019) Symposium

The Next 100 Years of Mineral Sciences June 20-21, 2019

MSA will hold a celebratory Centennial Symposium on June 20-21, 2019 at the [Carnegie Institution for Science Building](#), located at 1530 P St NW, Washington, DC 20005.

Fourteen theme colloquia will offer a vision for exciting new directions in mineralogy, geochemistry, and petrology as MSA begins its second century. Each theme colloquium will include two 20-minute presentations by invited speakers followed by five minutes of moderated audience discussion.

Lunches will be included with your registration fee, and attendees are invited for a private evening reception in the Janet Annenberg Hooker Hall of Geology, Gems, and Minerals in the US National Museum of Natural History, Smithsonian Institution.

We thank the Gemological Institute of America for sponsoring this evening reception. Please join us for this once-in-a-century event!

http://www.minsocam.org/MSA/Centennial/MSA_Centennial_index.html Submitted by Herwig Pelckmans



Micromineralogists of the National Capital Area
Meeting: The 4th Wed. of each month 7:30 -10 p.m.
Long Branch Nature Center (No meetings June & July)
625 S. Carlin Springs Road, Arlington VA 22204

MNCA Purpose: To promote, educate and encourage interest in geology, mineralogy, and related sciences.

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The society is a member of:

* Eastern Federation of Mineralogical and Lapidary Societies (EFMLS) www.amfed.org/efmls
* American Federation of Mineralogical Societies (AFMS) www.amfed.org Affiliation

Dues: MNCA Membership Dues for 2019
\$15 (single) or \$20 (family)
Payable to MNCA - Michael Pabst, Treasurer
270 Rachel Drive
Penn Laird, VA 22846



Editor's Note:
By
Kathy Hrechka



Send your articles and photos to your editor.
Club Article Deadline is 1st of each month.
The Mineral Mite will be emailed on 5th.
No newsletter July/August

EFMLS Editor's Award
First Place 2016 - Small Bulletins
Inducted into Editor's Hall of Fame – 2018



Member inputs:
* Dave MacLean
* Michael Pabst
* Kathy Hrechka
* Dr. Robert Lauf
* Bob Cooke
* H. Pelckmans

