# The BULLETIN

## OF THE NEW YORK MINERALOGICAL CLUB, INC

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America's Oldest Gem & Mineral Club
Founded 1886 ◆ Incorporated 1937

# Bulletin of the New York Mineralogical Club

Founded 1886 ♦ New York City, New York ♦ Incorporated 1937

**Volume 131, No. 4** ***America's Oldest Mineral & Gem Club*** **April 2017**

***April 19th Meeting:***

## Charles Snider: "The American Geode Story"

***The following important questions will be answered at this talk:***

1. When did Charles Snider begin rockhounding and what was it like rockhounding by himself? How did he explain to strangers why he was carrying a pickaxe, sledgehammer and other tools out in public?

2. Charles' favorite rockhounding spot is in Southern Indiana. How did one dear friend's addiction to drugs lead to Charles' finding a source of endless geodes?
3. What is it like bringing back to Manhattan a trunk full of geodes and how does one explain to the rental car company how the shocks and brake pads were ruined?
4. What is it like selling geodes at a New York City flea markets and what kind of friends do you make while doing so?
5. How did a work project introduce Charles and fellow club member Joe Krabak to one another and then lead to a friendship "grounded" in geodes and rockhounding?

Charles Snider has been an avid gem and mineral collector as long as he can remember. His interests range from gems, minerals and fossils to antiques, Americana and folk art. His rockhounding trips range from Southern Indiana geodes to Herkimer Diamonds to a very special rockhounding trip in Colorado with partner in American Geode, fellow club member Joe Krabak.

Charles has a long history of hosting and presenting on television and radio on topics spanning fine wine and spirits, celebrity interviews, and current events. During the day Charles' career is in the financial markets, and he much prefers the weekends, no suit or tie, being out in the field rockhounding.

# Review: Spring 2017 NYC Mineral, Gem & Jewelry Show

By Mitch Portnoy

The Spring New York City Gem & Mineral Show took place on March 4-5, 2017 at the Watson Hotel (formerly Holiday Inn Midtown Manhattan), its standard location. Here are some of the **highlights**:


In spite of the truly frigid weather that NYC experienced over this weekend, a large, bundled up crowd mobbed the show on both days! More specifically, this was the third consecutive March NYC show in which **attendance** increased!

All of us noticed a preponderance of younger people or families with children. We assume that our strong presence on **Social Media and the Internet** is having a beneficial effect on all aspects of the show.

The show was an acknowledged **commercial success** for all dealers. In fact, the worst reaction I heard was that they did "okay"; most said "good" or even "very good"! It should come as no surprise that every dealer who is continuing to operate in this type of venue has asked to return next year. And their overall happiness was surely reflected in the **wonderful donations** they made to the NYMC for our **June Benefit Auction**!

The experiment of placing a dealer on the **outside patio** (American Geode), marginally expanding the dealer count, did not work out. It was simply too cold to keep the ballroom door open so the public could explore their booth. Alas!

In addition, there was an **overbooking snafu!** However, Aurora Minerals, which has a huge space at the show, magnanimously agreed to consolidate their work area, allowing the "extra" dealer to squeeze into this much-in-demand mineral show.

Both of the **lectures** (*Opal* on Saturday, *Popular Culture* on Sunday) were extremely well attended, SRO really! On Saturday, instead of using a projector to show the PowerPoint presentation, we plugged directly into a **wide-screen televison.** I found this alternate technology advantageous and we will likely continuing doing this at our regular meetings.

NYMC booth activity was brisk. We enrolled **seven new members** (5-10 per show is average) but only had two membership renewals (low?). On the other hand, in November more that 20 members renewed; our overall 2016/2017 renewal rate is 94%! A special thanks again to **Tony Nikischer** for providing minerals to entice mineral enthusiasts to join the club!

We restocked the popular **gemstone floaty pens** for this show as well as all of the **exotic gemstone books** by R. Newman. New items that we offered for sale included **gemstone pencils**, a **mineral guidebook** (by Schumann) and a new book about **pearls** (also by Newman). Sales were great AND we will have all of this merchandise for sale again at the November show.

I hope everyone had a nice experience at this year's Spring Show. ***Thanks to everyone who volunteered his/her time to make it, once again, a great success!***

### Issue Highlights

## President's Message

By Mitch Portnoy

For a few years now I have been "honoring" the topic of April Fool by placing relevant **mineral/gem/geology jokes and cartoons** throughout the Club's April Bulletin. I hope you enjoy them (or at least are not too offended)!

**Special Benefit Sale Review**

Thanks to an amazingly generous donation by member **Nik Nikiforou** (Globe Minerals), the Club had a Special Benefit Mineral Sale on Sunday, February 12, 2017 at my apartment.

Although the weather was dreadful on that day, 25 members came by to eagerly add some minerals to their collection. Jewelry donated by member **Arlene Joseph** (*Somethings*) was also available.

Approximately $3,000 was raised from this sale. To give you a perspective on this amount: this will cover almost an entire year's meeting room fees for the Club!

- Be aware we have about six remaining containing wonderful minerals! Please contact me if you would like to come over at your convenience and make some selections!

**Club Membership Update**

Now that the Spring NYC Mineral Show has come and gone, I can report our membership renewal rate from 2016 to 2017 was 94%. Indeed, our beginning of the year membership count is the highest it has been in at least twenty years.

**Dealer Donations from the Show**

Every dealer at the Spring 2017 Show gave us a splendid donation for our June Benefit Auction. Items include minerals, gems, meteorites, jewelry, rough, books, fossils and scientific items. An itemized list of what each dealer gave to us will appear in next month's Bulletin.

**September Speaker Still Needed**

We still need a speaker for the September 2017 meeting. If you have a suggestion or can refer me to someone, please contact me as soon as possible!

## Club Meeting Minutes for March 8, 2017

By Vivien Gornitz, *Secretary*

Attendance: 42

President Mitch Portnoy presided

**Announcements:**

- New members were welcomed and the monthly raffle held.
- A brief recap of the February 2017 Club Benefit Sale was given.
- A longer discussion about the past weekend's NYC mineral show was presented including attendance, sales, new members, lectures, dealers, etc.
- Mitch announced the upcoming addition of a "President's Album" into the archives page on the website.
- The day's historic events and special assignations were presented.
- A comic song about field collecting set to the music of the Beatles' *Penny Lane* was sung.
- A comic video about falling through the Earth was played.
- A new game series, focusing on a mineral's streak color, was started with yellow/orange streak.
- The night's new or special items for sale (meteorite note cards, gemstone pencils, etc.) were pointed out.
- The next few meetings' lectures or events were presented.

### Special Lecture: Steve Okulewicz: "Meteorites: *Our True Extraterrestrial Visitors"*

Some thousand to ten thousand tons of space stuff bombard the Earth daily, according to Prof. Steve Okulewicz, Hofstra University, and popular Club speaker. Not to worry, the sky isn't falling. Lucky for us, most Solar System debris burns up in our atmosphere as *meteors* (or "shooting stars"). Larger pieces land on Earth as *meteorites*. However, in the distant past, Steve pointed out, the Moon likely formed when a Mars-sized object collided with the Earth, 30-50 million years after the Solar System formed. The left-over debris coalesced into the Moon. All rocky planets suffered an intense A heavy meteoritic bombardment around 3.8-3.9 billion years ago left the Moon and all solid planets with their moons pocked with craters.

On Earth, Meteor Crater, northern Arizona, was created a mere 49,000 years ago. A much older,—The much older 483-km diameter Wilkes Land gravity anomaly—a probable fossil crater--lies buried in East Antarctica under 1.6 km of ice. It may date to 250 million years ago and the impact may have played a role in the Permian-Triassic extinction—the largest terrestrial mass mortality ever. (A much stronger case can be made for the impact that created the buried Chicxulub crater in the Yucatan 65 million years ago, wiping out the dinosaurs and many other life forms).

Steve distinguished "finds" (meteorites collected long after they landed) from "falls" (those that were seen to fall). Most meteorites come from the asteroid belt, a region between Mars and Jupiter. Rare exceptions hail from Mars or the Moon. Meteorites fall into three main groups: irons, stony, and stony-irons. Some types show evidence for differentiation of an asteroid parent body into a crust, mantle, and core. Achondritic stony meteorites resemble crustal basalt lava or more mafic rocks. Mineralogy and spectral characteristics tie some achondrites to the asteroid Vesta. The iron-nickel meteorites came from the core of a large asteroid, whereas stony-irons formed at the core-mantle boundary. These consist of a mix of olivine (Mg-rich peridot) and nickel-iron. When polished, they make attractive specimens, or even pieces for jewelry.

Chondrites, which constitute most falls, contain *chondrules*, or small spherules of olivine and pyroxene. The carbonaceous chondrites, a rare sub-group, incorporate low temperature organic matter—hydrocarbons, benzene-ring derivatives, and amino acids. They also enclose very high temperature refractory inclusions—the CAIs, or calcium, aluminum inclusions. These meteorites are truly "primitive", i.e., undifferentiated, with an elemental composition (other than H and He) like that of the Sun.

Iron meteorites consist of kamecite (Ni-poor) and taenite (Ni-rich) phases that unmixed as they cooled into the characteristic Widmanstätten pattern. Famous iron meteorites include the 34-ton Ahnighito and 15.5-ton Willemette meteorites, both at the American Museum of Natural history, the 70-ton Sikhote Alin from Siberia, 66-ton Hoba in Namibia, and Campo de Cielo, Argentina.

Unlike most other meteorites, the SNCs (**S**hergotty, **N**akhla, **C**hassigny) are Martian. Significantly younger than other meteorites, they display a gas isotope composition that matches that of the Martian atmosphere. Even rarer are lunar meteorites. Most are anorthosite-rich breccias, consisting of rock fragments from the lunar highlands.

On February 5, 2013, a fireball streaked across the sky in Chelyabrisk, Russia, shattering windows and causing numerous injuries. This well-recorded event set off a meteorite-hunting frenzy that yielded an estimated 654 kg (1400 lbs) of a common type of chondrite. But a century ago, in 1908, the mysterious Tunguska event flattened trees over an 800 sq mi area, leaving no crater, nor meteorite fragments. Was it a comet or small asteroid that exploded in the atmosphere? No one knows for sure.

As in previous talks, Steve Okulewicz concluded with a dash of magic. Folding a piece of paper into a shooting star or comet form, he tore it in two, to simulate break-up of a meteor. The larger pieces, when unfolded, yielded a circular hole—the crater; the smaller piece, a stellar "ejecta".

## Members in the News

- A brief overview of the history of the NYMC (mostly based on website materials) appeared in the March 2017 issue of the ***Rock Rustler's News***, bulletin of the **Minnesota Mineral Club!**
- A model was wearing a necklace designed by **Naomi Sarna** on the cover of the February 2017 issue of INSTORE.

## Welcome New Members!

Peter Alberts . . . . . Brooklyn, NY
Deborah Amat . . . . . Brooklyn, NY
Karen Cangelosi . . . . . NYC, NY
Alicia Goodwin . . . . . Brooklyn, NY
Malcolm Guevara . . . . . NYC, NY
Sarah Keating . . . . . Larchmont, NY
Andrea Mason . . . . . NYC, NY
Wende Silver . . . . . NYC, NY
Philip Tan . . . . . Brooklyn, NY

## The World of Minerals

The *World of Minerals* is a monthly column written by Dr. Vivien Gornitz on timely and interesting topics related to geology, gemology, mineralogy, mineral history, etc.

### Super-Sized Diamonds

The Cullinan diamond, weighing 3,106 carats when discovered in 1905 near Kimberley, South Africa, remains the largest diamond ever found. The two largest stones cut from it sparkle regally in the British Royal Scepter (550.2 ct) and British royal crown (317.4 ct), respectively. Recently, another super-sized diamond, said to be the world's second largest, was found in the Karowe Mine, Botswana. Weighing, 1,111 carats, it belongs to a rare, pure diamond variety—a type IIa diamond, characterized by an extremely low nitrogen content. By contrast, N in Type I diamonds, the most common type in nature, often imparts an undesirable yellowish hue to the stone. The same Botswana mine also yielded two other weighty diamonds—an 813 ct stone (the 6th largest), a 374 ct stone, and 95 other diamonds 100 or more carats!

Examples of rough CLIPPIR diamonds from the Letseng mine in Lesotho. Credit: GIA copyright, credit Robert Weldon and Gem Diamonds Ltd.

These exceptional diamonds share a number of unique physical characteristics that distinguish them from other diamonds. These properties show that they formed under quite different geological circumstances. Named CLIPPIR diamonds, these special gemstones are large, chemically pure, inclusion-poor, irregularly-shaped, and show signs of dissolution or etching. The few inclusions they do contain reveal the story of their origins.

The most common inclusions are a magnetic, metallic material identified as an assemblage of cohenite $(Fe,Ni)_3C$, Fe-Ni, and pyrrhotite (Fe(1-x)S), with minor Fe-phosphate, Cr-Fe-oxides, and Fe oxides. Some of these minerals also occur in meteorites. A thin fluid coating and traces of $H_2$ surround most inclusions. These inclusions are interpreted as remnants of a melt that consisted of a mix of Fe-Ni-C-S, with minor dissolved H, P, Cr, and O.

Other inclusions are silicate minerals that formed under very high pressures, such as Cr-poor majoritic garnet and Ca, Si-perovskite that has subsequently inverted to lower-pressure minerals. Taken together, these strands of evidence point to growth in a highly reducing (oxygen-poor) environment at great depths (estimated at 410-660 km, 255-410 mi, within the mantle transition zone). Unlike most other diamonds, the CLIPPIRs grew from a metallic melt containing dissolved methane and hydrogen. Most other diamonds, in sharp contrast, crystallize in the upper mantle (150-200 km deep) from volatile-rich fluids containing $CO_2$, $H_2O$, and $CH_4$ (methane). The metallic minerals may have scavenged any stray N, accounting for its low concentration in the pure, clear diamonds. Large liquid pockets may have provided ample space for the diamonds to grow to such large sizes under such intense mantle pressures.

CLIPPIR diamonds are also of great scientific interest, because they may shed light on deep-Earth processes. CLIPPIRs are enriched in the lighter $^{12}C$ isotope relative to $^{13}C$. An enrichment of $^{12}C$ relative to the heavier $^{13}C$ is characteristic of biogenic carbon and is also found in eclogitic diamonds. Eclogites are upper mantle rocks composed of garnet and omphacite pyroxene. A major host rock of diamond, eclogites probably originated as oceanic basalts that were subducted into the mantle. Thus, the "light" carbon in these diamonds suggest "recycling" of crustal carbon to great depths.

The metallic inclusions in these diamonds also imply that iron alloys may be widespread within an otherwise predominantly silicate mantle. Their presence would affect important physical properties such as seismic velocity, conduction of heat and electricity, and cycling of volatile elements (e.g., C, H). Super-sized diamonds, therefore, not only represent gemstones of great beauty and high monetary value, but also provide geologists with an important window into otherwise inaccessible portions of our planet.

***Further Reading***

Jarrett, D., 2017. The Big One that Didn't Get Away. *Bulletin of the New York Mineralogical Club*, Jan. 2017. Vol. 131(1):9.

Shirey, S. B., & Shigley, J. E., 2013. Recent advances in understanding the geology of diamonds. *Gems & Gemology*, 49(4).

## Geologists:
### *"We May Be Slowly Running Out Of Rocks"*

RALEIGH, NC—A coalition of geologists are challenging the way we look at global stone reserves, claiming that, unless smarter methods of preservation are developed, mankind will eventually run out of rocks.

Geologists theorize that areas like this may have once been filled with rocks.

"If we do not stop using them up at our current rate, rocks as we know them will be a thing of the past," renowned geologist Henry Kaiser said at a press conference Tuesday. "Igneous, metamorphic, even sedimentary: all of them could be gone in as little as 500,000 years."


Geologists theorize that areas like this may have once been filled with rocks.

"Think about it," Kaiser added. "When was the last time you even saw a boulder?"

The scientists warned that, although people have long considered the world's rock supply to be inexhaustible, it has not created a significant number of new rocks since the planet cooled some 3.5 billion years ago. Moreover, the earth's rocks have been very slowly depleting in the last century due to growing demand for fireplace mantels, rock gardens, gravel, and paperweights.

Kaiser claims that humanity has "wreaked havoc" on the earth's stones by picking them up, carrying them around, and displacing them from their natural habitat.

"A rock can take millions of years to form, but it only takes a second for someone to skip a smooth pebble into a lake, and then it is gone." Dr. Kaiser said. "Perhaps these thoughtless rock-skippers don't care if they leave our planet completely devoid of rocks, but what about our children? Don't they deserve the chance to hold a rock and toss it up and down a few times?"

Continued Kaiser, "We are on a collision course to a world without rocks."

Geologist Victoria Merrill, who has been at the forefront of the rock conservation battle since 2004, said there are simple steps people can take to reduce their rock consumption.

"Only take as many rocks as you absolutely need," said Dr. Merrill, author of the book No Stone Unturned: Methods For Modern Rock Conservation. "And once you are finished with your rocks, do not simply huck them into the woods. Place the rock down gently where you found it so that others may look at the rock and enjoy it for years to come."

Merrill went on to point out that, even if there were some "magic hole" in the earth's crust that could miraculously spew out rocks every 10 years or so, modern society's obsession with rocks means that we would still run out of them far more quickly than they could be replenished.

"Just look at the pet rock craze: In 10 years, millions upon millions of rocks were painted, played with, and discarded like trash," Merrill said. "Looking back, mankind's arrogance and hubris is startling."

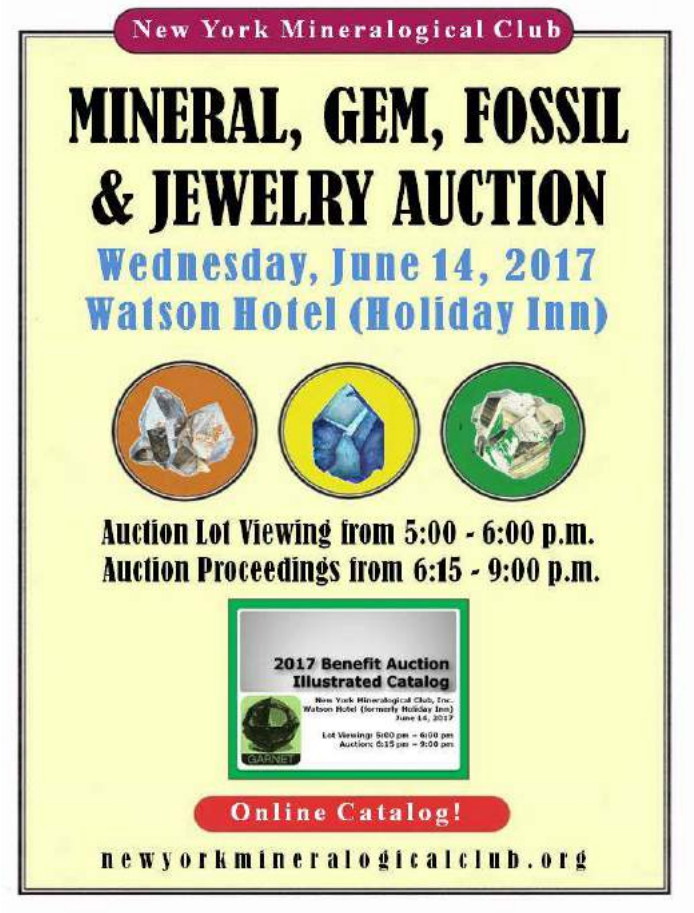
But critics of the movement have already begun to surface, claiming that Kaiser and his colleagues are simply preying on people's fears of losing rocks.

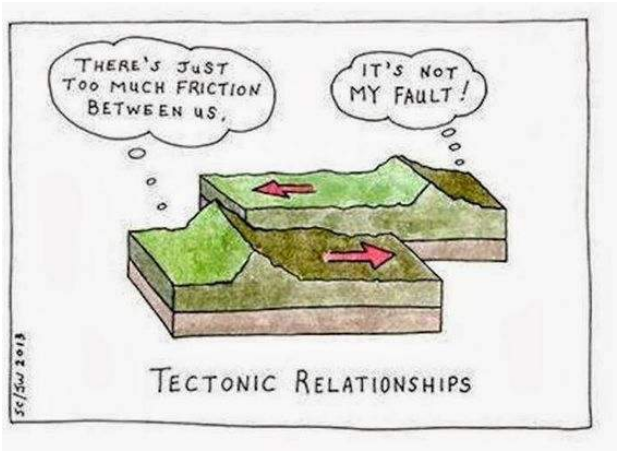
While acknowledging that we should reduce our dependence on foreign rocks, many have argued that the current rock supply could easily last for the next 2 million years, by which time technology will have advanced enough to allow for the production of endless quantities of cheap, durable basalt.

Others who oppose the rock-loss theory claim that rocks were put on the earth to be used by humans in marble statues or kitchen countertops as they see fit.

"Take the Rocky Mountains, for example: There's plenty of rocks right there," Colorado resident Kyle Peters said. "It's our right as Americans to use as many rocks as we need for whatever purposes we decide, and no scientist is going to scare me into thinking otherwise."

"This country was built on rocks," he added. "Remember that." Source: Theonion.com from May 1, 2010



## The Most Bizarre Christmas Gift We've Ever Seen

By Jessica Mattern

Take a moment and think about the most peculiar holiday gift you've ever received. Now with that in mind, we can say that the item pictured above is probably even weirder.

Nordstrom is selling an $85 stone that can be used for a variety of purposes, according to the product description. The "one-of-a-kind" rock comes from the Los Angeles area and is dressed in a handmade leather sleeve.

"A paperweight? A conversation piece? A work of art? It's up to you," according to the retailer. "[It] is sure to draw attention wherever it rests." What's more, there's a smaller size available for $65 for, you know, the more budget-conscious shopper.

While we think it's a ridiculous idea for a gift, that hasn't stopped customers from having some fun by leaving cheeky comments in the review section. "It really is everything it claims to be! I was astonished. In fact, I've never owned a rock that could function better than this product," wrote one person.

"This beautifully formed stone was obviously made with such detail and craftsmanship that the untrained eye would likely mistake it for a simple rock," another wrote. "Brilliant!"

It may just be the perfect gift for the person in your life that already has everything.

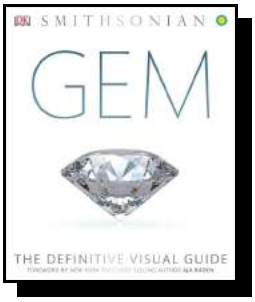
Source: Womensday.com from Dec. 6, 2016

## GEM: The Definitive Visual Guide

Foreword by Aja Raden, N.Y: DK (Dorling Kindersley) Publishing/Smithsonian, 2016. 440 pp, color illus. Hardbound, $50.00

**Book Review by Eric J. Hoffman and Elyse Zorn Karlin**

Let's cut right to the bottom line: if you have even the slightest interest in gems and jewels you need to add this gorgeous book to your library. That said, this book is difficult to review for it is really several books interleaved into one. For this reason two people are reviewing it ... one reviewer who admires gems, another who loves historic jewelry.




The organization of the book is unusual, with an Introduction followed by sections on Native Elements, Gemstones, Organic Gems, and Rock Gems and Rocks. There follows a Color Guide (loosely grouping minerals according to their color) and an 80 page Mineral and Rock Directory (grouping them in standard geologic order). There is also a glossary and—vitally important in a book like this—a comprehensive index.

The Introduction covers the basic definitions of rocks, gems, and "jewels" and is well illustrated (as is the entire book). Their physical and optical properties are covered as well as where they are found, how they form, and what makes a stone a gem.

The Native Elements section covers gold, silver, platinum, copper and bronze, and diamond (representing carbon). Mineralogical information is interspersed with lavishly illustrated historical examples such as the Crown of Charlemagne and Marie Antoinette's diamond earrings (now in the Smithsonian Gem Gallery).

The Gemstones section is by far the largest, comprising about half the book. Here we find extensive treatments of more gems than you ever knew existed, all beautifully illustrated. All the "usual suspects" are there of course, but also such rare examples as sphalerite, taaffeite, and pezzottaite. Again historical sidebars appear throughout, featuring important jewelry set with gemstones such as the Danish Ruby Parure and the Topkapi Emerald Dagger, just to pick two examples. There are also brief treatments of Indian, Byzantine, and ancient Egyptian jewelry.

Throughout the book are explanations of why one gemstone example is more valuable than another, although dollar values are not discussed. The dangerous area of enhancements is also treated.

Gem was created in association with the Smithsonian Institution and from the publishing information it appears that a substantial team worked on it. The main contributors, however, appear to be Ronald Bonewitz and consultant Andrew Fellows of the British Gemmological Association. There is a foreword by Aja Raden who authored the book *Stoned: Jewelry, Obsession, and How Desire Shapes the World.*

Gem combines expert knowledge with an almost uncountable number of lavish photographs from sources all over the world. At only $50 this huge book is not only a must-have for your reference library or your coffee table, it is also perfect for gift-giving. —ejh

This book is a treasure trove of images and historical information about a number of important jewels. It takes a little browsing through to get the rhythm of how it is set up. For each material—metals or gemstones—the section begins with a description of the physical properties and other pertinent information. In the pages that follow many examples of jewels using these materials are splashed across the page showing an array of styles and time periods. Then finally, one very important jewel is featured on a two page spread which has a picture of the jewel, related images— for example for Marie Antoinette's diamond earrings, a portrait of the queen, and a timeline with key dates in her history. At first glance this format seems as if material is shown together without explanation, but after a thoughtful run through of the book it begins to make sense.

Overall, I found the book beautiful and enlightening. But I do have a few small complaints. Some of the images are so oversized that there is no way to get a sense of the proportion of the jewel. They are shown seemingly without rhyme or reason for the sizing save the spreads on a particular jewel. While those images probably should be larger, they are still enormously oversized. This is probably a matter of personal taste as I have this discussion of how close to actual size to show jewels in books with other jewelry historians often.

Also, there is no attribution with each of the hundreds of images of where the jewels reside or who owns them. This I feel is detrimental as we would all like to know what museum a piece is in or whether it is in a private collection.

But the beauty of the book overrides these concerns and I would highly recommend this book—which is very affordable for its size and quality, for making a great connection between gemstones and jewelry that feature these stones throughout history. —ezk

Source: ASJRA Newsletter, Oct-Nov 2016

## Philately: A Unique Teaching Device for Nomenclature of Minerals

By Ajit V. Vartak and Rohit A. Vartak
Jour. Geol. Soc. India, Vol.83, Jan. 2014

Knowledge of the mineral world began with the use of stones by the early man. This formed the basis of mineralogy. The whole story of the ascent of man, from his first appearance on this planet earth till today is linked with minerals and mineral substances. Thus, the names of minerals and their products have been used to label various eras of civilization such as the Stone Age, Bronze Age, Iron Age and the Nuclear Age. For most of human history minerals have been part and parcel of our daily life.

Many countries have exhibited their mineral wealth on postal stamps. This has given rise to issuing of number of postal stamps on minerals, which makes the base of mineral philately. Although mineral philately in general received considerable attention of philatelists, its importance as a teaching tool, e.g., to explain Nomenclature of Minerals is yet to be established.

The names of many minerals come to us from antiquity, especially those used by ancient people for some useful purpose. Most of the earlier mineral names were based on their physical properties like color, density etc. Later with the advancement of science, with the help of new technologies used in chemistry, many new elements were discovered. This led in naming many new minerals. Now for every new mineral a researcher has to follow a set of guidelines given by Commission on New Minerals and Mineral Names (CNMMN) of the International Mineralogical Association (IMA).

Some early work on mineral nomenclature is done by Rogers (1913), Mckinstry (1929). For detailed history of nomenclature of minerals please refer J de Fourestier (2002) and Rakovan (2007).

Names should serve two purposes, which are more or less distinctive, viz. convenience and accuracy. Many minerals are named after famous persons or persons who discovered or analyzed it. Moreover, there are names of minerals that convey information about the region where they have been found. Some are quite specific about the location. Some mineral names convey useful information about the mineral itself and are based on the chemical composition, color, crystal form, hardness, luster or other properties. The vast majority of mineral names end in 'ite', which is derived from the Greek word *lithos* (from its adjectival form *-ites*), meaning rock or stone.

***Named after Person:***

**1. Dolomite $CaMg(CO_3)_2$; (Fig. 1):**
Named after the French mineralogist, D. de Dolomieu. A common mineral found in sedimentary rocks.

**2. Prehnite $Ca_2Al_2Si_3O_{10}(OH)_2$; (Fig. 2):**
The first mineral which is named after person is prehnite, which in 1790 was named by Werner in honor of Colonel von Prehn who found the mineral in Africa. Since then, the practice of naming minerals after people has become the most popular.

**3. Proustite $Ag_3AsS_3$; (Fig. 3):**
Named after J. L. Proust, a French chemist. Also referred to as ruby silver ore and light red silver ore.

**4. Wulfenite PbMoO4; (Fig. 4):**
Named in honor of Freiherr von Franz Xavier Wulfen, an Austrian mineralogist.

***Named after Place:***

**1. Copper Cu; (Fig. 5):**
Named after the Greek word *Kyprios* which is the name of the island of Cyprus, which once produced this metal. Also referred to as *native copper*. Usually found, in its natural state, coated with green, crusty, alteration products.

**2. Muscovite $KAl_2(AlSi_3)O_{10}(OH)_2$; (Fig. 6):**
Named after the Russian province of Muscovy. A member of the Mica group of minerals. Muscovite has a layered structure that allows it to be cleanly and evenly split into flat sheets. Thin sheets of muscovite are very flexible, but possess high tensile strength. *Isinglass* refers to large sheets of muscovite that were used as window panes.

**3. Tanzanite $Ca_2Al_3(Si_2O_7)(SiO_4)(O,OH)_2$; (Fig. 7):**
Named after Tanzania, a source of this gemstone. The blue, gem variety of zoisite. A member of the epidote group of minerals.

**4. Zinnwaldite $K(Al, Fe, Li)_3(Al, Si)_4 O_{10}(OH)F$; (Fig. 8)**:
Named after Zinnwald, Bohemia, where it was found. A member of the Mica group of minerals.

***Named after Chemical Composition:***

**1. Calcite $CaCO_3$; (Fig. 9):**
Named after the Greek word *chalx* which means "burnt lime" because of its chemical composition. A very common mineral with many varieties. The variety *Iceland spar* exhibits the property of double refraction; that is, an image viewed through a rhomb of Iceland spar will appear doubled.

**2. Halite NaCl; (Fig. 10):**
Named after the Greek word "hals" which means "salt" because of its composition. One of the few minerals that provides benefit by direct human consumption. Halite, when placed in contact with ice, lowers the ice's melting point. This property is exploited in colder climates to melt ice from streets.

**3. Mesolite $Na_2Ca_2Al_6Si_9O_{30} \cdot 8(H_2O)$; (Fig 11):**
[No text provided by the authors for this mineral for unknown reasons.–Editor]

***Named after Color:***

**1. Beryl $Be_3A_{l2}Si_6O_{18}$; (Fig. 12):**
Named after the ancient Greek word *beryllos* which means "a green stone". Several varieties of beryl exist, which are based upon the color of the material. The green variety of beryl is *emerald;* the greenish-blue, blue, and bluish-green variety is *aquamarine;* the pink to pale violet-pink variety is *morganite;* the yellow variety is *heliodor;* and the colorless variety is *goshenite*

**2. Hematite $Fe_2O_3$; (Fig. 13)**:
Named from the Greek word "haimetites" meaning "blood-like," a reference to the color of the powdered mineral. *Specularite* or *specular hematite* is a variety of hematite that exhibits a flaky or sparkling appearance. The variety *tiger iron* consists of alternating layers of hematite, jasper, chert, and other quartz group of minerals. *Kidney ore* is a variety of hematite that occurs in rounded mass. Hematite was the first mineral named with the use of "ite" in the name.

**3. Rhodochrosite $MnCO_3$; (Fig. 14)**:
Named after the Greek words "*rhodo*" and "*chrosis*" which mean "rose" and "colored" because of its color. A member of the calcite group of minerals. Also referred to as *manganese spar*. An attractive, but non-durable, stone of limited usefulness because it can be damaged easily.

***Named after Form:***

**1. Epidote $Ca_2Fe^{3+}Al_2(Si_2O_7)(SiO_4)O(OH)$; (Fig. 15):**

Named after the Greek word "*epidosis*" which means "increase" because the base of an epidote crystal's prism has one side longer than the other. Epidote is a common, rock-forming mineral. Pistacite is the pistachio-green variety of epidote.

**2. Monazite (Ce, La, Nd, Sm)$PO_4$; (Fig. 16):**

Named from the Greek word "*monazeis*," which means "to be alone" in reference to its isolated crystals. Monazite is radioactive and has been used in radioactive dating techniques. Monazite is a relatively hard, dense mineral which survives weathering. As a result, monazite grains are a frequent constituent of beach sands.

***Named after Other Physical Properties:***

**1. Diamond C** (hardness); **(Fig. 18):**

Named after the Greek word *adamas* which means "invincible" because of its hardness. Pure carbon forms one of the softest minerals (graphite) and the hardest natural substance (diamond). Despite diamond's unequaled hardness (resistance to scratching) diamond cleaves (breaks along flat planes) easily when struck sharply.

**2. Barite $BaSO_4$ (specific gravity); (Fig. 19):**

Named after the Greek word *barys* which means "heavy" because of its high specific gravity. Also known as *heavy spar*.

**3. Stilbite $(Na, Ca)_3(Si, Al)_{18}O_{36} \cdot 12H_2O$ (luster); (Fig. 20):**

Named after the German word "stilbein" which means "to shine" because of its brilliant luster. A member of the Zeolite group of minerals. Also referred to as *desmine*.

**4. Orthoclase $KAlSi_3O_8$ (cleavage pattern); (Fig. 21):**

Named after the Greek words *ortho* and *klao* meaning "cleave"; because, the mineral cleaves at a 90° angle.

**5. Magnetite $Fe_3O_4$ (magnetism); (Fig. 22):**

Named for its strong magnetic property. Important ore of iron.

***Named after Sanskrit Words:***

**1. Corundum $Al_2O_3$; (Fig. 23):**

Named after the Sanskrit word *kuruvinda* which means 'ruby'. The blue and other color varieties of corundum are *sapphire*. The red variety is *ruby*. The colorless variety is *leucosapphire*.

**2. Opal $SiO_2 \cdot nH_2O$; (Fig. 24)**

Named after Sanskrit word *upala* which means 'gem'. A variety of mineral quartz. Light, entering the opal, is refracted and defracted by the water-filled voids producing the changing colors for which precious opal is known.

**Acknowledgments**

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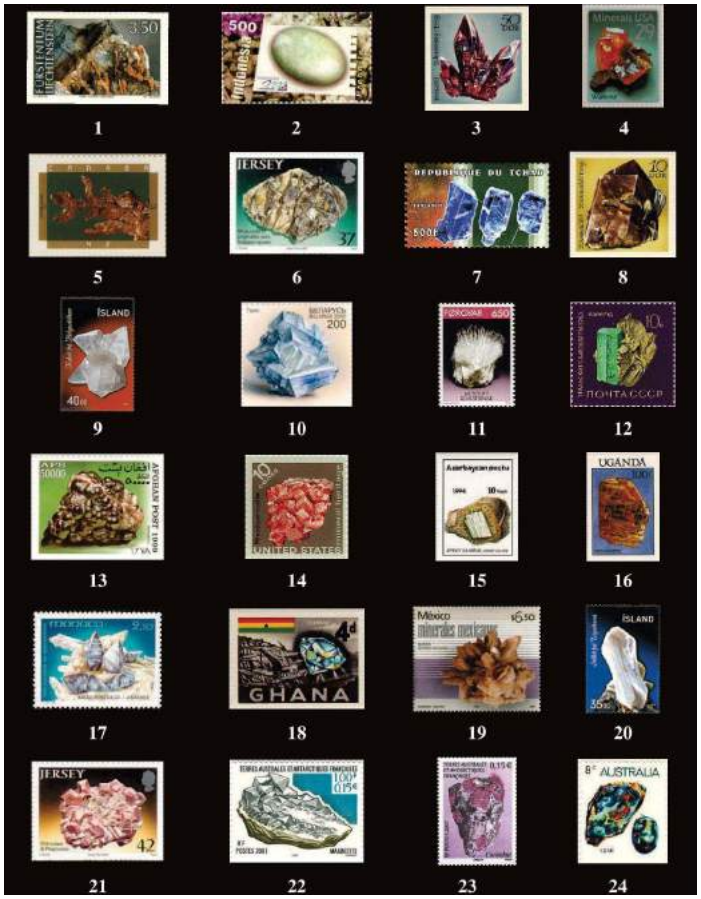



**1 - Dolomite, 2 - Prehnite, 3 - Proustite, 4 - Wulfenite, 5 - Copper, 6 - Muscovite, 7 - Tanzanite, 8 - Zinnwaldite, 9 - Calcite, 10 - Halite, 11 - Mesolite, 12 - Beryl, 13 - Hematite, 14 - Rhodochrosite, 15 - Epidote, 16 - Monazite, 17 - Anatase, 18 - Diamond, 19 - Barite, 20 - Stilbite, 21 - Orthoclase, 22 - Magnetite, 23 - Corundum, 24 - Opal.**

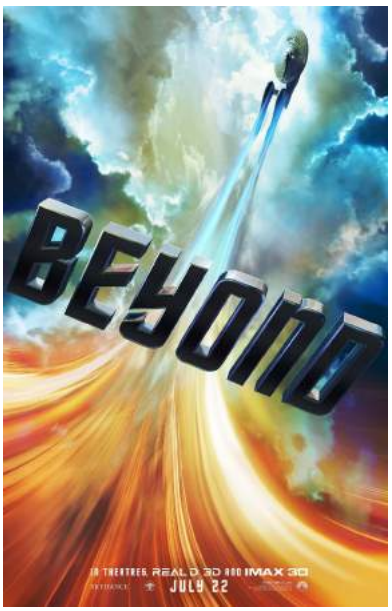
## Film: A Glimpse into the Geology of "Star Trek Beyond"

By Bethany Augliere

*[Spoiler Alert: This review reveals key plot points of the movie.]*

After a three-year wait by anxious fans, "Star Trek Beyond" hit theaters nationwide July 22. The third installment of the latest series of "Star Trek" movies, directed by Justin Lin and co-written by Simon Pegg, features more than two hours of action, stunning scenery and witty banter among the USS Enterprise crew — plus a bit of geology.

The film begins with a slow pan across the Enterprise traveling through space as James Kirk, played by Chris Pine, narrates an entry into the captain's log. Despite his usual self-assuredness, Kirk feels lost in his role as a Starfleet captain and disheartened with the "episodic" feeling of their mission. The crew is 966 days into a five-year voyage to explore space when they stop at the impressive floating starbase, Yorktown, to restock their supplies. There, we learn that Spock, played by Zachary Quinto, is also considering leaving Starfleet and has ended his relationship with Lt. Uhura, played by Zoe Saldana.




But before they have a chance to talk with one another, Kirk, Spock and the rest of the crew are dispatched on a rescue mission to Altamid, a planet in an unexplored nebula nearby. A surprise attack leaves the crew scattered and stranded in unfamiliar territory. Not only are they lost to themselves, now they are lost to each other. The question is: Can they find their way back?

On Altamid, viewers get their first sense of the geology in "Star Trek Beyond." The crew land on different parts of the planet, where, along with the characters, the audience glimpses craggy peaks, moss-covered boulders among towering trees, and gold-encrusted rocks. "I really liked all the visuals," says Kayla Iacovino, an avid "Star Trek" fan and volcanologist with the U.S. Geological Survey in Menlo Park, Calif., who says she plans to rewatch the film to ponder the hypothetical geologic processes that might have created the scenery.

Jessica Ball, a geologist also with the USGS in Menlo Park, Calif., also enjoyed the landscape, which reminded her of iconic Trek settings in other films. But she isn't convinced by the gold rocks. "Those are visually very striking but not where you would find gold in general," she says, which is typically found in cracks of pegmatite rocks. "You probably wouldn't just find it spray-painted on the rocks," she adds.

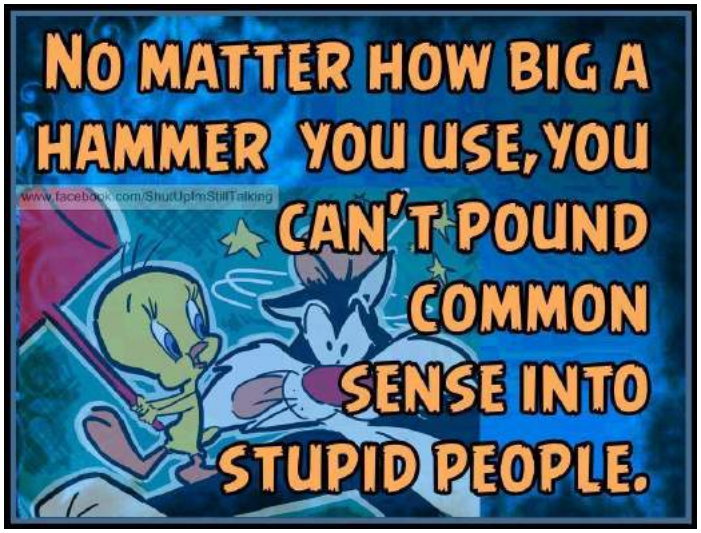
Another bit of geology that factors into the plotline in "Beyond" involves jewelry. Uhura wears a necklace — given to her by Spock and which belonged to his late mother — that contains a fragment of a radioactive mineral found only on his home planet of Vulcan. "The idea that there is this one mineral that you are only going to find on one planet is not all that far-fetched," Ball says. "A lot of really rare minerals on Earth [are found only in] one locality or one mine."

Overall, "Star Trek Beyond" is a fun summer blockbuster with a rare combination of well-motivated characters (minus one baddie) and action. Fans both old and new will likely enjoy seeing beloved characters return to the screen, reviving rivalries and friendships — particularly the amiable sparring between Spock and Dr. McCoy, played by Karl Urban.

The weakest point of "Star Trek Beyond" may be the underdeveloped and predictable villain, Krall, played by Idris Elba. At times, his speech is difficult to understand, and his motivations — disappointingly similar to villains in previous "Star Trek" installments, Ball says — are unclear until the end of the film. Fortunately, another new character helps compensate and add depth to the story — Jaylah, played by Sofia Boutella. Jaylah meets Scotty, played by Simon Pegg, after the Enterprise crashes on Altamid, becoming an ally in the crew's fight against Krall. Jaylah is resourceful, clever and brave. "I thought she was fantastic," Iacovino says. "I'm so happy the film has such a strong female role model."

At its core, the "Star Trek" franchise, which is celebrating its 50th anniversary this year, is about exploration and the pursuit of learning to better mankind, Iacovino says. The film's geology may be minor, but it's interesting. "'Star Trek" has always been really good at inspiring people to go into careers in STEM [science, technology, engineering and mathematics]," she says. "Hopefully, this one will do that too."

Source: *Earth* - November/December 2016

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## Topics in Gemology

*Topics in Gemology* is a monthly column written by Diana Jarrett, GG, RMV, based on gemological questions posed to her over the years by beginners and experts alike. Contact her at diana@dianajarrett.com.

### Tech Savvy Diamonds

One of the byproducts of diamond's extreme hardness – 10 on the Mohs scale, is its durability and resistance to heat. Diamond merchants know all this and more about the unique traits that make up this one-element jewel. But outliers have never focused on any exceptional characteristics of diamond, simply because they had no need.

Lab created diamond

**More than Jewelry**

Now however, the remarkable property of diamond's heat resistance is not lost on AKHAN Semiconductor, an Illinois based tech hardware company. Diamonds, it turns out are so integral to their product line that a diamond is prominently positioned on their logo. Their website's landing page boldly proclaims "More than just jewelry" and then declares; *AKHAN Semiconductor is ushering in a new era of computing technology with diamonds.*

**Taking the Heat**

The company has discovered something most diamond experts have always known. Diamond's unique properties make it a marvel of nature on many levels. AKHAN found out that diamonds have a superior ability for heat transference plus they are more efficient at retaining energy as contrasted to the current processing chips made from silicon. On top of that, it turns out, diamond components outperform and outlast silicon chips. Heat is one of the big culprits that contributes to the short the life of consumer electronics. The diamond solution renders such devices to be cooler to the touch too—nice to know when keeping that mobile phone next to your face during long chats.

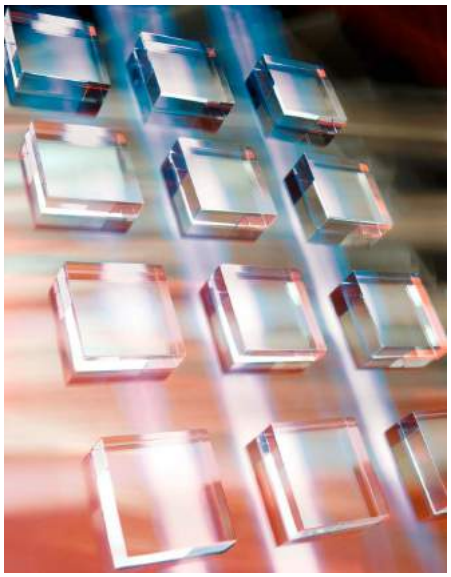
**Good for Us**

Diamond application in processors it appears, can run 5 times hotter than the current iteration of silicon chips—and eliminate up to 90% of energy loss that typically occurs in the course of electron transfer. Another benefit of subbing out diamonds for silicon is one of responsibility. Diamond's environmental impact will be 'much less severe' AKHAN reports. Carl Shurbof, Akhan's chief of operations AKHAN adds, "and we're uniquely positioned to create a new ecosystem." Certainly the strengths of this type of venture lies in its empathy for green efforts. Shurboff reinforces that the environmental impact will be negligible. Its diamond semiconductors require 20% less water to produce than silicon, the company disclosed. Such devices without heat sinks and fans now made possible by diamond chips will reduce the thermal materials ending up in landfills by roughly 85-90%.

AKHAN founder and chief executive Adam Khan, first thought up the idea for diamond replacement of silicon in processors in 2007 when he began tracking the commercial use of diamond-based electronics. Khan's top priority was to solve the two most imposing barriers to diamond mass production. These difficulties were deposition, or the process successfully growing a layer of diamond on top a wafer-like base, and also in doping, or fine-tuning diamond's electrical properties.

**Industrial Application**

Applying lab created diamonds for industrial use is not original to AKHAN of course. But his specific use is quite genius and solves many problems arising with heat occurrence in electronics. The applications for diamonds replacing traditional silicon in electronics includes smart devices for sure, but they also can be placed in computerized automotive parts. Diamonds' heat tolerance can boost the life of these applications and may even reduce the cost of electronics. To be clear, for industrial quantities, the diamonds earmarked for this use are laboratory created.



Lab created diamond for processors

**Natural Diamonds are Most-Wanted Too**

Natural earth mined diamonds have likewise been used in myriad other applications besides being the centerpiece of important bridal jewels. Diamond windows of thin diamond membranes are vital for covering openings in laser, x-ray machines, and vacuums. Their transparency, durability and heat resistance make them the only suitable substance for such application. Speaker domes made from natural diamonds offer enhanced performance with high quality speakers. Unlike other materials, the tough quality of diamonds formed into thin domes allows for rapid vibrations without any deformation so sound quality remains high. Diamond hardness results in ideal application for wear resistance in industrial parts that are normally prone to wear. Diamonds are also used in micro-bearings where extreme abrasion resistance and durability are mandated.

Whether using natural earth formed diamonds or its lab created counterpart, diamonds' future is only as limited as the unfettered imagination of the next entrepreneur who dreams up one more unexpected use for these one-element marvels.

## The Economics of Tidying Up

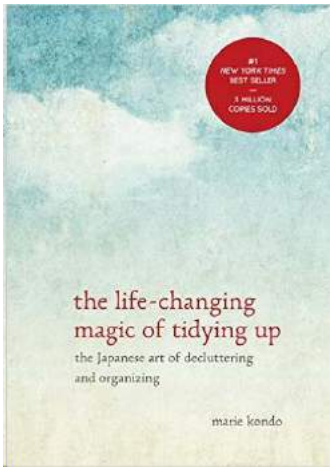
***Months after publication, Japanese home-organization guru Marie Kondo's book about de-cluttering has reached peak interest. Behavioral science may explain the appeal.***

By Bourree Lam

"In this book, I have summed up how to put your space in order in a way that will change your life forever."

This is the ambitious first sentence of Marie Kondo's best-selling manifesto, *The Life-Changing Magic of Tidying Up*. Direct and devoid of clutter, this sentence rings true to her philosophy. Unlike most self-help books, there are no extraneous words, no pandering—the lack of "wink wink" gesturing reads as an appealing, authentic statement.

Though Kondo's book was published in English in October of last year, a search on Google Trends still puts interest in her near an all-time high. (A search for her name in Japanese produces a similar result, though her book was originally published in 2010.) If Google searches are any indication, interest in tidying is also at an all-time high, and some of this interest must be attributed to the rise in Kondo's method—which is to hold onto only items that "bring joy." Following the purge, Kondo provides clear directions for how to store all your belongings in a way that makes them easily accessible and hard to mess up. A good number of journalists swear by her methods, and effusive referrals of "She changed my life" abound. During Kondo's AMA on Reddit, one superfan asked her how to teach her method to children under 10.




In the introduction of her book (and several times throughout), Kondo quantifies the power of her advice—she estimates that she's helped her clients (a group that doesn't include her countless readers) dispose of no fewer than a million items. This number is astonishing, but a key element of Kondo's argument is that hardly anyone is aware of how many items he or she owns. Most wouldn't even notice if some of those items are gone, she argues, but the problem is that throwing things out and putting belongings in the right place requires jumping through some psychological hoops.

Why do people have so much trouble throwing things out? Turns out, the answer lies in people's heads. Running through Kondo's best advice and most of her book is the argument about the anxiety-induced limits of human decision-making. Seeing as an entire branch of economics studies exactly that, it's no wonder that economists have a particular interest in her advice. Financial Times columnist Tim Harford agrees that Kondo's methods are not only intuitive, but compelling to economists. Harford says that the clutter that piles up in apartments is a product of people's cognitive blunders.

In my reading and practice of the eponymous "KonMari Method," I found that Kondo does implicitly touch on some important behavioral economics concepts and cognitive biases that prevent us from being tidy. She takes strong stances against these irrational mental habits that govern us. In other words, I think the reason Kondo-mania continues is because she has actually hit upon some good solutions to deal with these pervasive mental fallacies.

For example, Kondo aptly attacks what's called the sunk-cost fallacy. The term "sunk cost" applies to payments (of time or money) that have already occurred and thus can't be recovered. The money's spent, an investment has been made, and it makes people irrational because it seems a waste to not use something that one has poured resources into. The irrationality of this thinking is that people ignore whether an item they own is still useful to them, and whether they'll actually use or resell it. In my tidying efforts, I find that the sunk-cost fallacy hits harder for new items, because unused items retain more value in resale. Kondo's advice is to get rid of them, and her faith in keeping only the things that "bring us joy" addresses the economic concept of opportunity cost: The mental and physical toll of keeping an unused item around is greater than throwing it out.

Harford, the FT columnist, found that the KonMari Method addressed other economic concepts, such as the status-quo bias and diminishing returns. He writes: "Status quo bias means that most of your stuff stays because you can't think of a good reason to get rid of it. Kondo turns things around. For her, the status quo is that every item you own will be thrown away unless you can think of a compelling reason why it should stay." I found that this new status quo was particularly helpful in discarding paper, namely because I couldn't find a compelling reason to hang onto all my credit card statements. They came in the mail, and I kept them just because that's what I always did. Kondo's method sets a new status quo: throw them out. My boyfriend and I took this one step further, cancelling our paper statements for credit cards and utilities.

I found it a bit harder to put Kondo's wariness of diminishing returns—the idea that the more you have of something, the less valuable each successive item is—into practice. Perhaps it was because this most applies to the items I have the hardest time throwing out: clothes. Kondo's method of putting all of whatever-item-is-being-evaluated on the floor not only overwhelmed me, but it also made me anxious. It reminded me that the reasons I have so much clothing are that firstly I want to be prepared in case I don't have time for laundry in a given week, and secondly that the neurological pleasure of cheap fashion is very scary and real. Because of my laundry concern, the idea of having three pairs of identical black work pants seems pragmatic to me. (There's another philosophy of simplicity, that of Matilda Kahl, that recommends wearing the same thing to work every day.) I could see the diminishing returns of having twenty T-shirts, so I discarded the ones that don't fit.

Another important point that Kondo protects us from is the folly of prediction: People systematically make terrible guesses about the future. So instead, people should focus on the present, and in tidying, this manifests in the form of using present-day valuations of all of one's belongings. People are wrong when they think that pair of jeans will ever fit again, Kondo is arguing. They're also wrong when they think they'll read that book again. These optimistic predictions keep people from getting rid of things they don't need.

Another way of looking at this fallacy is as a form of loss aversion—that humans psychologically hate losing things. Not only do people hate the idea of losing something that might be need someday, but things seem valuable just because they belong to us. In one famous study, economists Daniel Kahneman, Jack Knetsch, and Richard Thaler demonstrated with a coffee mug that people ascribe much higher value to things they own, simply because they owned them. This means that people might do well to take the KonMari method further, to think hard before acquiring any new belongings. (And indeed, Kondo has advice on how to shop as well.)

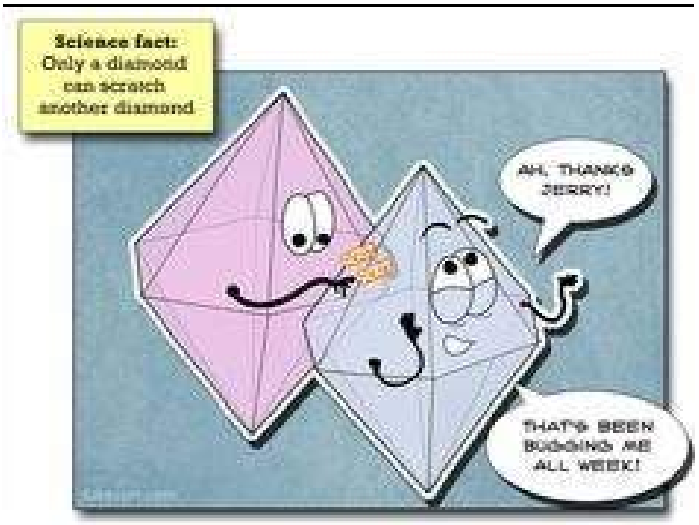
At first I wasn't able to stray too far from maintaining the number of items I originally owned—I initially stuck to my old notions of the status quo (behavioral economists would call that anchoring). But Kondo does a convincing job of arguing how thrilling it is to discard items one doesn't like, and it certainly helped me stop counting altogether.

Aside from economics, I also found two less-touted parts of the KonMari method very important in this process of purging. The first is keeping family away when tidying, as sentiment runs high when a family member is around. The other is that the KonMari method should be executed in complete silence. No music, no background movie or TV show. This makes the KonMari method both intense and a bit exhausting, but I have never used my intellect so hard to fight myself in cleaning up my apartment—I've also never been as successful at it.

My biggest revelation came when I was cleaning my bookshelves: 20 percent of the books didn't even belong to me. I realized that Kondo is right—it's actually rare for anyone to notice that something is gone. Cherished books belonging to old roommates, college friends, my father, even an old boss—their owners never got in touch with me, even as we're more connected than ever.

A rational place to live doesn't sound very sexy, but a tidy place to live is indeed much more comfortable. And now tidying carries a point of pride beyond having a clean apartment: knowing that we're outsmarting our cognitive biases.

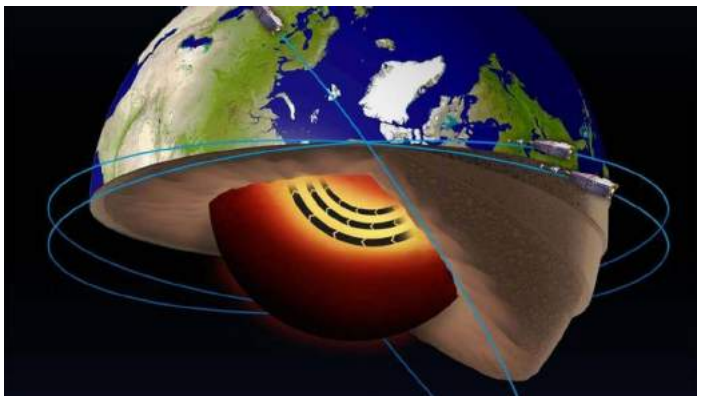
Source: www.theatlantic.com




## There's a Massive Metal Dragon Hiding Inside Earth's Outer Core

By Robin Andrews

There's a monstrous iron serpent beneath our feet, hiding with the planet's liquid outer core. Traveling at around 50 kilometers (31 miles) per year, it is currently based in the Northern Hemisphere and is currently moving westwards under Alaska and Siberia.



An artist's impression of the iron jet stream (black lines) within the liquid outer core, as detected by the three Swarm satellites.

As announced at the annual gathering of the American Geophysical Union (AGU) in San Francisco, it's probably also altering, and being driven by, the planet's magnetic field.

Talking to BBC News, Dr Chris Finlay, a senior scientist at the Technical University of Denmark, said that "this a very dense liquid metal, and it takes a huge amount of energy to move this thing around." As far as they can tell, this so-called jet stream probably has "the fastest motion we have anywhere within the solid Earth."

It was first detected by a triplet of satellites in the Swarm program, an initiative by the European Space Agency designed to map Earth's magnetic field in unprecedented detail. Not only is it moving around the molten iron-nickel hellscape with considerable momentum, but according to the accompanying Nature Geoscience study, it is also accelerating.

Based on its magnetic properties, it is certain that the jet streamis made of liquid iron.

Right now, it's about 420 kilometers (261 miles) wide and it encircles about half the planet's circumference. Between 2000 and 2016, its amplitude – the height of its waves – has mysteriously increased in length by about 40 kilometers (25 miles) per year. It's become so powerfully magnetic that it's even influencing how the solid inner core is rotating.

It's likely that the iron jet stream is wrapped around a boundary known as the "tangent cylinder". This is a loosely-defined geometric structure that stretches from the geographic North Pole to the South, and one that encompasses

the solid inner core. The team think that the stream is pulled around by changes in the core's magnetic field, like a bar magnet moves a string of iron filings around on a table.

Even before the iron serpent was discovered, the liquid outer core was already an incredibly dynamic place. Found between the partly molten, massive mantle above the inner core below, it's roughly 2,300 kilometers (about 1,400 miles) thick and is a turbulent maelstrom of metallic currents.

Reaching temperatures of 7,730°C (13,940°F), the outer core is the heat engine that drives the mantle's own massive convection currents, which in turn drive the motion of plate tectonics further up. It also has a major role in generating Earth's magnetosphere. Without the outer core, life as we know it would not be possible.

There's a lot about this all-important realm that we do not yet understand, and the dramatic reveal of the iron jet stream underscores this beautifully. The metallic daisy-chain, with no clearly defined age or patterns of behavior, is a brand new enigma that raises more questions than it gives us answers.

Source: IFLScience.com from December 20, 2016

## What Happens If You Eat a Gold Pizza?

Marie-Ann Ha

A restaurant in the New York financial district is offering customers a pizza priced at US$2,000 (£1,623). It is topped with caviar, stilton cheese and gold leaf, with each bite costing around US$50.

New York is usually the kind of place that sets trends, but pizzerias elsewhere have actually been making pizzas sparkle for a while. A takeaway pizza chain in London started offering £500 pizzas a year ago, this time with added lobster, caviar and truffle oil; while a Glasgow restaurant attracted attention by selling a gold leaf pizza on eBay.

Gold on food goes back a good deal further than that, however. The renowned Italian chef, Gualtiero Marchesi, has been topping his signature dish, risotto alla milanese, with a single leaf of gold for decades. And that too is recent when you reflect that the kitchens of the wealthy were sprinkling the precious metal on feast cuisine during medieval times.

There is a medieval liqueur still consumed today with gold flakes in it known as Goldwasser. Gold leaf is also used on chocolates and even has an E number (E175). Whatever else has changed over the years, swallowing gold has always been considered the highest form of decadence. But what happens when we put gold into the body? And are there any other metals we'd be better off shaving on to pizzas instead?

Better than chicken nuggets. Luis Molinero

### Eat Your Carats

Gold is an inert metal and is therefore not degraded by the acid in our stomachs. It will travel the length of the intestinal system unchanged, passing out in your poo. Depending on the sewage treatment system, it will eventually be returned to the land or washed out to sea ready to be recycled again. It casts panning for gold in an entirely new light.

Other metals are generally not used for ostentatious displays of edible wealth, but one exception is silver. Silver can be beaten into a leaf similar to gold and is also approved for use as an additive (E174) – so long as it is pure and in its non-ionic form, which is the one that can't be absorbed by the body.

Even then it is easier to add other metals to silver than gold, so there is still the risk it can be contaminated with the likes of aluminum. This can reduce the body's ability to absorb essential minerals such as zinc, calcium and iron (aluminum is not essential). This will cause deficiency symptoms as diverse as soft bones (calcium), tiredness (iron) and lack of smell (zinc).

Chewy sandwich filling. Mansong Suttakam

You might think these minerals might therefore be just the thing for a pizza, so long as they are in the ionic form that the body needs. We tend not to notice them in our diet but they are ubiquitous in grains, fruit and vegetables as they are essential for plant growth, too. Meat and dairy products are particularly rich sources and we have a very efficient system of absorbing the minerals they contain.

One reason we don't see minerals grated on our foods, of course, is that they don't give the same bling value. But they will also react with the acid in our stomachs and get absorbed, since they are not inert. Excessive amounts of minerals in the body can be toxic, since they get laid down in soft tissues such as the brain and kidneys. This causes severe pain and eventually death.

In normal circumstances the body avoids such horrors by only absorbing a percentage of the minerals in the foods we eat. But if you flood the system with a mineral by taking large quantities, it can cause an excessive intake. As well as the toxicity risk, excessive intake of one essential mineral can make the body struggle to properly absorb other essential minerals – the same risk as when you ingest non-essential minerals like aluminum.

The bottom line is about balance, as with most of nutrition. Since there's plenty of these minerals in the foods we eat, there's absolutely no need and much potential harm to be had from adding any extra to our meals – or from taking supplements we don't need.

Better to stick to gold, which does nothing good or bad for health except perhaps a feeling of satisfaction – or regret if you see it twinkling as it disappears down the drain. And if you've more money than sense and you're still hungry for more after that gold pizza, you could always ask your willing chef to throw in a few diamonds next time. They're inert, too, albeit a little crunchy.

Source: www.iflscience.com from January 10, 2017

***Editor's Note:*** *I Americanized some of the spellings in this article. Be aware that the author misuses the term inert. Gold and (later) diamonds may have low reactivity but they are far from inert, like the Noble Gases. There are certainly numerous gold compounds. And I would suggest you not put your diamond ring over a flame as the pure carbon easily burns, becoming* $CO_2$*!*

*I know her ending sentence about diamonds being "crunchy" if you eat them is facetiously said, but be aware only do this if you want to rip apart your entire digestive tract.*

## Lapidary Societies Attacked by Internet Thieves

By Mark Nelson, BEAC Chair, AFMS

In the past two months it has been reported to me that lapidary societies across the country are being targeted by thieves. The thieves seek those societies who have a web presence, look at the web site to identify the president and treasurer and initiate false emails seeking to steal society funds. Here is how they do this:

The thieves study the society's website to identify the society president and treasurer and their email accounts. Then they craft an email which masks the senders email, but lists the Sender (the society president) by name. The email is directed to the society treasurer, mentions the treasurer by name, and directs the treasurer to send money to an individual or business in a hurry.

One theft attempt went like this:

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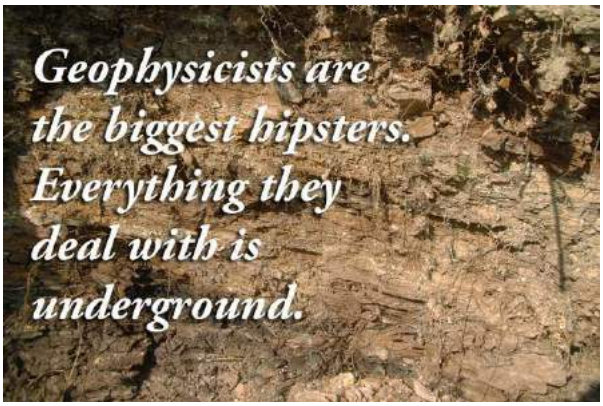
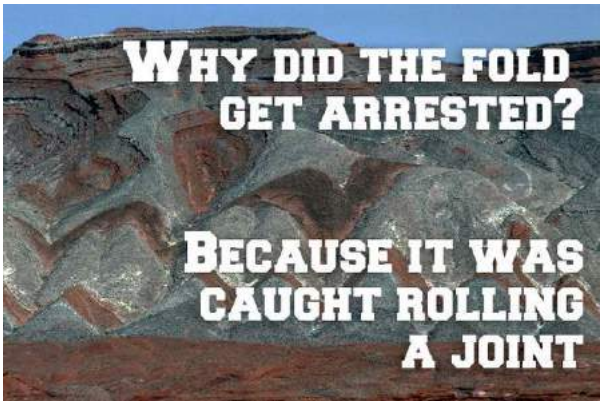
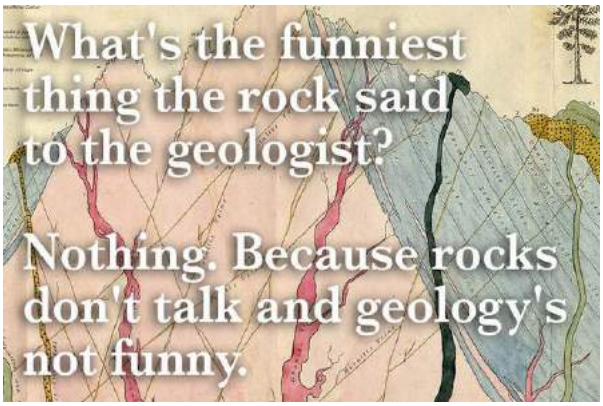
**From: (*President's name*)**
**To: *(Treasurer's email*)**
**Subject: Need Check for Vendor**
Message: (Treasurer's name), "Please send a check in the amount of $420 to this Vendor today . . .", giving a name and address of a supposed vendor.

In this case, the treasurer did not recognize the vendor's name. She called the president and questioned why the president would request a check which had not been approved by the board and which required two signatures to process. The president had no idea that the scheme had been hatched, and the plot was foiled.

(Continues next page)





In another instance the thieves sent an email to the treasurer of a lapidary society in just the same way. The email requested that a check in the amount of $980 be sent to a business at an address in another state. The email had the name of the president in the Sender's box and the email of the treasurer in the "To" box. The treasurer responded, asking what the amount was for. The reply, supposedly from the president, was that it was for graphic design services that he authorized and insisted that the check should be sent immediately and by express mail. A fake invoice was included in the reply email. The treasurer rushed the check to the post office. Later that same day the treasurer realized that the email that showed in the reply to the "president" was different from what she had seen before in previous email exchanges with the society president. She called the president and, upon learning that the request was a scam, was able to stop payment on the check and reported it to her local police department.

This shows that a group or groups of thieves are targeting lapidary clubs - probably other groups, as well. It is not difficult for thieves to put a name in the email Sender box that is designed to gain our condense. We've seen this with emails from banks, internet providers and even the IRS. Now we know that they are targeting lapidary societies. We should forward this example to our treasurers, presidents and boards of directors - and everyone who is or who might sign on our bank accounts now or in the future - and make sure that the proper financial safeguards are in place:

- Be sure that a treasurer knows who is making the request for payment. In most email providers such as AOL, if you click on the name of the person sending the email an email address will appear.
- Immediately question any payment to a person or business who is unfamiliar to the treasurer.
- Make sure that all requests for payments are accompanied by an invoice that can be verified.
- Verify that the expense requested by the email is covered by the budget and is from a known vendor (expected) or has previous specific board approval.
- Have all checks signed by two of the top elected executives who should also ask these questions.
- When in doubt, pick up the phone and talk to the person requesting the check.

If you have an example to report, please email the details to me so that the AFMS can be aware of it. You need not list your society, but give us the federation you belong

Source: ***A.F.M.S. Newsletter*** February 2017

## 2017 Club Calendar

| Date | Event | Location | Remarks & Information |
|---|---|---|---|
| **Third Wednesday!** April 19 | Meeting at 6:30 | Watson Hotel, Manhattan | Special Lecture: Charles Snider (1st Timer!) – "The American Geode Story" |
| May 10 | Meeting at 6:30 | Watson Hotel, Manhattan | Special Lecture: John Sanfaçon – "Russian Mineralogy & More" |
| June 14 | Annual Benefit Auction | Watson Hotel, Manhattan | Details to follow; Online catalog available! |
| July 12 | Meeting at 6:30 | Watson Hotel, Manhattan | Special Lecture: Anna Schumate & Naomi Sarna – "Phenomenal Gemstones" |
| July ?? | Officer's Planning Meeting | Upper West Side, NYC | 2017 Banquet Planning; Club 2018 Calendar; Overall Theme: *Leveling Up!* |
| August ?? | Open House (Party!!) | Long Island, NY - C. Neary Home | Details to Follow |
| September 13 | Meeting at 6:30 | Watson Hotel, Manhattan | TBD |
| **Third Wednesday!** October 18 | Annual Gala Banquet | Mezzanine, Watson Hotel, Manhattan | Theme: *Amethyst*; Lecture; Silent Auction; Awards; Amethyst Game; Gifts & Surprises! |

## 2017 Show or Event Calendar

| Date | Event | Location | Remarks & Information |
|---|---|---|---|
| April 1-2 | North Jersey Gem, Mineral & Fossil Show | Midland Park High School, Midland Park, New Jersey | Host: North Jersey Mineralogical Society; Website for Info: nojms.webs.com |
| April 7-9 | NJ/NY Mineral, Jewelry, Gem & Fossil Show | NJ Expo Center, Edison, New Jersey | $15.00 Admission (good for 3 days); Exhibits, Fossil Identification |
| April 20-23 | Rochester Mineralogical Symposium | Radisson Hotel Rochester Airport, Rochester, New York | Lectures, Dealers, Exhibits, Silent Auction, Banquet, Voice Auction, etc. |
| April 29-30 | NJESA Show & Swap | Franklin School, Franklin, NJ | Info: RNB515@aol.com |
| May 20-21 | Southern Vermont Mineral, Rock & Gem Show | Grace Christian School, Bennington, Vermont | For info: Bill Cotrofeld 802-375-6782 |
| June 3-4 | Annual Mineral, Jewelry, Gem, & Fossil Show | Museum Village, Monroe, Orange County, New York | Sponsor: Orange County Mineral Society Full Mastodon Skeleton on View! |
| June 3 | Spring Mineralfest | Macungie Memorial Park, Macungie, Pennsylvania | Sponsor: Pennsylvania Earth Sciences Association; Info: www.mineralfest.com |
| June 9-11 | AFMS Convention/Show | Ventura, California | Article Contest Results; Details to Follow |
| August 11-13 | East Coast Gem, Mineral & Fossil Show | West Springfield, Massachusetts | Over 200 dealers, huge show, relatively easy train or bus access |
| October 20-22 | EFMLS Convention/Show | Bristol, Connecticut | Article Contest Results; Details to Follow |
| **November 11-12** | **Fall NYC Gem, Mineral & Fossil Show** | **Grand Ballroom, Watson Hotel (Holiday Inn), New York City** | **25+ diverse dealers; lectures; wholesale section (with credentials); NYMC Booth** |

***For more extensive national and regional show information check online:***
***AFMS Website: http://www.amfed.org and/or the EFMLS Website: http://www.amfed.org/efmls***

# The New York Mineralogical Club, Inc.

*Founded in 1886 for the purpose of increasing interest in the science of mineralogy through the collecting, describing and displaying of minerals and associated gemstones.*

**Website: www.newyorkmineralogicalclub.org**

**P.O. Box 77, Planetarium Station, New York City, New York, 10024-0077**

**2017 Executive Committee**

[redacted]

**Dues**: $25 Individual, $35 Family per calendar year. **Meetings**: 2nd Wednesday of every month (except August) at the Watson Hotel (formerly Holiday Inn Midtown Manhattan), 57th Street between Ninth and Tenth Avenues, New York City, New York. Meetings will generally be held in one of the conference rooms on the Mezzanine Level. The doors open at 5:30 P.M. and the meeting starts at 6:45 P.M. **(Please watch for any announced time / date changes.)** This bulletin is published monthly by the New York Mineralogical Club, Inc. The submission deadline for each month's bulletin is the 20th of the preceding month. You may reprint articles or quote from this bulletin for **non-profit usage only** provided credit is given to the New York Mineralogical Club ***and*** **permission** is obtained from the author and/or Editor. The Editor and the New York Mineralogical Club are not responsible for the accuracy or authenticity of information or information in articles accepted for publication, nor are the expressed opinions necessarily those of the officers of the New York Mineralogical Club, Inc.

## Next Meeting: Wednesday Evening, April 19, 2017 from 6:00 pm to 9:00 pm

**Mezzanine, Watson Hotel (formerly Holiday Inn), 57th St. & Tenth Avenue, New York City**

**Special Lecture: Charles Snider – "The American Geode Story"**


New York Mineralogical Club, Inc.
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**FIRST CLASS**

**George F. Kunz**
**Founder**