

"A 21st century Interpretation of Geology using the Structured Atom Model"

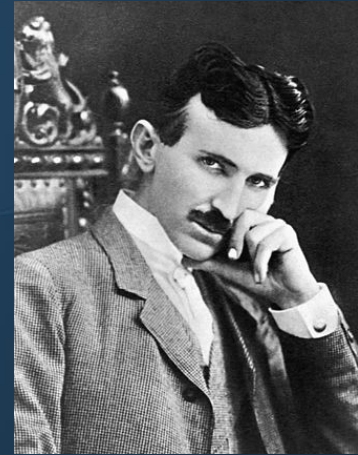
EU2019 - Bath, UK
July 7th 2019

"Where the Physical Sciences come together"

J.E. Kaal BSc

Introduction

Today's scientists have substituted mathematics for experiments, and they wander off through equation after equation, and eventually build a structure which has no relation to reality. - Nikola Tesla



1856 – 1943

Table of Contents presentation

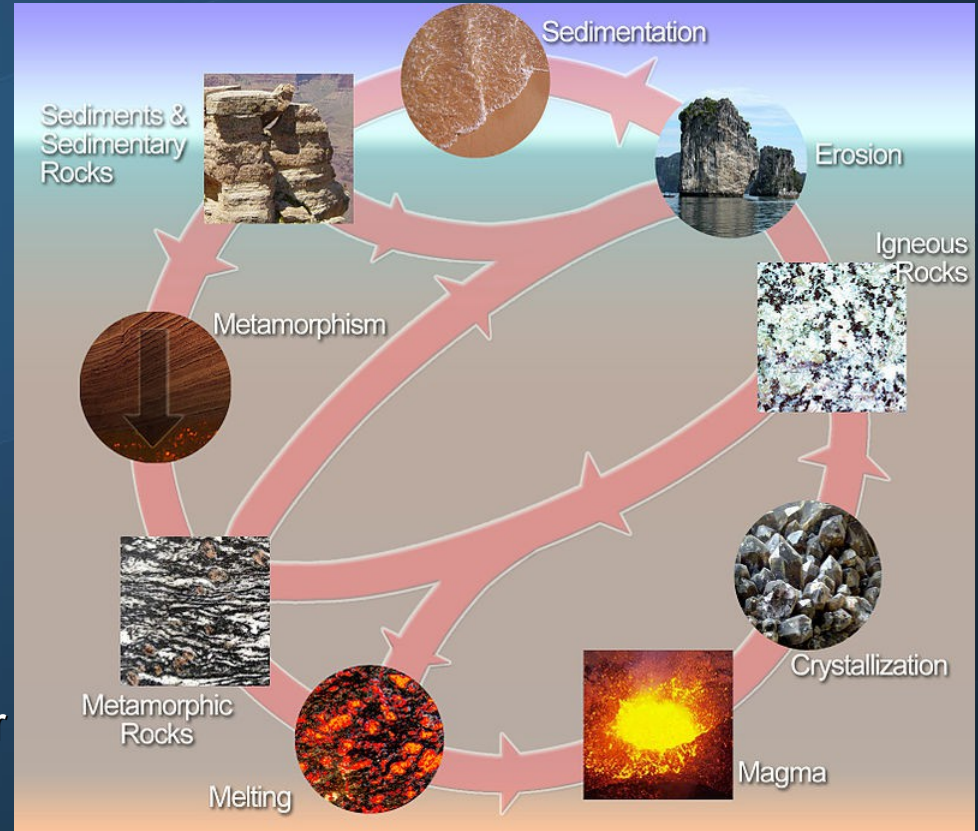
- Current geology model
- Earth's electric system
- Creation of elements Big Bang Theory vs EU-Geology
- Transmutation in Geology
- Transmutations in Low Energy Nuclear reactions (LENR)
- Theory, The whole PTE and Binding Energy
- conclusions

The start of our current geology paradigm

- Stratification
- Sedimentation
- Volcanism
- Erosion
- pressure
- Water as mechanism for element replacement as explanation for many minerals and fossils
- Time (lots of)
- started with Hutton. Pioneer and founder of current concepts!



Source: EU-Geology Tour 2016



Source: Wikipedia

Problems with the current model

- Molten core – magnetic field
(Still mysterious where all the heat comes from)
- Plate tectonics (where are all the subduction zones?)
- Distribution of the elements (Heavy element abundance at the surface of the earth)
- Concentration of metals in vein-structures, shales, dikes, Breccia-pipes and black smokers.
- Dating issues



The tectonic plates of the world were mapped in the second half of the 20th century.

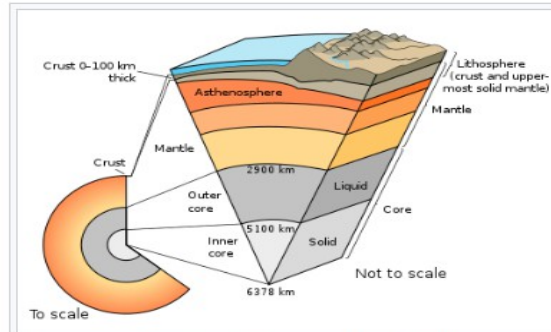
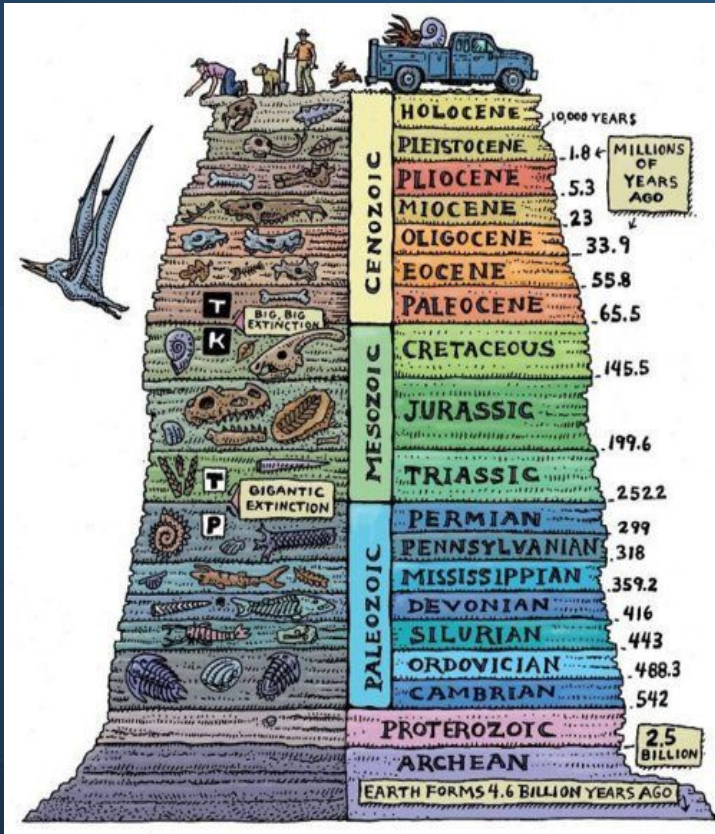


Diagram of the internal layering of the Earth showing the lithosphere above the asthenosphere (not to scale)



- Geologic eras (Perm, Jura, Holocene etc)
- Dating mechanism rocks (radioactive decay – K / Ar)
- All features are caused by magma/volcanic heat circulations and erosion/sedimentation.
- Eras with different circumstances (somehow)

There is more than water and heat.... EUT stellar (and planet) Transformer

- Electro-dynamic system for stellar and planetary bodies
- We see this at work in many places such as weather patterns, Lightning activity, and even
- A warning in the form of radio-waves about 24 hours before earthquakes happen....
- The MOR seems to be electric pathways (Delta – Y circuit) where the induced currents flow and discharge.
- Is Magma created through this process and the 'source of heat' with purely induction heating
- Or is there even more to the story?



Fig. 4. Global Electric Circuit Conventional Model includes Ground Induction Currents (GIC) magnetically coupled to Auroral Ring Currents torqued by Field Aligned Induction currents from magnetosphere coupling to solar forcing. (Forbes, J. - University of Colorado - Boulder). Step down aurora energy to the Mid-Ocean Ridges encircling Antarctica would generate powerful radial ground induction currents (Smoot, N.C. - Sr. Fellow IASCC).

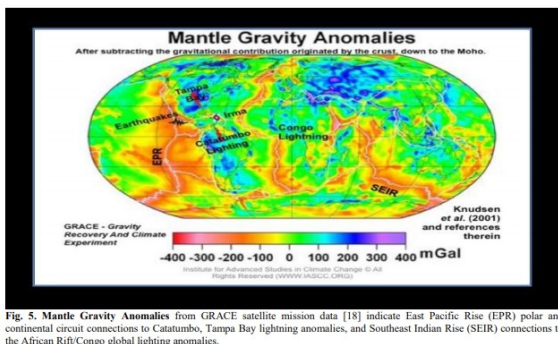


Fig. 5. Mantle Gravity Anomalies from GRACE satellite mission data [18] indicate East Pacific Rise (EPR) polar and continental circuit connections to Catumbou, Tampa Bay lightning anomalies, and Southeast Indian Rise (SEIR) connections to the African Rift/Congo global lightning anomalies.

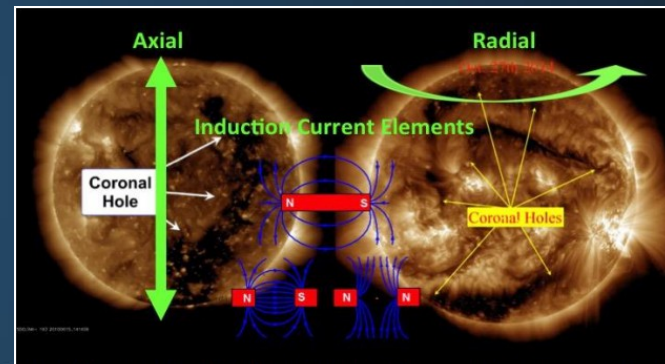
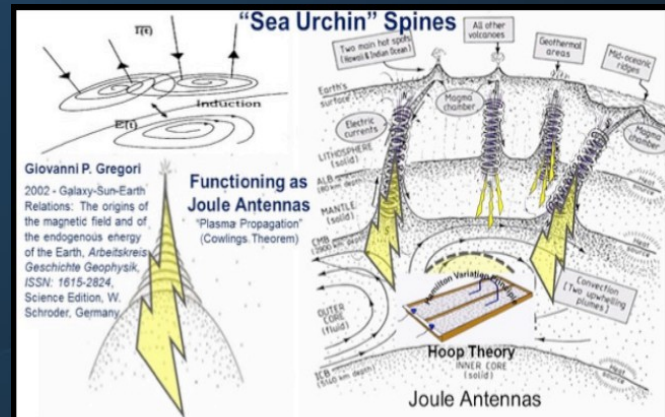


Fig. 3. Solar Stellar Transformer Induction Current Elements Coronal holes express induction elements in axial vs. radial orientations determining axial vs. radial effects on Earth systems. Polarity determines attractive/repulsive force determining charging/discharging relationships [15, 16].



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There is more than water and heat....

- <http://users.neo.registeredsite.com/3/4/0/21850043/assets/NCGTJV7N1S.pdf>
“New Concepts in Global Tectonics Journal”
- General website <http://www.iiisci.org/journal/sci/Home.asp>

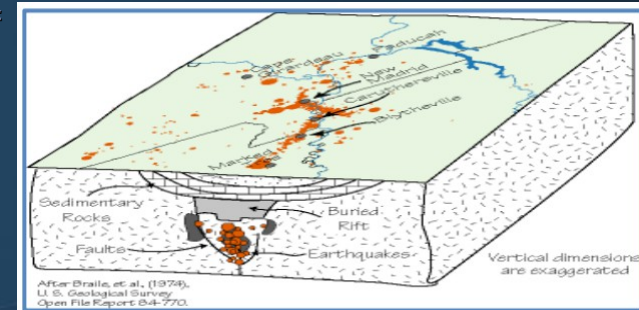


Fig.1. New Madrid Seismic Zone showing schematic section of buried Reelfoot Rift mid-continental USA. <http://maps.unomaha.edu/Maher/GEOL3300/Bonuslectures/Reactivation.html>. Source: USGS.

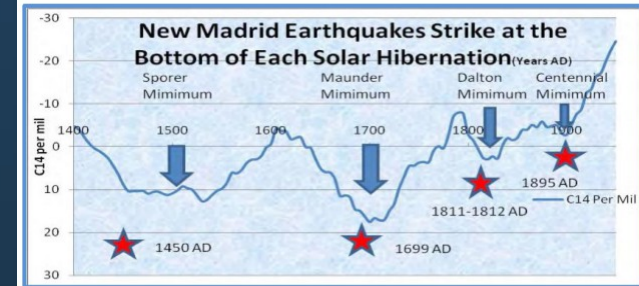


Fig. 2. Solar Activity Deduced from C¹⁴ Proxy Variation. History of New Madrid earthquakes compared to solar minimums or “solar hibernations” from 1400-1950 AD. The years of major New Madrid earthquakes are shown in red stars with dates.

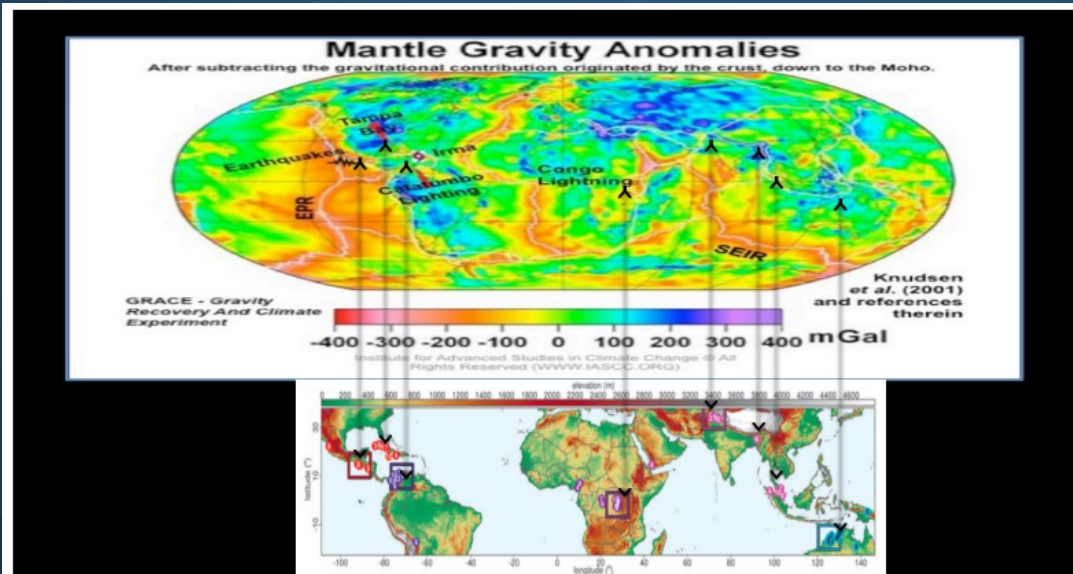
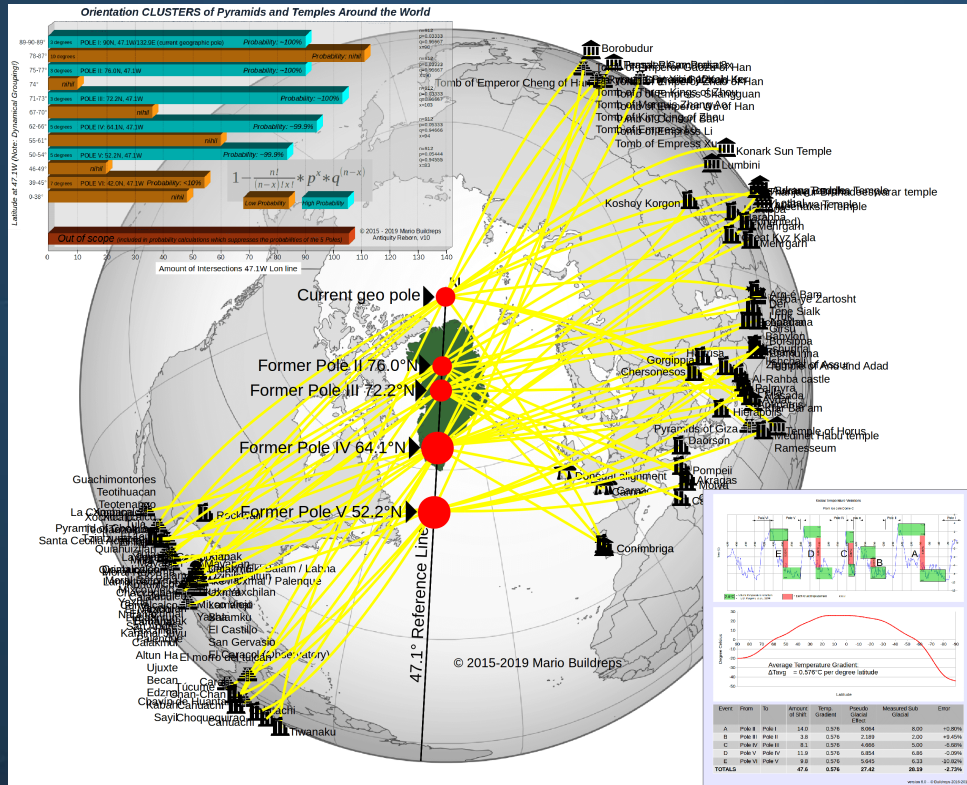


Fig. 9. LIGHTNING HOTSPOTS (lower insert [8]),

- Telluric currents - electric earth Bruce Leyborne

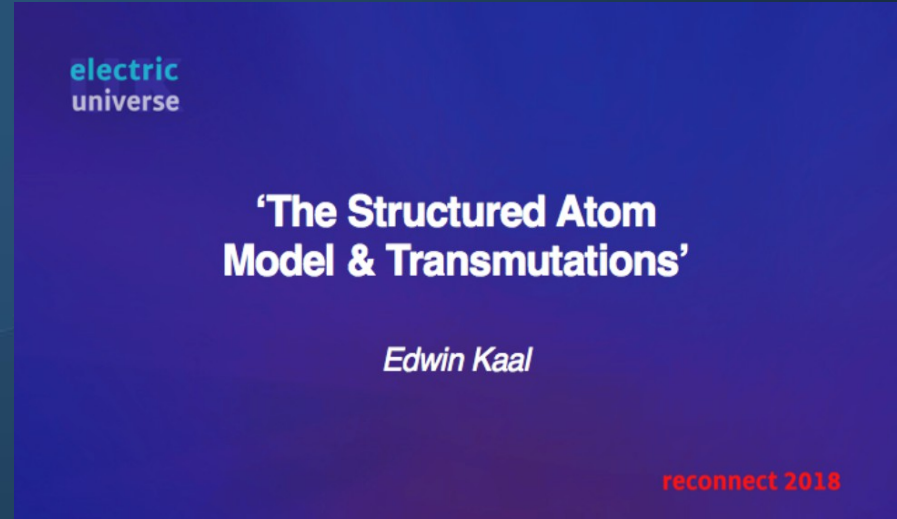
Potential mechanism for catastrophes



- Wandering pole - <https://mariobuildreps.com/>
- Shows (very strong) statistical evidence based on observations.
- Mapped ancient megalithic sites orientation to a series of north-poles going back in time.
- Each shift a catastrophic event. If explained it would be a mechanism for large scale extinctions such as the 12.000 BP event (ending of the last Ice-age).
- Cause for large scale volcanic eruption?
- Cause for Ice ages?
- Cause for Bronze age to end?

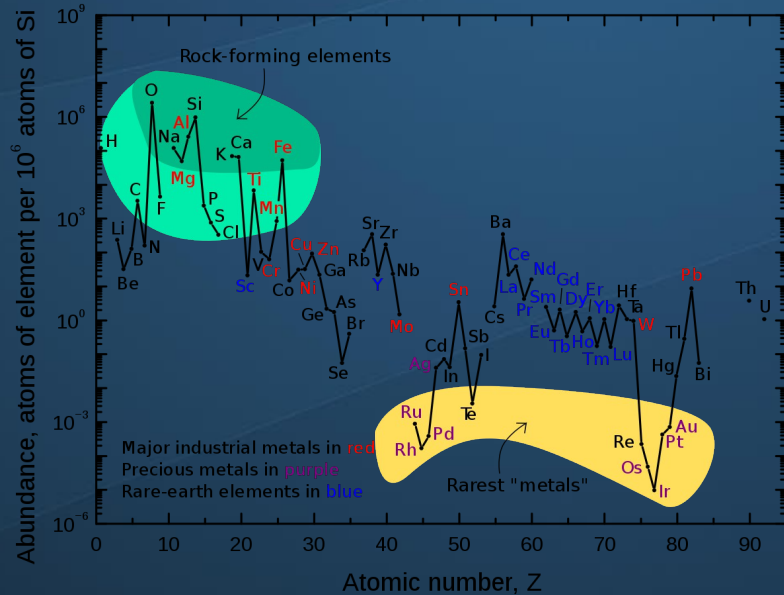
Where do the Elements originate from?!

- Last year's presentation
- James Sorensen presentation (this conference)
- Current models fail to explain topics;
 - Missing volcano's
 - Element distribution
 - Shales with elevated copper content
 - “strange” isotopic values on meteorites,
 - “impact’ zones” (Iridium) and nano-diamonds
 - Dolomite
 - Veins that with the help of water can sort all sorts of metals in mysterious ways. (Gold, Silver and many more)

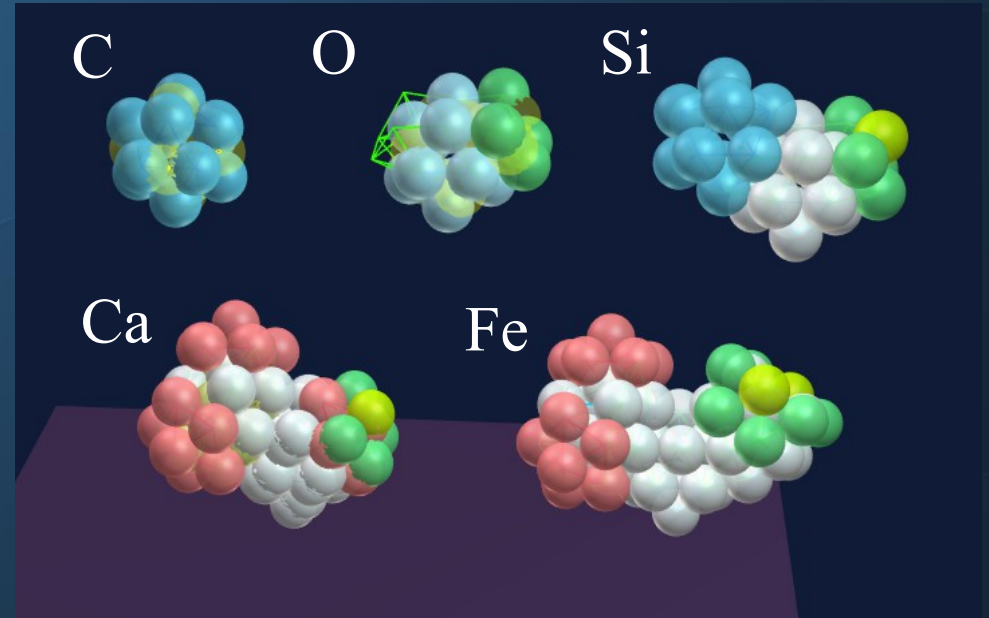


EU 2018 presentation..

- Suggested Elements created in situ
- From the stars to white dwarf to planets
- Chemical make-up allows this very much
- C-O-Si-Ca-(Fe) are most abundant
- Water plays an important role in geological activity



Source: Wikipedia



White dwarfs or planets?

- EU recognizes that stars are not gravity driven.
- Are planets simply cooled down, no longer active stars and no longer fusing elements?
- Can water (H₂O) serve as fuel for fusion? - Causing geological activity?

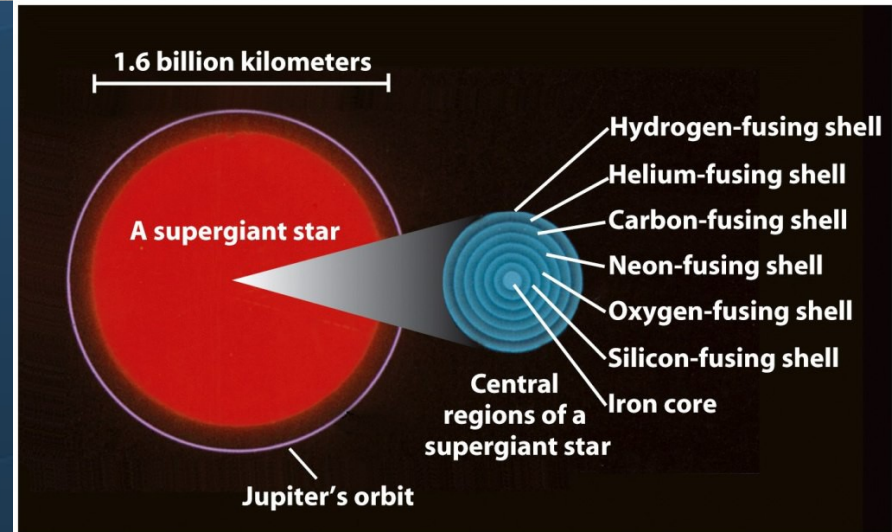
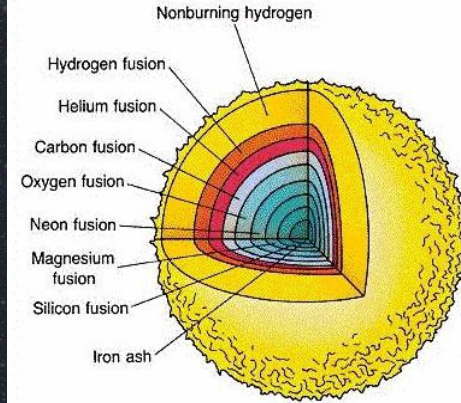
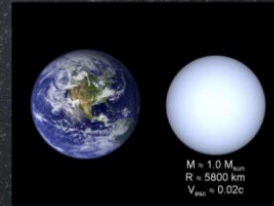
“..Around 25–33% of white dwarfs have metal lines in their spectra, which is notable because any heavy elements in a white dwarf should sink into the star's interior in just a small fraction of the star's lifetime.[85] The prevailing explanation for metal-rich white dwarfs is that they have recently accreted rocky planetesimals.[85] The bulk composition of the accreted object can be measured from the strengths of the metal lines. For example, a 2015 study of the white dwarf Ton 345 concluded that its metal abundances were consistent with **those of a differentiated, rocky planet whose mantle had been eroded by the host star's wind during its asymptotic giant branch phase.**”

Source: Wikipedia

White Dwarf

• What is a white dwarf?

Is a stellar remnant composed mostly of electron-degenerate matter. They are very dense; a white dwarf's mass is comparable to that of the Sun, and its volume is comparable to that of the Earth.



Transmutations in geology, observations that support this idea:

- The metals heavier than Calcium / Iron are mostly found in these geological features!
i.e. Copper, Gold, Silver, Palladium, etc.
- “Some black shales contain abundant heavy metals such as molybdenum, uranium, vanadium, and zinc.[4][5][6] The enriched values **are of controversial origin**, having been alternatively attributed to input from hydrothermal fluids during or after sedimentation or to slow accumulation from sea water over long periods of sedimentation.” - [Wikipedia](#)
- Strange isotopic values, i.e. Cu 63 vs Cu 65 ratio
- Abundance of certain rare elements in thin layers “asteroid impacts”
- Radio halos
- Veins with Silver and Uranium and gold deposits (many more)
- No plausible explanation for Dolomite
- Electric transmutations (lightning)

Transmutations in geology, observations that support this idea: Veins

- Veins are the primordial deposits for many elements.
- Water of certain temperatures and a lot of time are thought to create many types of these deposits.
- Veins contain most of the metals heavier than Iron.
- Gold (metals) depositing makes no sense (Purity) and Electrum even less which is a mix of gold and silver



Source: Wikipedia



Transmutations in geology, observations that support this idea: Shales and layers

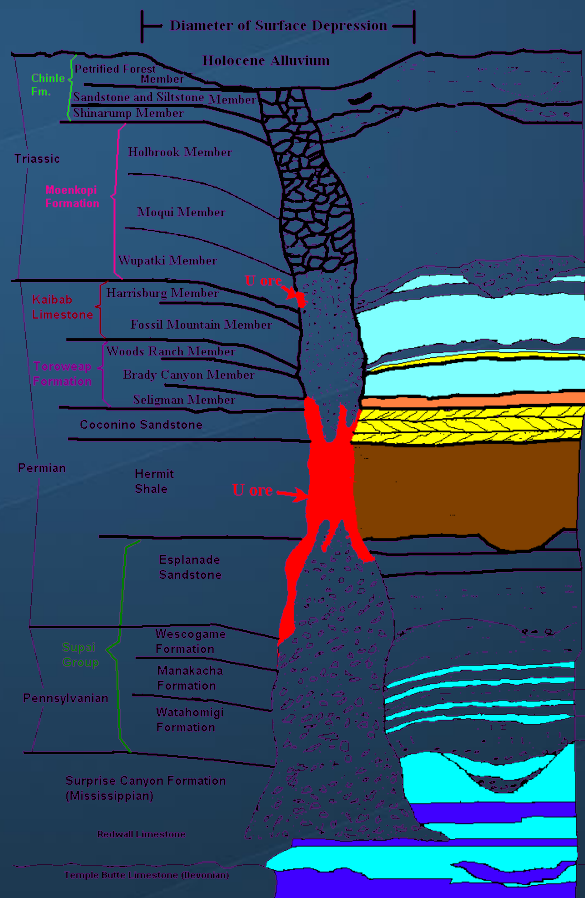


Source: Wikipedia

“Just above the base of the Zechstein formation is a **fairly thin layer of shale, or slate, where it has been metamorphized, known as the kupferschiefer for its high copper content.** In its unmodified form, this layer is high in sulfur compounds that are typical of silt deposited in stagnant shallow marshland. Where faults have allowed mineral-rich groundwater to circulate through this layer, the sulfur has oxidized metal ions to metallic sulfide ores. From the Middle Ages into the modern era, this thin but widely dispersed constellation of ore bodies has been of immense importance as a **source of copper** across much of northern Europe.”

Transmutations in geology, observations that support this idea: Breccia pipes (silver and Uranium deposits)

- Breccia pipes at certain layers
- “Areas that contains many examples of breccia pipes include Copper Creek, Arizona, which contains approximately 500 mineralized breccia pipes,[3] and the gold mining area of Cripple Creek, Colorado which contains breccia pipe ore deposits associated with a volcanic diatreme.”



- Kimberlite pipes
Similar but larger in scale?
- Dikes often contain Kimberlite

<https://pubs.usgs.gov>

Transmutations in geology, observations that support this idea: Geology layers and chemical make-up

- These are simply a few examples of information that is in the public domain that in an “electric universe” view would be evidence to point out that the earth's geology is indeed periodically affected by “electric and plasma events” that most likely are responsible for what we now perceive as metamorphic or magmatic causes.

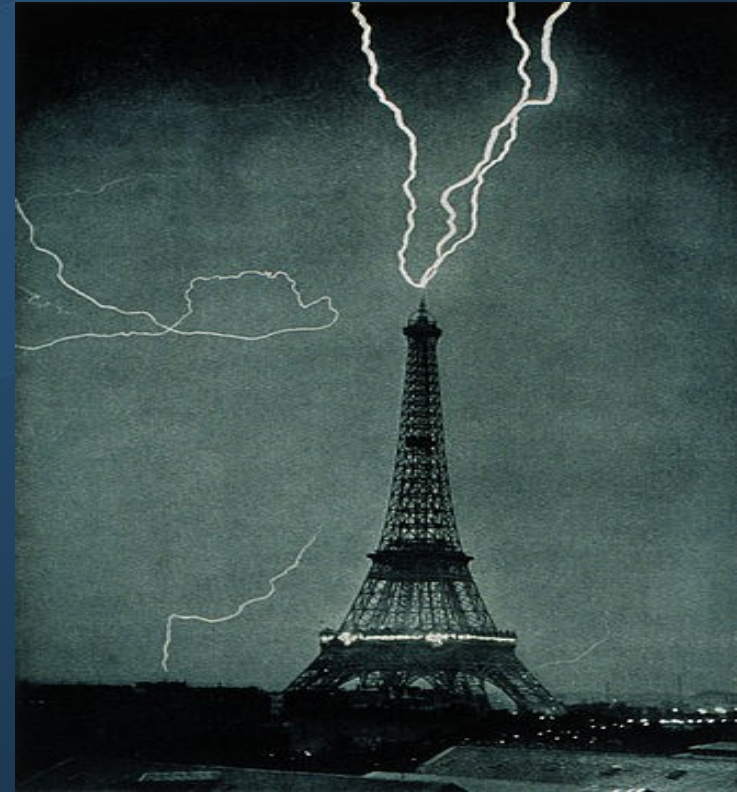
These thin layers and vein like structures all point to an electric origin with the potential of actual transmutation of the elements taking place as well (creation of Copper $Ti + O = Cu$?)

This The Kupferschiefer Formation is a geologic formation in Germany. **It preserves fossils** dating back to the Permian period.

- Methane bubbling up from fault-lines collect and form gas-fields..
- These layers seem to have been caused in catastrophic circumstances whereby an electric discharge and plasma Environment would be what causes these

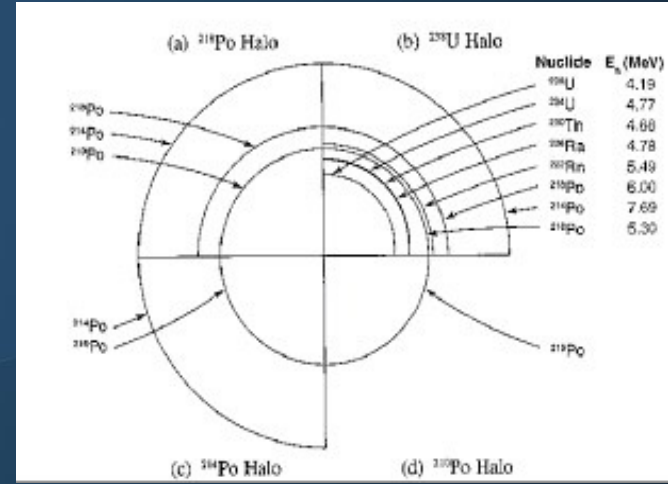
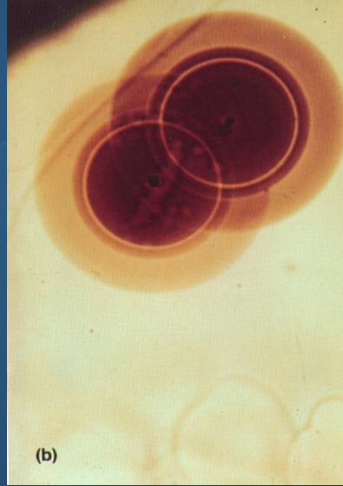
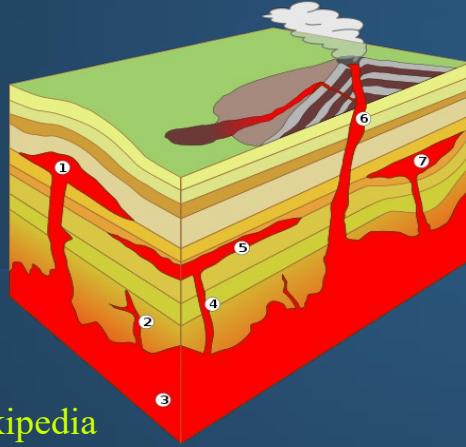
Transmutations in geology, observations that support this idea: Electricity and transmutations

- “Following a lightning strike to a wind turbine in Japan, we have observed a large burst of neutrons lasting 100 ms with a ground fluence of $1,000 \text{ n cm}^{-2}$, thousands of times greater than the peak neutron flux associated with the largest ground level solar particle event ever observed. This is the first detection of an unequivocal signature of neutrons from a terrestrial gamma ray flash, consisting of **a 2.223 MeV gamma-ray spectral line from a neutron-capture** on hydrogen reaction occurring in our detector, and is shown to be consistent with the production of 1012-1013 photoneutrons from a downward terrestrial gamma ray flash (TGF) at 1.0 km, with a gamma ray brightness typical of upward TGFs observed by satellites.”



Source: Wikipedia

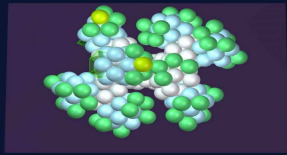
Transmutations in geology, observations that support this idea: Radiohalo's – a dating worry....



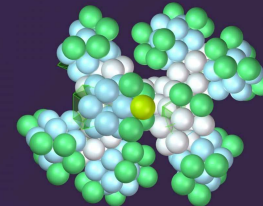
Source: Wikipedia

^{210}Po	Radium F	84	126	209.9828737(13)	138.376(2) d	α	^{206}Pb	0+	Trace ^[n 3]
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Source: SAM



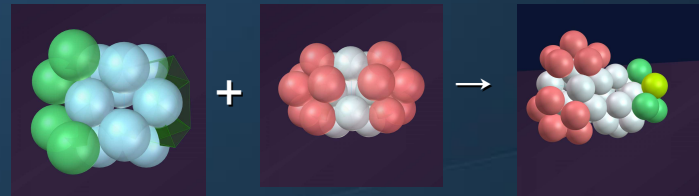
“This new type of lead, greatly enriched in the isotope ^{206}Pb , could not be accounted for by uranium decay; yet it was exactly that expected on the basis of the decay of polonium in the halo center.
- Robert Gentry”



Source: SAM

Transmutations in geology, observations that support this idea: Dolomite, an enigma

- The "dolomite problem" refers to the vast worldwide depositions of dolomite in the past geologic record eluding a unified explanation for their formation.
- “Imagine dinosaurs peeing in a boiling ocean” - **Michael Steinbacher**
To explain how Dolomite could be created in 'earthly' circumstances....
- Most dolomites formed as a magnesium replacement (with the help of water)
- $\text{CaMg}(\text{CO}_3)_2$
- OR
- The MG in the $\text{Mg}(\text{CO}_3)$ has been partly transmutated into Ca...
- H_2O would provide the Oxygen that fuses with the Mg.
- $\text{O}^{16} + \text{Mg}^{24} \rightarrow \text{Ca}^{40}$



Source: SAM

Transmutations in geology, observations that support this idea: Fresh lava fields – no veins, crystals, geodes etc

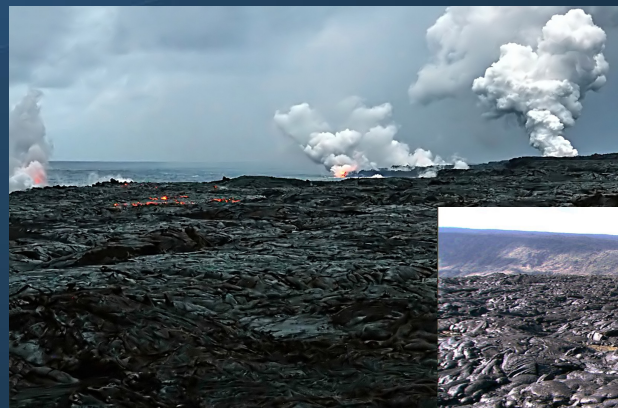
- Defence of the “claim”

The important word here is "Inclusions". The scientists were not out to date the lava: they were dating some chunks of **olivine** that were stuck in the lava like raisins. This lava was not hot enough to melt olivine, so the chunks were carried along when the eruption brought lava up from the depths. Of course the olivine inclusions dated as being old. They are old.

- Potassium/argon dating K40–Ar40 dating
- The long half-life of 40 K allows the method to be used to calculate the absolute age of samples older than a few thousand years.[1]
- Erroneous dating for fresh lava fields – showing millions of years old....

FLOW DATE	SAMPLE	LAB CODE	K–Ar "AGE" (million years)
11 February 1949	A	R-11714	<0.27
	B	R-11511	1.0 ± 0.2
4 June 1954	A	R-11715	<0.27
	B	R-11512	1.5 ± 0.1
30 June 30, 1954	A #1	R-11718	<0.27
	A #2	R-12106	1.3 ± 0.3
	B #1	R-12003	3.5 ± 0.2
	B #2	R-12107	0.8 ± 0.2
	C	R-11513	1.2 ± 0.2
14 July 1954	A	R-11509	1.0 ± 0.2
	B	R-11716	<0.29
19 February 1975	A	R-11510	1.0 ± 0.2
	B	R-11717	<0.27

Table 1. Potassium-argon “dates” of recent Mt Ngauruhoe (New Zealand) lava flows.²⁰



Source: Wikipedia



LENR field report (Cold Fusion)

NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2017 - (2016)

“..as the House Committee on Armed Services has asked the Secretary of Defense to provide "a briefing on the military utility of recent U.S. industrial base LENR advancements" by September 22”

“.., the committee directs the Secretary of Defense to provide a briefing on the military utility of recent U.S. industrial base LENR advancements to the House Committee on Armed Services by September 22, 2016. This briefing should examine the current state of research in the United States, how that compares to work being done internationally,...)

Conclusion: LERN does not validate substantial funding yet..

- Mizuno paper 2019 ICCF-22
- Reality is overtaking this assessment.
- Many of the problems with LENR seems to have been resolved by Mizuno.

(source: From the internet)

This situation has probably not improved much, except that LENR has its own journal (JCM NS). It will be interesting to see if these latest results by Mizuno, showing a working device, will change the minds of the editors of journals like Nature, Science, Journal of Physics, Physical Review, etc.

Clearly, mainstream science has great difficulty accepting the fact that transmutations do occur. A theory that explains transmutations in the laboratory (not in stars or a supernova) is clearly needed.

Increased Excess Heat from Palladium Deposited on Nickel

With Palladium as source,
results are “all over the Periodic Table”

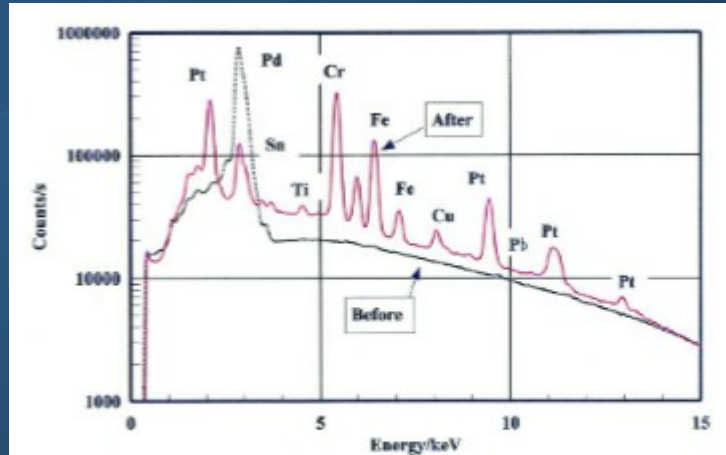
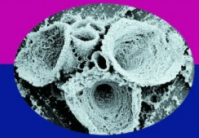


Figure 29. An example of an EDX element analysis of a palladium rod after it produced excess heat during electrolysis. Results from before and after electrolysis are shown. In the palladium rod after electrolysis, all sorts of elements are observed.

**NUCLEAR
TRANSMUTATION:**

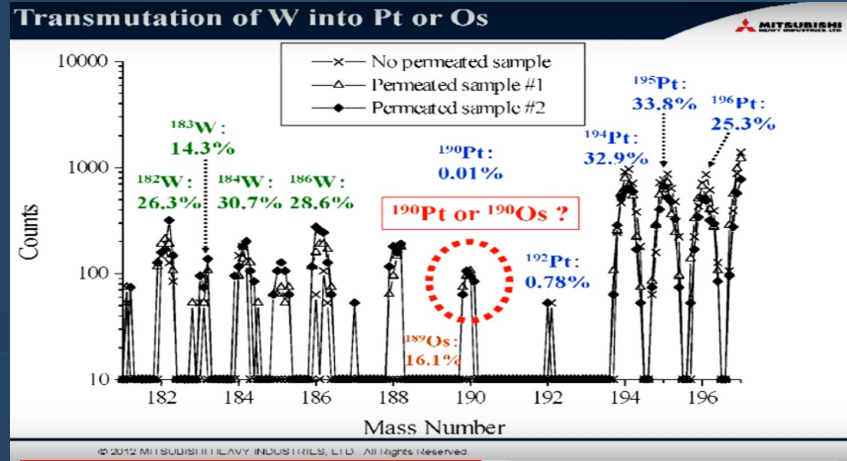


*The Reality
of
Cold Fusion*

Tadahiko Mizuno
(Translated by Jed Rothwell)

Source”Nuclear
transmutation by
Tadahiko Mizuno

Successful LENR experiments



Source: Presentation
Yasuhiro Iwamura -
American Nuclear
Society 2012

Table 2. Reports of excess power production at ICCF21. The order is the same as in the text. NM stands for NanoMaterials.

Lead Author	Materials & Loading Method	Maximum Excess Power	Longest Run Duration	Power Gain (W/W)
Letts-Cravens	D ₂ or H ₂	10 W	7.5 days	77/70 = 1.1
Mizuno	Ni + D ₂	232 W	3.2 years	480/248 = 1.9
Miley	NM + D ₂	20 mW	5 hours	
Takahashi	NM + D ₂ or H ₂	24 W	1 month	
Iwamura	NM + D ₂ or H ₂	5 W	150 hours	
Tanzella	Ni + D ₂ or H ₂	5 W	40 hours	21/16 = 1.3
Swartz	Pd + D ₂ O	4 W	67 hours	2.3
Celani	Constantan + D ₂	12 W	1 day	102/90 = 1.1
Staker	Pd + D ₂ O	1.2 W	46 days	2.4/1.2 = 2.0
Beiting	NM + D ₂ or H ₂		950 hours	7.5 %
Dong	Pd + D ₂	2-3 W		
Ramarao	Ni + LiAlH ₄	310 - 350 W	12 hrs	1.3 - 1.4
Zhang	Ni + D ₂	2 W	4 hours	32/30 = 1.1

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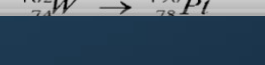
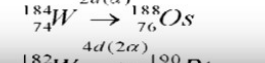
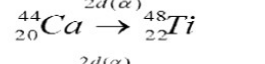
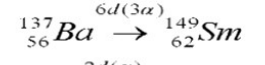
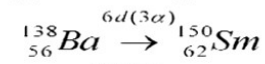
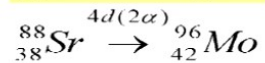
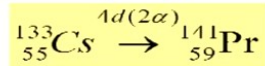
Reactions observed so far in MHI

元素の周期表

Alkali metals: H, Li, Na, K, Rb, Cs, Fr
Alkali earth metals: Be, Mg, Ca, Sr, Ba, Ra
Transition metals: Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Ga, Ge, As, Se, Br, Kr, Rh, Pd, Ag, Cd, In, Sn, Sb, Te, I, Xe, Pt, Au, Hg, Tl, Pb, Bi, Po, At, Rn
Non-transition metals: B, C, N, O, F, Ne, Al, Si, P, S, Cl, Ar, Y, Zr, Nb, Mo, Tc, Ru, Rh, Pd, Ag, Cd, In, Sn, Sb, Te, I, Xe, Pt, Au, Hg, Tl, Pb, Bi, Po, At, Rn
Noble gases: He, Ne, Ar, Kr, Xe, Rn
Gases: H, He, N, O, F, Ne, Cl, Ar, Kr, Xe, Rn

Alkali metals: 典型金属元素
Alkali earth metals: 非典型金属元素
Transition metals: 遷移金属元素
Non-transition metals: 非遷移金属元素
Noble gases: 貴ガス

- 1) Alkali metals; Electron Emitter
- 2) 2d, 4d, 6d; α capture reactions



Recent positive news about LENR

- Results of a new experiment to be presented at the upcoming ICCF-22 conference in Italy.

“Increased Excess Heat from Palladium Deposited on Nickel” (Source)

Tadahiko Mizuno

Hydrogen Engineering Application and Development Company, Kita
12, Nishi 4, Kita-ku, Sapporo 001-0012, Japan

Jed Rothwell

LENR-CANR.org, 1954 Airport Road, Suite 204, Chamblee, GA
30341, U.S.A.

- Abstract:
“We have developed an improved method of producing excess heat with nickel mesh coated with palladium. The new method produces higher power, a larger output to input ratio, and it can be controlled effectively. With 50 W of input, it produces ~250 W of excess heat, and with 300 W it produces ~2 to 3 kW. This paper is a comprehensive description of the apparatus, the reactant, and the method. **We hope this paper will allow others to replicate the experiment.**”



Figure 1. An R20 reactor used as a room heater in Sapporo, winter 2018. With 300 W input, it kept the room about as warm as a conventional 3 kW gas or electric room heater. Such room heaters are common in Japan. The reactor is powered by a 500 W, 100 V laboratory power supply, which is not connected in this photo.

Lessons learned report from Mizuno:

- LENR is real
- LENR is controllable
- LENR is scalable (practical output of energy for a heater of a house)
- LENR has a Coefficient of Performance (COP) of 5-10

Headlines in media about “cold fusion”

- *5 Reasons Cold Fusion is Bunk:*
*Fusion reactions create heavier elements out of lighter ones -- but not just any heavy element. The evidence of real fusion is in the kinds of elements that come out of any machine. Rossi initially claimed to be making **copper out of nickel. But the addition of a proton to nickel to make copper requires so much energy that not even dying stars that are collapsing into themselves, aka supernovas, can do it.*** The reaction in the universe that makes copper requires a neutron, a star that has collapsed and become extremely dense. The only place they are found in abundance on Earth is near nuclear reactors or in radioactive materials
- *Why-do-scientists-dismiss-the-possibility-of-cold-fusion?*
- *Why is no one Talking About LENR Cold Fusion?*
- *The physics of why cold fusion isn't real.*
- *Why Cold Fusion is Dead*
- WIKI first sentence:
Cold fusion is a **hypothesized** type of nuclear reaction that would occur at, or near, room temperature. (It is “hypothesized” because it is observed!)

Year 1471 We cannot sail west too far, everyone knows we will fall off of the edge of the earth.....

Year 1814 A locomotive going faster than 30 M/ph will cut of our breath and we will die.....

Year 1903 Plane cannot fly, they are too heavy, it obvious to anyone....

1989 Pons and Fleishmann discover Cold fusion..., which is impossible, our models clearly show that it cannot be done without all the pressure and heat of an exploding star or cosmic radiation.....

1989 - today

New paradigm....

“...The leading thought groups of the day have consistently resisted new inventions breakthroughs and change, now it is our turn to change our status quo, How can we learn from others who converted their rejection into usefulness.

They were able to move through stages of progression that brought their discoveries into broad acceptance.

Mainstream academia science and government stalled the first wave of cold fusion discovery, (this year is the 30th anniversary of the discovery of cold fusion.)

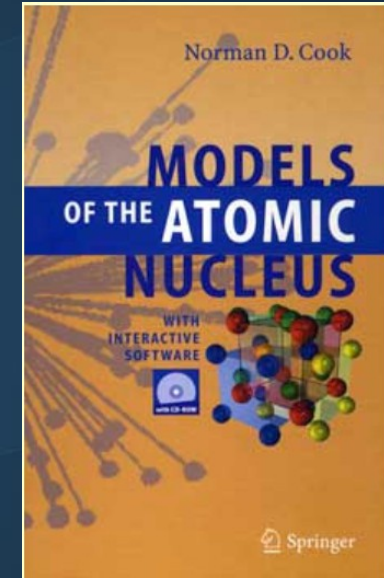
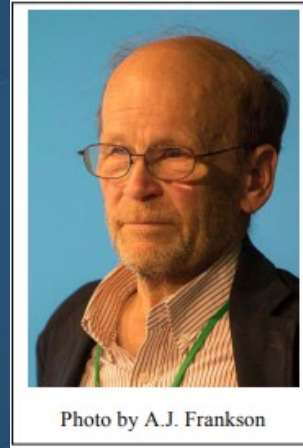
We owe it to the early pioneers and to our planet to responsibly finish our work and move the discussion into the mainstream of science academia science and industry. How do we move forward from our isolation?

We need theory that can direct basic repeatable and understandable experiments. We need experiments and papers that will be replicated and accepted by mainstream physicists and the science community.”

Thomas F. Darden -
Quote Keynote Presentation
ICCF-21 Fort Collins, 2018

Theory (what good is it?)

- Norman Cook 1948-2019
- Author of the book “Models of the Atomic Nucleus”
- Point out Meissner “EPS winner spinoza?” (ICCF-21 Speech)
- Cook was a clearly an accomplished specialist in nuclear structure. Since the reactions of nuclei are structure-dependent, it made sense that he would be interested in the topic of Low Energy Nuclear Reactions (LENR). It appeared that he hoped that his view of nuclear structure would contribute to the understanding of LENR, as it had to the prediction of fission fragment distributions from Actinides. Maybe even, the ultimate understanding of LENR would illuminate some of the many questions about the structure of nuclei.
- Points out that Meissner (European Physical Society) Nuclear lattice Effective Field Theory (NLEFT) Contradicts Copenhagen Interpretation of QM. (Uncertainty Position nucleons)



going discussions. The self-assembly and emergence of that Nuclear Structure Group was one demonstrable benefit of ICCF-21.

What can we learn from SAM?

- The structure teaches us that there is a self-organizing fine-mechanism for how the elements are created and shaped.
- This means that an element cannot be created just by “putting together a random number of protons and electrons”.
- Elements grow!
- Structure of the nucleus dictates the properties of all elements and isotopes.
- By studying the suspected geological transmutations we can find clues as to what is possible.
- Atoms seems to be able to fuse and break in “chunks”
- This knowledge needs to be tested and validated in experiments
- SAM can help us by providing a simple to understand/ and use, tool to make progress in this difficult topic.
- By accepting the structure we reach a more advanced understanding of the atom and the elements. We can literally see what needs to happen for an element to come into being.
- How this is happening and why remains mysterious, We do see that the plasma environment is where “it all happens”

The PTE and structure

(what we could
not share with
Norman Cook)

<div>H1</div> <div></div> <div>Hydrogen</div>																	<div>He2</div> <div></div> <div>Helium</div>															
<div>Li3</div> <div></div> <div>Lithium</div>	<div>Be4</div> <div></div> <div>Beryllium</div>															<div>B5</div> <div></div> <div>Boron</div>	<div>C6</div> <div></div> <div>Carbon</div>	<div>N7</div> <div></div> <div>Nitrogen</div>	<div>O8</div> <div></div> <div>Oxygen</div>	<div>F9</div> <div></div> <div>Fluorine</div>	<div>Ne10</div> <div></div> <div>Neon</div>											
<div>Na11</div> <div></div> <div>Sodium</div>	<div>Mg12</div> <div></div> <div>Magnesium</div>															<div>Al13</div> <div></div> <div>Aluminum</div>	<div>Si14</div> <div></div> <div>Silicon</div>	<div>P15</div> <div></div> <div>Phosphorus</div>	<div>S16</div> <div></div> <div>Sulfur</div>	<div>Cl17</div> <div></div> <div>Chlorine</div>	<div>Ar18</div> <div></div> <div>Argon</div>											
<div>K19</div> <div></div> <div>Potassium</div>	<div>Ca20</div> <div></div> <div>Calcium</div>	<div>Sc21</div> <div></div> <div>Scandium</div>	<div>Ti22</div> <div></div> <div>Titanium</div>	<div>V23</div> <div></div> <div>345 Vanadium</div>	<div>Cr24</div> <div></div> <div>236 Chromium</div>	<div>Mn25</div> <div></div> <div>247 Manganese</div>	<div>Fe26</div> <div></div> <div>23 Iron</div>	<div>Co27</div> <div></div> <div>23 Cobalt</div>	<div>Ni28</div> <div></div> <div>2 Nickel</div>	<div>Cu29</div> <div></div> <div>12 Copper</div>	<div>Zn30</div> <div></div> <div>2 Zinc</div>	<div>Ga31</div> <div></div> <div>3 Gallium</div>	<div>Ge32</div> <div></div> <div>4 Germanium</div>	<div>As33</div> <div></div> <div>35 Arsenic</div>	<div>Se34</div> <div></div> <div>-24 Selenium</div>	<div>Br35</div> <div></div> <div>-1 Bromine</div>	<div>Kr36</div> <div></div> <div>0 Krypton</div>															
<div>Rb37</div> <div></div> <div>Rubidium</div>	<div>Sr38</div> <div></div> <div>Strontium</div>	<div>Y39</div> <div></div> <div>Yttrium</div>	<div>Zr40</div> <div></div> <div>Zirconium</div>	<div>Nb41</div> <div></div> <div>5 Niobium</div>	<div>Mo42</div> <div></div> <div>46 Molybdenum</div>	<div>Tc43</div> <div></div> <div>47 Technetium</div>	<div>Ru44</div> <div></div> <div>34 Ruthenium</div>	<div>Rh45</div> <div></div> <div>3 Rhodium</div>	<div>Pd46</div> <div></div> <div>24 Palladium</div>	<div>Ag47</div> <div></div> <div>1 Silver</div>	<div>Cd48</div> <div></div> <div>2 Cadmium</div>	<div>In49</div> <div></div> <div>3 Indium</div>	<div>Sn50</div> <div></div> <div>-42 Tin</div>	<div>Sb51</div> <div></div> <div>-335 Antimony</div>	<div>Te52</div> <div></div> <div>-2246 Tellurium</div>	<div>I53</div> <div></div> <div>-15 Iodine</div>	<div>Xe54</div> <div></div> <div>0 Xenon</div>															
<div>Cs55</div> <div></div> <div>Cesium</div>	<div>Ba56</div> <div></div> <div>Barium</div>															<div>Hf72</div> <div></div> <div>Hafnium</div>	<div>Ta73</div> <div></div> <div>5 Tantalum</div>	<div>W74</div> <div></div> <div>46 Tungsten</div>	<div>Re75</div> <div></div> <div>545 Rhenium</div>	<div>Os76</div> <div></div> <div>4 Osmium</div>	<div>Ir77</div> <div></div> <div>44 Iridium</div>	<div>Pt78</div> <div></div> <div>24 Platinum</div>	<div>Au79</div> <div></div> <div>3 Gold</div>	<div>Hg80</div> <div></div> <div>42 Mercury</div>	<div>Tl81</div> <div></div> <div>13 Thallium</div>	<div>Pb82</div> <div></div> <div>2 Lead</div>	<div>Bi83</div> <div></div> <div>13 Bismuth</div>	<div>Po84</div> <div></div> <div>4 Polonium</div>	<div>At85</div> <div></div> <div>1 Astatine</div>	<div>Rn86</div> <div></div> <div>0 Radon</div>		
<div>Fr87</div> <div></div> <div>Francium</div>	<div>Ra88</div> <div></div> <div>Radium</div>	<div>Rf104</div> <div></div> <div>4 Rutherfordium</div>	<div>Db105</div> <div></div> <div>Dubnium</div>	<div>Sg106</div> <div></div> <div>Seaborgium</div>	<div>Bh107</div> <div></div> <div>Bhrium</div>	<div>Hs108</div> <div></div> <div>Hassium</div>	<div>Mt109</div> <div></div> <div>Meitnerium</div>	<div>Ds110</div> <div></div> <div>Darmstadtium</div>	<div>Rg111</div> <div></div> <div>Roentgenium</div>	<div>Cn112</div> <div></div> <div>Copernicium</div>	<div>Nh113</div> <div></div> <div>Nihonium</div>	<div>Fl114</div> <div></div> <div>Flerovium</div>	<div>Mc115</div> <div></div> <div>Moscovium</div>	<div>Lv116</div> <div></div> <div>Livermorium</div>	<div>Ts117</div> <div></div> <div>Tessensine</div>	<div>Og118</div> <div></div> <div>Oganesson</div>																
																		<div>La57</div> <div></div> <div>Lanthanum</div>	<div>Ce58</div> <div></div> <div>Cerium</div>	<div>Pr59</div> <div></div> <div>3 Praseodymium</div>	<div>Nd60</div> <div></div> <div>3 Neodymium</div>	<div>Pm61</div> <div></div> <div>3 Promethium</div>	<div>Sm62</div> <div></div> <div>3 Samarium</div>	<div>Eu63</div> <div></div> <div>3 Europium</div>	<div>Gd64</div> <div></div> <div>3 Gadolinium</div>	<div>Tb65</div> <div></div> <div>3 Terbium</div>	<div>Dy66</div> <div></div> <div>3 Dysprosium</div>	<div>Ho67</div> <div></div> <div>3 Holmium</div>	<div>Er68</div> <div></div> <div>3 Erbium</div>	<div>Tm69</div> <div></div> <div>3 Thulium</div>	<div>Yb70</div> <div></div> <div>3 Ytterbium</div>	<div>Lu71</div> <div></div> <div>3 Lutetium</div>
																		<div>Ac89</div> <div></div> <div>Actinium</div>	<div>Th90</div> <div></div> <div>Thorium</div>	<div>Pa91</div> <div></div> <div>5 Protactinium</div>	<div>U92</div> <div></div> <div>6 Uranium</div>	<div>Np93</div> <div></div> <div>7 Neptunium</div>	<div>Pu94</div> <div></div> <div>7 Plutonium</div>	<div>Am95</div> <div></div> <div>3 Americium</div>	<div>Cm96</div> <div></div> <div>3 Curium</div>	<div>Bk97</div> <div></div> <div>3 Berkelium</div>	<div>Cf98</div> <div></div> <div>3 Californium</div>	<div>Es99</div> <div></div> <div>3 Einsteinium</div>	<div>Fm100</div> <div></div> <div>3 Fermium</div>	<div>Md101</div> <div></div> <div>3 Mendelevium</div>	<div>No102</div> <div></div> <div>2 Nobelium</div>	<div>Lr103</div> <div></div> <div>3 Lawrencium</div>

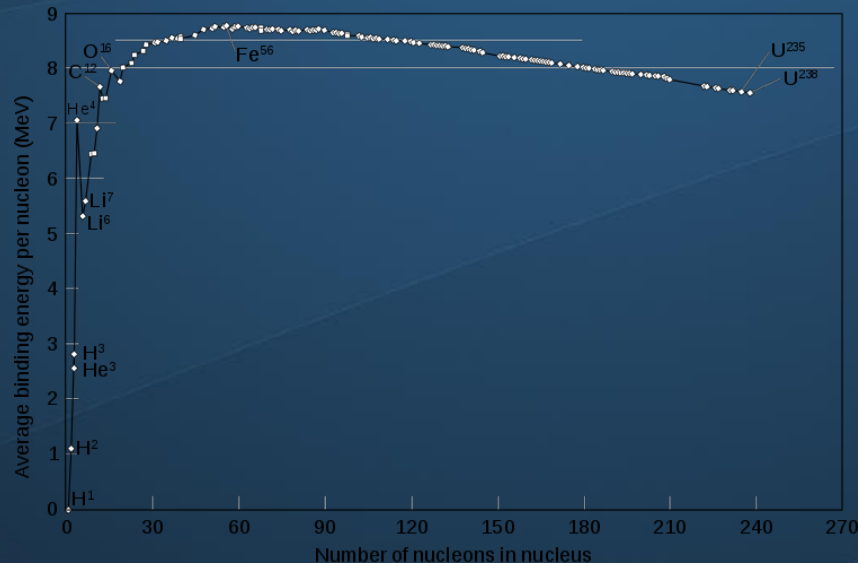
Source: SAM

How do we know the structure is correct? AMU chart comparison

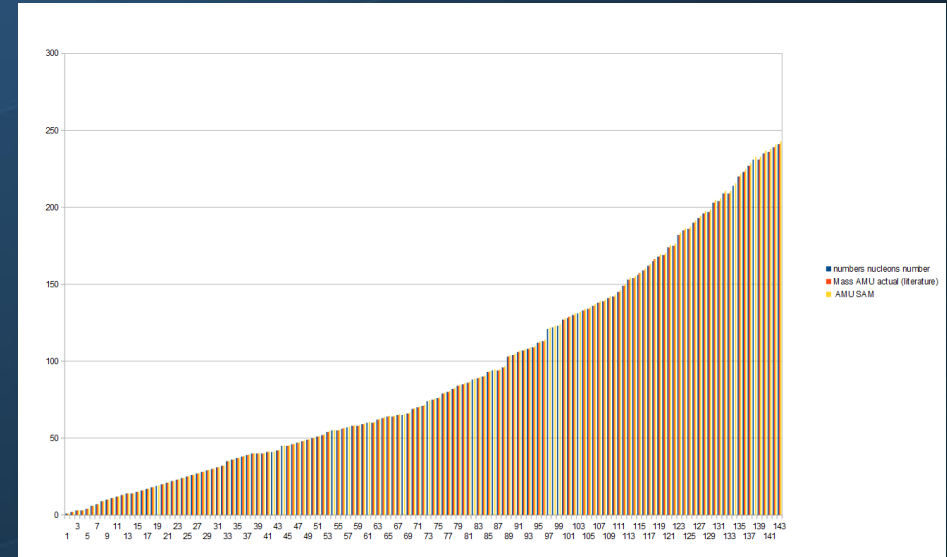
- Atomic Mass graph (Low detail - High correlation)
- Based on raw calculated DATA (simply multiplication)
- Number of connection point between nucleons * 2.225 MeV (Deuteron) = Total Binding Energy Nucleus / Atomic Mass
- Differences are partly explained in the structure on a detailed level.

More refinement is worked on in collaboration with Philippe Hatt
<http://philippehatt.com/document2.pdf>

Source: SAM

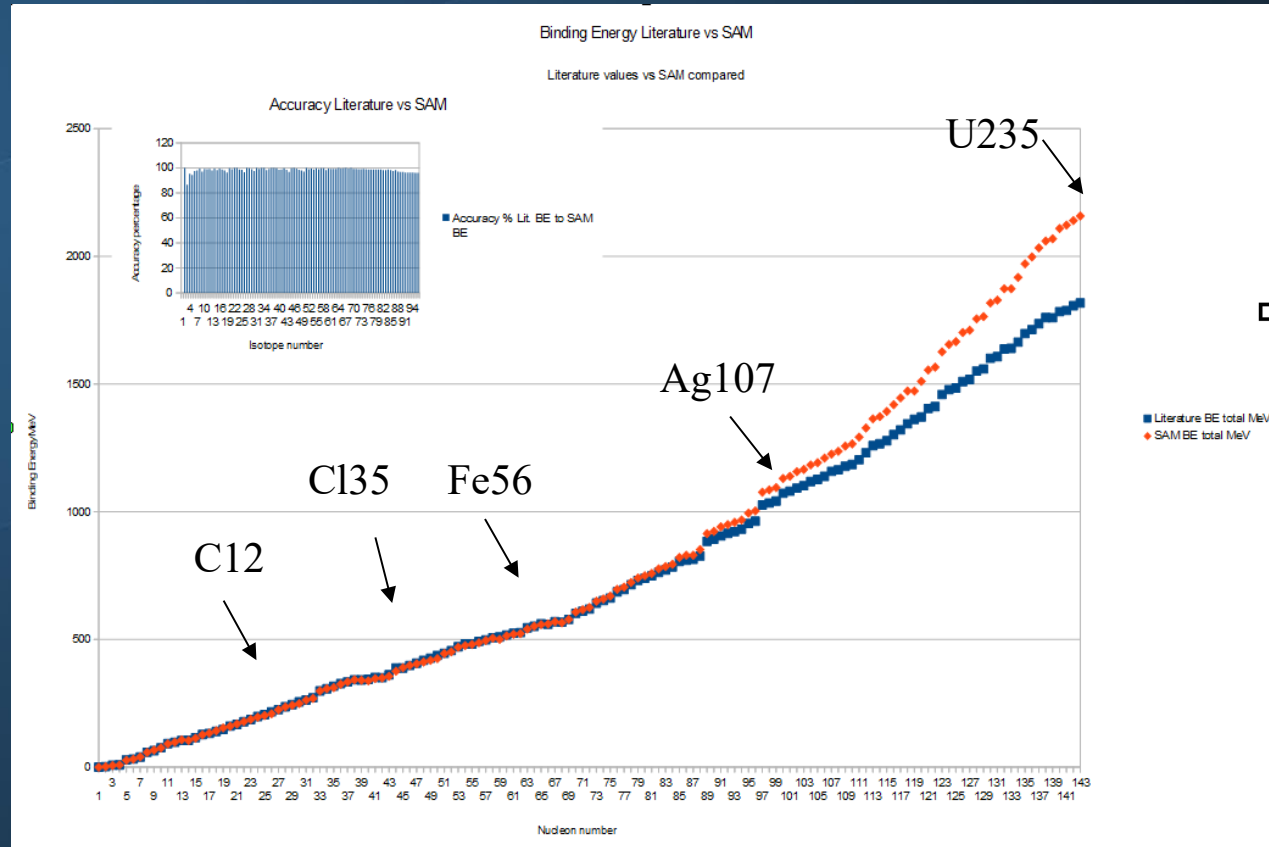


Source: Wikipedia



Deviation of the two datasets: A problem or an explanation?

- Linear parts in the first part (11-30).
- Sudden “Jumps” in BE/AMU.
- Both lines show a strong correlation”
- Slow deviation after Iron between SAM and literature (70-143).
- “mass defect” is caused by repelling forces due to the structure (fractal branching).
- The Stress Factor occurs at around Iron where it begins to occur.
- Nuclear fission is releasing this energy (mass defect).
- Calculated “released energy” correlates with the “know value” of about 200 MeV release for a Uranium atom.

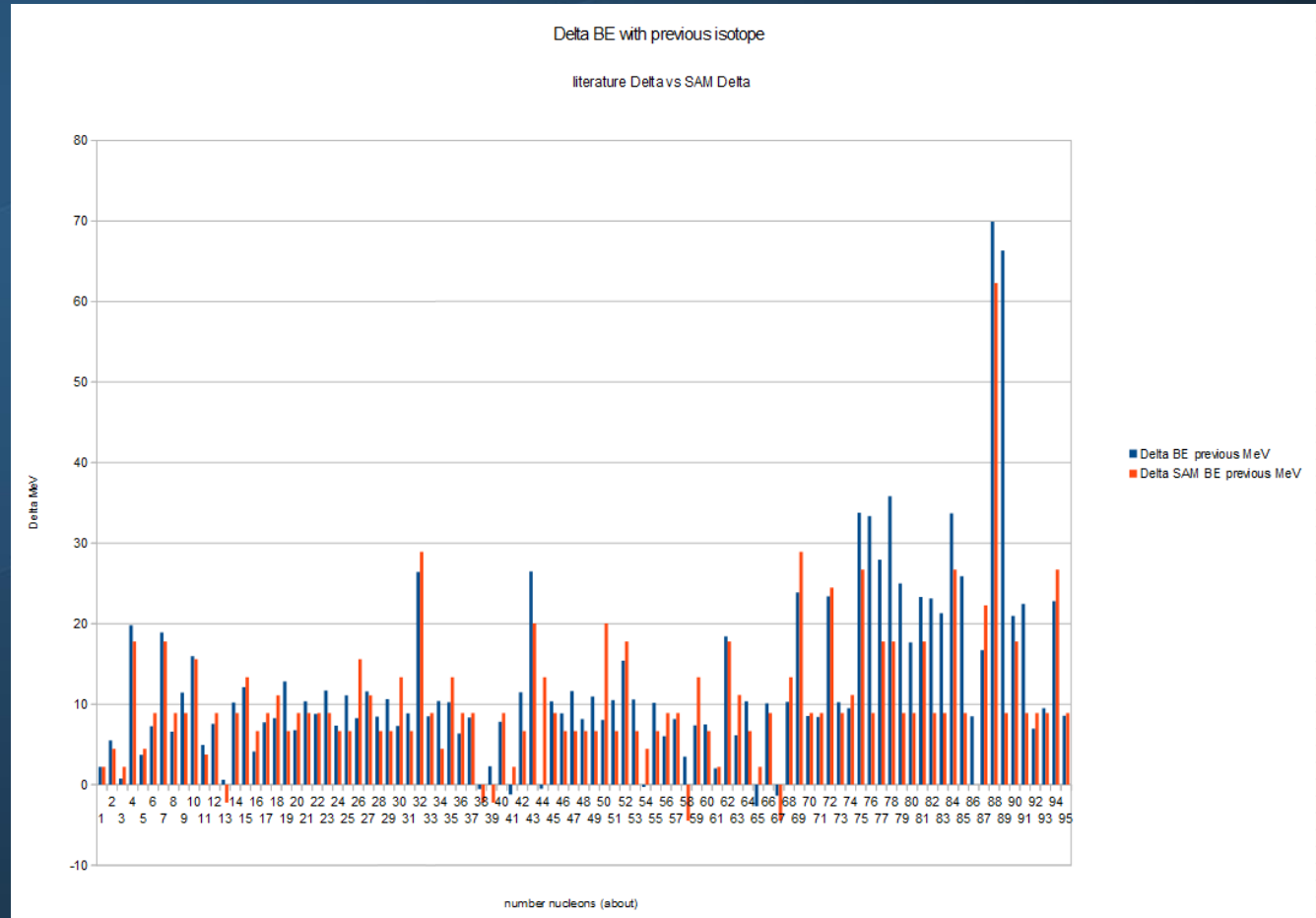


Source: SAM

How do we know the structure is correct?

- Difference BE between successive elements in MeV (Binding Energy) For SAM and for the literature numbers. (high resolution)
- Strong correlation

Source: SAM

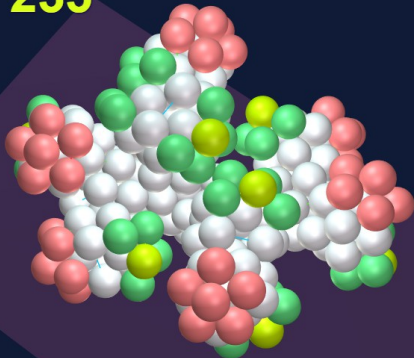


SAM mimicking CERN

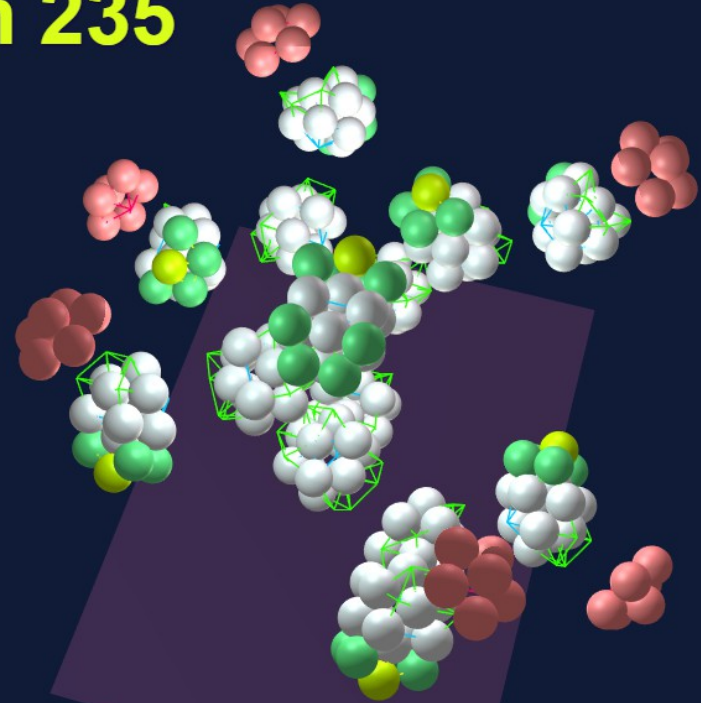
Source: SAM

- Pair based (p/n)
- Nuclet based (with the icosahedron or Carbon as largest possible stable geometric shape.)
- Larger structure - integrated Carbon-nuclets

Uranium 235



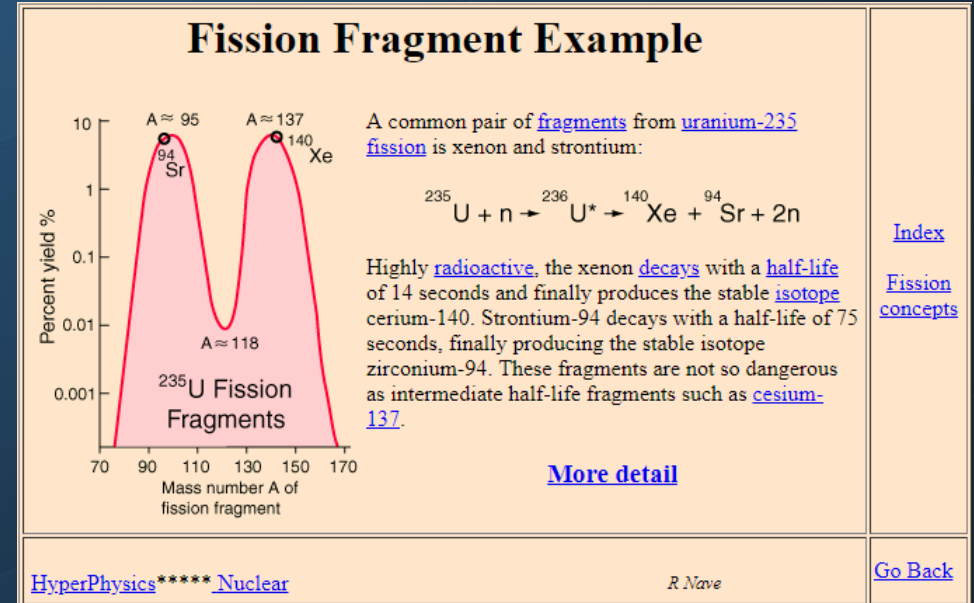
Uranium 235



Fission – still enigmatic

- “..The liquid drop model of the atomic nucleus predicts equal-sized fission products as an outcome of nuclear deformation. The more sophisticated nuclear shell model is needed to mechanistically explain the route to the more energetically favorable outcome, in which one fission product is slightly smaller than the other. A theory of the fission based on shell model has been formulated by Maria Goeppert Mayer.”
- “..The most common fission process is binary fission, and it produces the fission products noted above, at 95 ± 15 and 135 ± 15 u. However, the binary process happens merely because it is the most probable. In anywhere from 2 to 4 fissions per 1000 in a nuclear reactor, a process called ternary fission produces three positively charged fragments (plus neutrons) and the smallest of these may range from so small a charge and mass as a proton ($Z=1$), to as large a fragment as argon ($Z=18$). “

- We see “cluster” or nucleon fission and fusion!
- These represent part of the branches / the lighter elements.



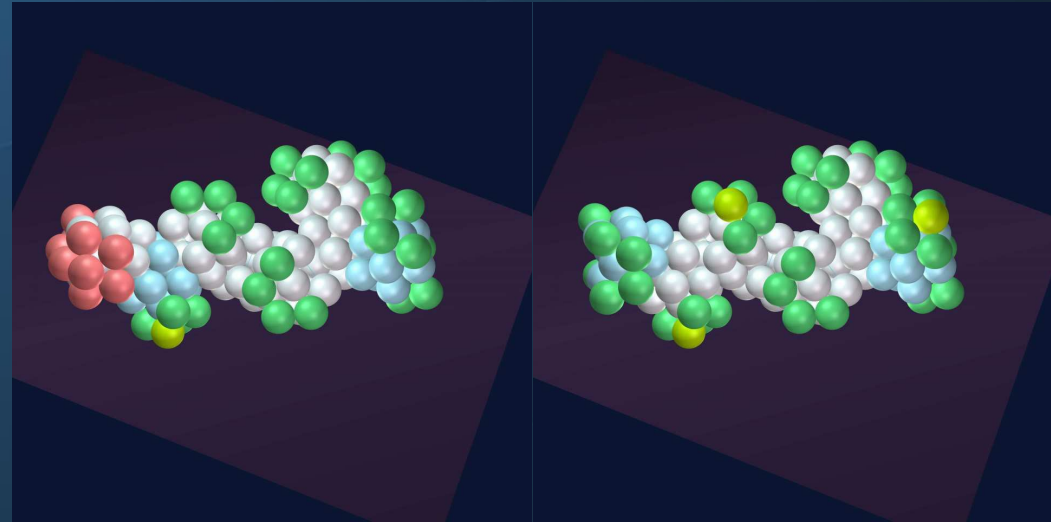
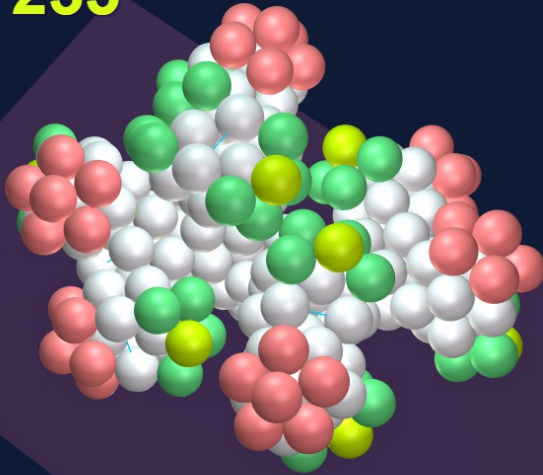
Fission in SAM

- U-235 in normal view
- Tension on the branches! (Stress factor - fission process)

- Decay products
- Same base as U235
- Branches “snapped off”?

Source: SAM

Uranium 235



New insights in Physics based on the structure

- Beta – decay equates creation of a Deuteron (inner electron is emitted from the nucleus)
- Beta+ decay is the reverse and involves the absorption of an outer electron into the nucleus
- Transmutations can happen by adding enough neutrons causing Beta – decay but also by adding a complete Deuteron which does NOT involve the changing of the proton neutron ratio! (no gamma rays and neutrons)
- Cold fusion may well be a “failed fusion attempt of Deuterium” due to lacking structural integrity
- Fission is explained as “stress energy” whereby the branches repel each other.
- Elements seems to be able to 'readily' trans-mutate
- Nuclear reactions all correct in relation to to the structure
- Elements and isotopes are based on each other (child parent)
- Structure-numbers and literature numbers seem to strongly correlate, hence this is offered as evidence for the correctness of the proposed structure
- SAM offers through its (in essence) simple rules and logic not only the structure but also the explanation that the elements differ so much as well as sometimes are so alike in very different places in the PTE
- Many properties can clearly be related and explained by knowing the structure
- Promise to offer another piece of the puzzle for LENR and all of its promises such as abundant energy that is clean and readily available.

Conclusion EU – geology vs Current mainstream geology concept

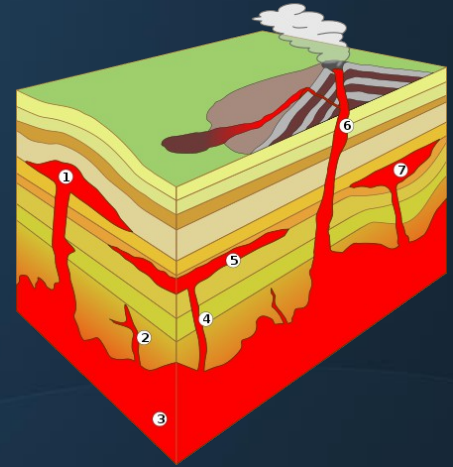
- Big bang and supernova with element creation
- Gravity as causal factor for planet creation
- Sorting of the elements through gravity (difference in atomic properties) volcanism (heat transport) and erosion and sedimentation (water) / element replacement
- Stars create the light elements turning into
- Planets that keep trans-mutating elements In-situ
- Through the electric forces (plasma) primarily
- Water seems to play an important role in this process on earth.

“..Rhomb porphyry is a volcanic rock with gray-white large porphyritic rhomb-shaped phenocrysts embedded in a very fine-grained red-brown matrix.”

Translated: Large crystals in a fine matrix allegedly created in magma chambers.

We speculate that these are perhaps the result of transmutations and the resulting excess heat turning the whole into a magma chamber...

Hot Magma due to “Cold Fusion”?



Source: Wikipedia

“alchemy” already mastered?!

Friedrich Wilhelm "Fritz" Strassmann (German: Straßmann; 22 February 1902 – 22 April 1980) was a German chemist who, with Otto Hahn in early 1939, identified barium in the residue after bombarding uranium with neutrons, results which, when confirmed, demonstrated the previously unknown phenomenon of nuclear fission.

Science can do the following:

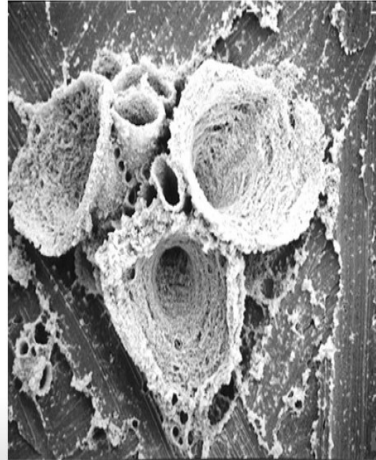
- Split heavy elements (fission)
- Elements can fuse and disassemble in 'chunks'. a Neon is emitted from a Uranium for example. Cluster fusion/fission
- Add nuclei to other nuclei
 $\text{Americium (243)} + \text{Ca (48)} \rightarrow \text{Moscovium (290)}$
- Add single “neutrons” and deuterons
- Nature shows Beta plus and minus decay with natural occurring isotopes
- Cosmic rays cause transmutations (C14 creation)
- Lightning causes transmutations
- Most of what we are capable of today is many decades old technology, yet we still “knee-jerk” when the idea of transmutations to our benefit is uttered.
- Yet science already more or less mastered what was known as Alchemy
- So when this is all possible, is this something to take into account when we think about the creation of the elements and our cosmological models?
Eu offers another perspective, that electrical forces (plasma) can and does create elements In-situ and seems to be the dominant factor in the creation of heavy elements in the earth's crust.
- Current idea of elements created in a big bang or exploding stars suddenly is not needed at all!

Is the earth a giant element creation machine?!

- Transmutations observed in:
- Geology
- Astronomy
- Experiments
- Biology!
- Particle accelerators
- Nuclear power-plants
- Atom bombs
- And some more..

Figure 32. Products found on the surface of Ohtsuri's gold cathode after electrolysis. Lily shaped eduction that forms when a pure gold foil was heavily electrolyzed in Na_2CO_3 (sodium carbonate). The diameter of the objects is 10 μm , height about 15 μm . The objects are composed of fine mesh. They contain not only gold but also platinum, iron, and other elements mixed together.

The lilies had only appeared in areas that had been heavily processed by scraping with quartz glass before electrolysis. There was no trace of them in other areas. Exactly the same thing had happened to the palladium electrolyzed in heavy water. Especially large numbers of lilies formed in samples that had been electrolyzed repeatedly. The thick bar of palladium had so many of them, the entire bar looked black. Based on this, it was clear that the reaction was not taking place inside the palladium (in the bulk) but rather at the surface or near surface areas. And it was not happening everywhere in the cathode, but only in certain localized regions. What could this mean?



Source:

Introduction to the English Edition of -
Nuclear Transmutation: The Reality of
Cold Fusion by Dr. Tadahiko Mizuno

- Many accepted ways of causing trans-mutations.
- (Transmutations) LENR proved (Japan)
- However we do not accept the idea of transmutation in “cold fusion” in the current 'model'.
- Allegedly alchemical processes – taboo

Both the earth and the LENR experiments have the following in common.

-Metal (Electrode)
– (heavy) water
– electricity (plasma)

A new cosmology is emerging: The eternal universe?

- If we accept the idea and evidence that is presented, that transmutation are a much bigger 'piece of the puzzle' in cosmology and geology, we see the need for a complete overhaul of our thinking. Elements may trans-mutate into another much more commonly than we thought. The implications are huge.
- This does not mean all is wrong with what we already know, It is merely another perspective, one that is we would argue based on observations and logic instead of an 'interpreted reality based on assumptions'.
- Geology is the field where every science seems to come together, right here beneath our feet. We can see the concept of an Electric Universe at work, and the elements seem to be created in-situ and perhaps when we give this field enough attention we can actually learn from what nature has been doing forever which in turn may lead to technological break-throughs that one day may serve us all.

Conclusions / recommendations

- Geology can help us find clues how transmutations work. What is the fuel and the product?
- Isotopic precision is needed. (different outcome in trans-mutations for different isotopes)
- The earth is an (predominantly) electric driven body
- Heavier Elements are created In-situ (on earth)
- Water and volcanoes are not the only mechanisms, electric forces are ignored!
- Dating of geological layers needs to be re-examined with In-situ transmutations in mind.
- No need for all those proposed asteroid impacts and comets.

Where we are (hoping) to go in the future.

- Further exploration of the 'electric earth' concept!
- assist the LENR field (collective effort to re-examine the nucleus and its fundamental principles)

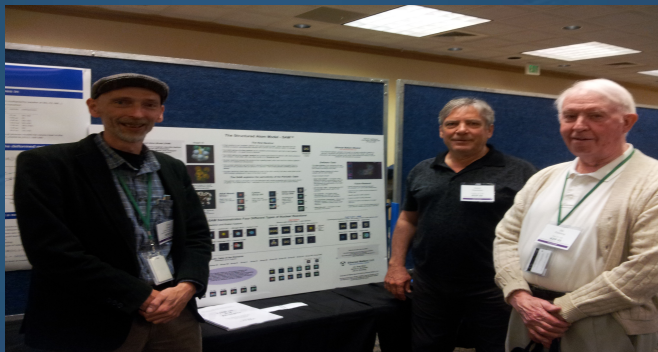
close

- Geology offers us the possibility to understand what nuclear fusion reactions might have taken place in the Earth's geological past and the Structured Atom Model offers a logical calculus for nuclear binding energies, opening the possibility for understanding Low Energy Nuclear Reactions (LENR)
- A new picture emerges – chemistry, mineralogy, geology and physics are intimately connected. Geology is where all these fields come together
- SAM offers a simplified physics and logical model based on observations that would help explain how elements come into being from one particle to all the elements and isotopes.
- Thus increasing our knowledge and understanding.

“Whether or not unification of the various nuclear structure models are at hand, there are many aspects of nuclear structure and dynamics that are more easily understood when the visual mode of thinking is also employed. Particularly in light of the fact that several outstanding questions at the level of nuclear structure theory remain unanswered (What is the phase-state of nuclear matter? What is the nature and range of the nuclear force? How do nucleons aggregate in the nuclear interior?), the use of visualization techniques that are fully consistent with the quantum mechanical description of nucleon states is worth exploring” – **Norman Cook**

Thank You on Behalf of the Team

The team:



Edo Kaal
James Sorensen
Jan Emming

With special thanks to! →

Lucy Wyatt
Stephan Parsons
Tim & Lee Hooker
Anna Beeton

And to all the others out there who
helped in their own way!