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	Aktinidi		89 Ac	90 Th	91 Pa	92 U	93 Np	94 Pu	95 Am	96 Cm	97 8k	98 Cl	99 Es	100 Fm	101 Md	102 No	103 Lr

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Mendelevium #01, Ma

"Once, there lived and existed a great learned man, with a beard almost as long as God's."

Daniel Posen wrote that, about Demitri Mendeleev, a Russian scientist who created the Periodic Table as we know it.

There's even a sculpture outside the Bratislava, Slovakia University of Technology in the center is Mendeleev's head, fully adorned with metallic curves for his flowing name and beard, as rows of elements emanate from his head.

Because while other scientists tried to come up with ways to *order* the known elements, Mendeleev predicted a system of elements, based on their weights and explaining their properties this idea showed the spaces between the atomic weights of discovered elements, and explained the *properties* of elements that would only be discovered in the future.

It's good to know that just a few years after the American Civil War ended, that scientists globally were able to understand the relationship between the elements, thanks to Mendeleev.

And it's sad that the science community waited for nearly half a century after this God-like scientist's death to mane an element after him.

#

Mendeleev did many odd jobs during his life, not unlike Albert Einstein, with an element named after him only two spots away on Mendeleev's Periodic Table. And the thing is, Mendelevium is only created after smashing Einsteinium with alpha particles...

But it's sad, that with all of the research the world has done to learn about this element, we still know so little. Mendeleev taught us how to research and discover more, but now that we found only trace amounts of Mendelevium, we still don't know what to do... Because once we've found you, if you don't give us enough so we can learn, we're forced to wonder: will you be more like Einsteinium, silvery-white, radioactive but with an estimated enthalpy that <u>underlines</u> your danger to us? Because I imagine that you, like Mendeleev, will show us *how* to learn then leave us alone to struggle for you. Janet Kuypers

Roentgenium #111, 12-3

Being in just the right place at just the right time is what getting what you want is all about.

#

Thirteen nuclear researchers bombarded Bismuth two oh nine with Nickel sixty four ions to make the Nickel penetrate the Bismuth nucleus, so they'd come together to make a bigger atom.

So the Nickel had to go fast enough to penetrate the Bismuth nuclei (not too fast, but not too slow), and still, you'd lose a lot of atoms to

space.

Enough experiments, enough times, created more atoms of element one one one.

They looked for so long, and no one knows for sure what Roentgenium looks like, so the researchers started predicting it's properties because it has such a short half life.

#

And on the anniversary of when this all came together in just the right way, at just the right time, that's when John Hinckley, after stalking the rock star and watching his habits, that's when he walked from the sidewalk and shot John Lennon.

Because as I said, you have to be in just the right place at just the right time to make everything come together, don't you.

#

But if we got enough of one one one, we'd love this precious metal even if only for a short while.

Actinium #0%%, Ac

So at my old job we had to work with this piece of machinery that in order for it to work, needed to be powered by eight D cell batteries.

Yeah, we could have plugged it in, but there never was an outlet in the places where we actually used this machinery.

And these eight D cell batteries we had to use were lasting only like two to four hours, so we had to go through anywhere from four to eight sets of batteries a day. I mean, that's insane, having to go through all that battery power, so I called the manufacturer to see if any battery packs had a longer life, I even asked if rechargeable battery packs existed for it. They said there were no rechargeable battery packs, but a sales engineer there said they had a special long life battery pack that lasts several years. Sounds like a good plan, so I asked for pricing, and found out it was thousands of dollars.

Yeah, this battery pack could run from fourteen thousand dollars to upwards of forty thousand dollars...

But I was prepared to go to our supervisor with these figures, because yeah, that's a lot of money, but if we keep using this machine we'll spend that on batteries in less time.

So I called that sales engineer again for more information, and that's when he told me sorry, we couldn't buy it. Now, I know it's expensive, but I had to know what's up, and he said they could only sell it to NASA, the DOD, and select US government agencies.

So yeah, I had to ask why, and found out it was a special radioactive thermoelectric battery for use in outer space.

it seems that the radioactive Actinium was the fuel for the work that I need to do.

I guess it figures, that the only thing that could help out my work is something insanely rare, and insanely expensive, and it's best suited for spacecraft not down here, where I've got work to do....

Yttrium *#*ኛኒ ኘ

Recently NASA sent a rocket to collide with a comet to gather comet dust, so they could learn about comets, which contain the primordial parts of what started this solar system.

A compact disc bearing my name was mounted on the impactor spacecraft shot into space on this Deep Impact mission.

Although this was the first NASA mission with my name on it, it was also the first NASA mission to learn about what's deep inside a comet.

The rocket combustion chamber that shot this impactor spacecraft on it's collision course with Comet Tempel 1, had a silver-colored lining of an alloy of nickel, chromium, aluminum and Yttrium. Yttrium makes sense, because Yttrium has been used in places from MRI scanners (to help us heal) to CRT tubes on TV sets (to help us see).

Yttrium makes element compounds stronger (good for stellar travel)... Besides, the fact that Yttrium is colorless, odorless, and not naturally magnetic gives it an added plus while being a part of the launching of the rocket I tacked my name onto when looking for a comet. It'll help us see more than what's inside our bodies, or what a cathode ray tube could it may help us see where we came from in this solar system too.

Holmium #67. Ho

Got a set of poetry word magnets (so you could arrange words on your fridge to write a message, or write a poem), and even though I remembered that magnets have two sides with two poles, I still took one of the magnets (I think the word on this magnet was "stick") and turned it around, to see how it wouldn't stick to the fridge.

Now, Holmium has the highest magnetic strength of any element, so I thought about this magnet's poles but I didn't know that scientists have been using Holmium to try to discover the widely theorized and avidly debated "magnetic monopole" (a magnet that only has one pole). Grand unified and superstring theories predict their existence, and these magnetic monopoles could explain a ton about space, time, and the laws of physics. But the theory is that there's so little of it, and nobody's been able to even find it, so they'll keep using this magnetic Holmium to try to find this hypothetical particle...

And it's strange, when it comes to Holmium, I mean, it's used to color cubic zirconia... And when it comes to that magnetism, Holmium can even absorb nuclear neutrons. But the cool thing is that Holmium is used for dental and medical purposes, and it's even used with solid state lasers to remove some early stage cancers with only a local anesthetic.

Wow, that and it can help scientists understand more about the universe (even if it's only on a quantum level).

I guess there was a reason why I was so drawn to these qualities.... Janet Kuypers

Alumium? Aluminium? Aluminum? #K, A

So back in the day, this is how researchers conducted science when working with things they didn't know...

So when a Denmark man in eighteen twenty-five discovered element thirteen, (and wanting to know everything about it), he tasted the element. Thinking it was bitter (and made his mouth tighten like he ate alum), he posed the name for element thirteen to be Alumium. But I think the scientists that formed the element-naming community didn't like that name, so the called the element "Alumunium".

But the element's name is Aluminum, Aluminium is a British thing, so why is it known in the states as Aluminum?

Well, I heard a man explain that he heard (now I don't know if this is true. but hear me out) he heard that in the states when a company (wait, it might have been the Aluminum Company of America, ALCOA, but I'm not sure) when it was starting, it filed it's name to the federal government, and when meaning to write "the Aluminium Company of America," they forgot the letter "i". so their name became the Aluminum Company of America.

And, well, it stuck, not only to the company, but also to the science community in America, and because someone forgot to write the letter "i" for registering a company name, all American-speaking countries now say "Aluminum" instead of "aluminium".

So from tasting like alum to mis-spelling a word, Alumium, I mean, Aluminuium, or rather, Aluminum, now has quite a list of aliases...

Thullium #(%, Tm

Scroll to Medieval times, and see a classical map.

Look over the Carta Marina, because there you can find what some theorized as an island of antiquity through for those who traveled by boat around Britain, the Thule was the most northerly of the Britannic Islands. In ancient literature, however, the Ultima Thule was the symbol for a far-off land, something unattainable.

And when Thulium was discovered in the late eighteen hundreds (named after Thule, as a mythical region in Scandinavia), the element was so rare that it's qualities were unattainable... But even though this is the rarest of the rare, and despite the high cost, it's in the YAG laser, used for laser surgery, for work unattainable by the human hand. It's even bombarded in a nuclear reactor for it's use in portable x-ray devices, so we can see what was otherwise unattainable to the naked eye.

I mean, because of Thulium's fluorescence, it's even inside euro banknotes, to prevent counterfeiting.

Because Thulium fluoresces with a deep blue hue, we'll sail the oceans to learn, we'll go to the farthest places we know, just to see trace glimpses, because we want to go beyond what we see...

Ruthenium #44, Ru

I've looked for something that would pique my interest, the palladium bored me, platinum was too expensive because it was often so rare, but then I looked around and that's when I discovered you.

I mean, there didn't seem to be much of a use for you, I even heard that a metals company even offered 100 grams of you free to aspiring researchers (hoping that someone one day may find a use for you)...

Organometallic chemistry experts were even trying to give you away.

Well, sure, chemists used you they mixed you with whatever they could find, just to see what you might possibly create. (Kind of like a bartender, trying to come up with the perfect cocktail, they could mix for decades...)

but I've looked into it, and you're a cheap dull grey, probably something I'd find at a Walmart...

I know, I said I was looking for something to pique my interest, and though you come around cheaply, you're still harder to find. I'll keep looking for something to pique my interest, and who knows, maybe one day people will find just the right niche, and you'll be just what I need.

Technetium #4-3, 72

You're named from the Greek word for "artificial", because you were the first element man ever made...

We wanted to discover, we wanted to find you out — we'd even create you if this was the only way.

We can only find you after your brethren have been broken apart to reveal you. But the thing is,

your name is a bit misleading, though, since you can be found naturally, albeit in trace amounts.

Though it's funny, we searched for you for so long, and now we discover that you're a by-product

of our nuclear power stations. Then everyone thought we wouldn't know what to do with nuclear waste. You've been put into the environment as "low-level-waste" for nearly half a century,

but what I've learned is that doctors inject small amounts of you into patients with tumors,

so they can see exactly where they need to heal people. People wondered what we'd do with our nuclear waste,

but now you're used in 20 million medical procedures each year, because your short half-life makes you safe

and the way you decay helps doctors see exactly what they need to do to save a life.

And yeah, you're nuclear waste injected into a human, but they need such a small amount that radiation is low.

It's hard to believe that we searched for you for so long, and now that you're injected into 20 million patients —

in North America alone — every year, it's good that we finally found you out.

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