



# Mysticism vs. S c i e n c e

*in the Janet Kuypers show  
7/24/13 at Gallery Cabaret*

1 H	Janet Kuypers 7/24/13																2 He																	
3 Li	4 Be	Periodic Table poems performed live at Chicago's "the Café Gallery"																5 B	6 C	7 N	8 O	9 F	10 Ne											
11 Na	12 Mg	13 Al	14 Si	15 P	16 S	17 Cl	18 Ar	19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr									
37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe	55 Cs	56 Ba	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn
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# A n t i m o n y

(#051, Sb)

It's actually quite unremarkable.  
It doesn't seem to have much use.

But Antimony seemed to  
cause a long and bitter war  
in the sixteen hundreds  
between France and Germany.

Wars are started over land,  
religion, love, or money.  
But the element Antimony?

Well, doctors in that age  
believed in the medicinal value  
of Antimony, and the war  
was the war of the pen,  
with opposing views  
on Antimony's medicinal value.  
The two sides took up literary arms,  
writing scathing reports  
in medical journals  
with the vitriol  
of a Jerry Springer show  
where the bodyguards  
couldn't even control the feud.

And the scary thing  
is that Antimony is actually toxic...

But still,  
Greek physicians  
recommended Antimony  
for skin complaints  
in the first century A.D.,  
and since that age,  
many still championed Antimony  
for medicinal purposes...  
In fact, in Germany  
a man (under the false name  
of a fifteenth century monk  
named Basil Valentine)  
wrote an entire book  
about Antimony remedies,  
published in sixteen oh four.  
And he claimed that alchemy  
could free Antimony  
of it's toxicity:  
just because it makes you vomit,  
means that it helps your body  
remove the toxins that ail you.

The Egyptians even  
used Antimony  
as a form of mascara —  
they called the toxic  
Antimony sulfide stibnite  
a black eye powder called “kohl”.

Later, Al-Qaeda chemists  
called this substance  
Al-Kohl, which came to be  
a term to mean any powder,  
which led to a sixteen hundreds  
Swiss alchemist  
to call a distilled extract  
of wine “alcool vini”  
(which shows the trail  
from toxic eye make-up  
to intoxicating “alcohol”).

But this fondness for Antimony  
lasted through the centuries,  
as doctors still prescribed it's use  
through the seventeen hundreds.  
It has even been suggested  
that Antimony "remedies"  
may have been  
what actually killed Mozart.

Maybe they caught on  
to Antimony  
by the next century,  
because it became  
the element of choice  
for murderers looking to cause  
a slow painful death  
to their victims.

We use Antimony now  
only in alloys for batteries,  
or maybe to harden lead.  
But it's strange,  
that Antimony can have  
such a violent history,  
dipping it's hand into everything  
from make-up to medicines,  
to the later naming of "alcohol",  
to poisoning people.  
I guess when people don't know  
all the chemical conditions,  
Antimony can lead  
a colorful history indeed...

# Terbium

(#65, Tb)

Looking for better sound  
remains at the top of the list.

Having better stereo speakers  
at all group parties, meetings or settings,

having a portable sound system  
anyone could take with them,

even using sound while in the car  
to reduce traffic noise, hear better music,

or talk hands-free on your smart phone.

The possibilities seem endless,  
but stereo speakers take up space —

so we need to use science and technology  
to even help us meet our audio needs.

Companies create better and better  
sound systems, earbuds for iPods

have grown smaller and smaller,  
even with noise-canceling technology...

There has to be a way to use the world  
around us to get us exactly what we have

decided we need.

So, after just a little research,  
I discovered an element twice as common

as silver on this planet, and when it is mixed  
into a compound, Terbium can help create

a “Soundbug” speaker that can turn  
any flat surface into a flat panel speaker.

(Any flat surface, like an office window,  
or your dining room table at home.)

You see, the Terbium-filled Soundbug  
can be plugged into a headphone socket

and then suction to any flat surface —  
literally turning that surface into a speaker.

Now, this Terbium-rich Soundbug  
is only the size of a computer mouse,

and retailing at less than fifty bucks,  
they’re targeting this to the youth market;

but a wide-range of technology users  
are going to love this little gadget

that can re-purpose everyday flat surfaces  
into speakers for all sorts of sound needs.

The thicker the flat material surface, the  
better the sound quality of the Terbium-laced

Soundbug speaker, and yeah, the resonance  
of the speaker material (wood, glass, metal)

can effect the final sound quality,  
but in theory you could daisy-chain

a few of these Terbium Soundbugs together  
to excite multiple electrical currents of the music

players, to excite the mock speakers,  
to bring every party to life in richer stereo.

Now, I know Terbium is like a  
“Swiss Army knife” for cancer diagnosis,

and I know it's green luminescence  
gives color enrichment to tee tees

and is even used in fluorescent lamps,  
or lasers, or semiconductor devices...

But this whole "using what we have  
to multi-purpose what we have" idea

is really beginning to stick with me.  
This audio technology can work with

magnetostriction, like, in a car instead  
of in a business meeting or a party:

in a car, the Terbium Soundbug  
could create noise-insulating windows,

blocking out the excessive sounds of traffic  
(and you know how I hate the sound of traffic...).

But to business workers in a car,  
the mobile phone version of the Terbium

Soundbug could be stuck to a car windshield,  
to allow hands-free, headset-free talking.

(Well, that may cost a little more  
than the indoors Terbium Soundbug,

but no price is too high to stop people  
from staring at their phones while driving,

right?)

So yeah, although it is more common  
on earth than silver, Terbium may still be

hard to get sometimes — but if we can find  
this many uses for this element,

I'm sure it's demand will increase, because  
pretty soon, Terbium will be desired

more than anything.

# Niobium

(#041, Nb)

Niobium's name is derived  
from Greek Mythology,  
from the woman Niobe,  
daughter of Tantalus...

(and yes, there's an element  
Tantalum, and he's  
directly below her in the  
Periodic Table, and it's hard  
to tell them apart sometimes...)

But after Niobe had more children  
(seven sons and seven daughters),  
and because Niobe felt she had  
more prominent stature,  
she asked,  
“My father was a guest  
at the table of the Gods.  
My husband built and rules  
this city. I have seven sons and  
seven daughters worthy of pride.  
You revere gods and goddesses  
you cannot even see, but  
aren't I worthy  
of goddess worship?”



Well, sounding a bit too haughty  
to everyone in town,  
the god Artemis  
and her twin sister Apollo  
used arrows for their vengeance —  
Artemis killed Niobe's daughters  
Apollo killed Niobe's sons.  
I don't know if any were spared,  
but according to mythology,  
when Niobe's husband saw their dead sons,  
he killed himself in grief and despair.  
After losing everything,  
Niobe fled to Mount Sipylus.  
As she wept,  
she was turned to stone,  
and to this day  
there is a natural rock formation there  
that resembles a woman's face,  
and rainwater pours  
through the porous limestone.  
They call this the "Weeping Rock"  
in honor of Niobe.

And sure,  
Niobium is in chemicals  
that are water soluble,  
and Niobium is used  
in superconducting magnets  
(probably like how Niobe  
had so many children,  
and how everyone was drawn  
to her beautiful face,  
as she was always  
resplendently adorned  
in gold and jewels —

through I doubt she had  
metal jewelry  
made out of Niobium,  
even though it turns  
to a beautiful blue  
when exposed to air).

Niobium is mixed with steel  
to make it stronger —  
since the Niobium in metal  
is also more resistant to heat,  
it can be used in anything  
from jet engines,  
to liquid rocket thrusters  
for outer space.  
(And as a funny twist, Niobium  
is even in the main engine  
of the Apollo Lunar Modules.)

You know, Niobium is often used  
in commemorative coins,  
with gold and silver.  
So who knows,  
maybe Niobe did have  
Niobium in her jewelry,  
as everyone admired  
her beauty —  
until she lost it all.

Old Star, New  
elemental Tricks

*based on Arsenic (#033, As) and Selenium (#034, Se)*

When the Big Bang first exploded,  
the only elements it could muster  
were hydrogen and helium  
and a smidgen of lithium and boron.

Higher elements were only created  
after the creation of stars.

But scientists have now discovered  
that in an ancient star  
in the faint stellar halo  
surrounding the Milky Way,  
astronomers have detected  
the presence of Arsenic and Selenium.

Now, I've only known Arsenic  
as highly toxic, and scientists  
pulling phosphorus from the sextet  
of life while down at the Arsenic-rich  
Mono Lake to fill DNA with Arsenic.

And Selenium is used for horses,  
but can kill a person if ingested  
regularly (even leaving a garlic  
taste when given to victims).  
Hmmm, and I like garlic so much...

But these two elements,  
sitting right next to each other  
in the Periodic Table, transition  
from light to heavy elements,  
and have never been found  
in old stars — until now.

You see, stars like our sun  
usually make the lighter elements  
(like, up to oxygen),  
and heavier stars can make  
elements as high in the Periodic Table  
as iron. Any elements  
heavier than that  
(like Arsenic and Selenium)  
have to be made by  
neutron-capture nucleosynthesis.  
So, thanks to the nuclear reaction  
from inside the heaviest of stars,  
scientists found Arsenic and Selenium  
in a 12 billion year-old halo star.

And they say the universe  
is like 13.77 billion years old,  
so when I'm talking old star remanants,  
I'm talking infancy of the universe stars.

(And we thought we were the only ones  
who know how to utilize these  
poisonous elements here on earth,  
and now we see that stars  
from the ancient history of this universe  
have been creating this stuff for eons...)

So they've discovered  
quite a new trick  
from this old star,  
which means we now know how to look  
for elements in other stars,  
and maybe explain why  
some elements appear on earth.  
Cause, it's all science,  
and we can explain away  
the mysteries of what's good  
and bad here on planet earth,  
and trace it all the way back  
to the toddler years of  
this entire universe too...

# Strontium

(#038, Sr)

People seem to think  
that they need to eat  
a ton of red meat  
in order to be strong.

They think eating slaughtered  
animal is the only way  
a human being is capable  
of getting themselves protein.

And I know it may be a tightrope walk  
to get what you need —

I know how you  
can turn a flame  
into satan red  
(but that means  
we use you  
in red flares, or  
even red fireworks)...

I know how a part of you  
can turn radioactive  
(like when the Chernobyl explosion  
threw Strontium 90 into the air:

but yeah, we've learned,  
and can use that Strontium 90  
in cancer therapy)...

And since Strontium  
can get into your bones  
(since it's similar to calcium),  
salt Strontium ranelate  
treats osteoarthritis.

The thing is, plants are higher  
in Strontium than meat,  
and because it's like calcium  
it stays in our bones.

Because when we tested  
ancient bones,  
Austrian researchers  
suggested  
that Roman gladiators  
were  
vegetarians.

(Actually,  
they ate  
mostly barley,  
beans, and  
dried fruit.)

So yeah,  
the strong,  
ruthless  
Roman gladiators  
(the confident,  
self-assured  
Roman gladiators)  
were  
vegetarians.

Sorry, but I've heard  
of how run down firemen  
started feeling better  
after they cut out meat  
(metaphorically, I mean,  
they didn't actually cut any meat,  
no animals were harmed  
in this experiment  
in making people healthier)...

Because if just the right Strontium  
can help your bones,  
and it is more common  
in plants than animals,  
maybe people can realize  
that they don't need to eat  
a ton of red meat  
in order to be strong.  
Because with a plant-based diet,  
a little Strontium  
can go a long way.

# Tellurium

(#062, Te)

When a couple is meant to be together  
(but at their core they're nothing alike),  
you can see them come together almost violently,  
before their anger pushes them away from each other.

Until they do it again, and again, and again.  
It's like they can't stop. They can't help it.

They rush to each other for a mad embrace,  
they feel intense attraction that they can't escape,  
'til they know despite their lust, they hate each other so,  
and they do everything they can to break free.

It's a sick cycle they're stuck in.  
This coming together. Then rushing apart.

#

There's electricity in the air. I hear the buzz  
whenever I walk by that street corner and see  
all of the electrical wires, crossing in every direction —  
I can hear the loose electricity jumping into the air.

Do you know why electric wires are spaced far apart  
when they're up high on poles like that? Well,  
that's because those Tellurium metal alloy wires  
up high in the sky like that aren't even insulated —

and they have a strong magnetic field with all that electricity  
coursing through them. If wires were closer to each other  
while up in the air, the wires would swing toward each other  
because of their insanely strong magnetic attraction.

In being drawn to each other, an arc may form  
between the wires, destroying them almost instantly.

But then again, magnetism in the wires switches polarity  
a hundred and twenty times every second  
(because for electricity's sixty hertz frequency)...



That would make those wires want to repel each other as often as they were magnetically drawn to each other. So yes, for one hundred twenty times every second, these wires would vibrate back and forth.

So if there's no electric arc, these Tellurium metal alloy wires would vibrate so intensely and violently, that if they weren't kept far apart they would destroy each other, vibrating.

#

Tellurium is used in alloys with steel to make high-strength conductors. Abundant cosmically but rare on Earth, it's often found combined with gold:

in the first gold rush, this mix looked like waste, so they used it to fill potholes or sidewalks. Once they realized it was Tellurium and gold, there was a second gold rush...

Acute poisoning with Tellurium is rare; most organisms tolerate Tellurium. Organic tellurides have antioxidant activity and can even be used to identify pathogens

responsible for diphtheria. It's optical refraction makes it perfect for glass. It's been used in color ceramics, and gives rubber heat resistance,

In copper, iron, lead or stainless steel, it makes the metals more machinable, improving solar cell efficiency and electric power generation, so it helps any energy.

I don't know, maybe that explains why we've been feeling this electricity in the air.

# Mysticism vs. Science



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<http://scars.tv/kuypers/poems/periodic-table-of-poetry.htm>

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**Compact Discs:** *Mom's Favorite Year* the drama tapes, *Kuypers the Inna! (MP3 Inclusive)*, *Words and Flowers* the beauty & the deconstruction, *The Sacred Again* Something is Sweeping, *The Sacred Again* Live in Alaska, *Pathe & Kuypers* Live at Cafe Aloha, *Painless Orchestra* Rough Mixes, *Kuypers* Seeing Things Differently, *50/50* The Tick, *Kuypers* Champs/Recharge, *Order From Chaos* The Entropy Project, *Kuypers* Six One One, *Kuypers* Stop, *Kuypers* Masterful Performances and CD, *Kuypers* Death Comes in Threes, *Kuypers* Changing Gears, *Kuypers* Dreams, *Kuypers* How Do I Get There?, *Kuypers* Contact -Conflict Control, *the DMI Art Connection* the DMI Art Connection, *Kuypers* Questions in a World Without Answers, *Kuypers* S&M, *Kuypers* WZRD Radio (2 CD set), *Mom's Favorite Year* and *the Sacred Again* These Truths, *essorted* arctic String Theory, OH (audio CD), *Life At The Cafe* (3 CD set), *the DMI Art Connection* Indian Flux, *the DMI Art Connection* Manic Depressive or Something, *Chaotic Radio* Chaotic Radio Week #1, *Chaotic Radio* Chaotic Radio Week #2, *Chaotic Radio* Chaotic Radio Week #3, *Chaotic Radio* Chaotic Radio Week #4, *Chaotic Radio* Chaotic Radio Week #5, *Chaotic Radio* the Chaotic Collection Collection #01-05 (5 CD set) etc. (audio CD, 2 CD set), *Chose in Motion* (6 CD set), *50/50* Something to be Held (EP), *P&J* Two for the Price of One (EP), *K&K*, *Joke and Haystack*, *An American Portrait*, *Kuypers* the Battered Trio/Past Bakes/the Jokeme Poverles Trio Fusion (4 CD set), *podcasts* the Evolution of Performance Art (13 CD set), *Kuypers* Live (14 CD set), *the DMI Art Connection* the Things They Did to You (2 CD set), *Kuypers* Seeing a Psychiatrist (3 CD set), *Kuypers* St. Paul' (3 CD set), *Kuypers* the 2009 Poetry Game Show (3 CD set), *Kuypers* and the Hallman of South Africa Burn Through Me (2 CD set), *Kuypers* "40", *Kuypers* Sextam and Other Stories, *Kuypers* the Stories of Women (amazon.com release), *Kuypers* "Dobro Vece" (CD set) *Kuypers* "hammer" (4 CD set), *Kuypers* "Letting it All Out", *Kuypers* "What We Need in Life" (CD single), *Kuypers* "Made Any Difference" (CD single), *Kuypers*/Hardwick "Across the Pond" (3 CD set)