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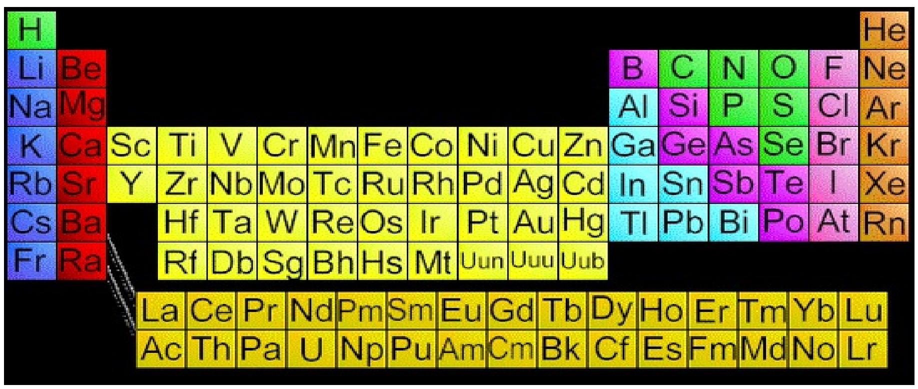
HOW THE ELEMENTS ARE BUILT

a mechanical explanation of the Periodic Table

including an explanation of Technetium



by Miles Mathis

Verba docent, exempla trahunt

First posted November 30, 2011

This is another problem that has been buried for decades. We are told it was solved back in the 1920's and 30's, and that QED has since fine-tuned it to perfection. This is why we can now move on to more esoteric problems like black holes, superstrings, multiverses, and dark matter. All the old "pool-ball" stuff was solved before the Great War, my boy.

But I will show once more how disastrously wrong physicists have been. Quantum mechanics, as far as it is mechanical—which isn't very far—isn't even close. QM and QED are mainly mathematical and heuristic, but even as math they are both very wrong. They have been pushed in line with experiment only by *pushing* them in line with experiment, but that is no sign of success. It should have always been seen as a tall sign of failure, and now it will be.

In this paper I will show that quantum mechanics doesn't even match the Periodic Table, much less data from accelerators. I will show that quantum equations should have been attached to the nucleus from the beginning, not to the electron. I will show that electrons spin but do not orbit the nucleus. I will prove once again that the strong force is a myth, and that it is not needed. I will provide diagrams of several nuclei, show you how to build most elements using the noble gases as bases, and explain simply and directly why Technetium and Promethium and Radon are radioactive. I will explain why some elements have more stable isotopes than others. I will explain the incredible stability of Tin.

And I will prove that the central quantum equation is false.

We can immediately see from studying mainstream explanations of nuclear binding energy that we are being misdirected. We are told that nuclei weigh less than their constituents, and that the difference in weight is a "mass defect." "It represents the energy released when the nucleus is formed." For instance, we find this at Wikipedia:

Total mass is conserved throughout the process, and during each nuclear transmutation, the "mass defect" mass is relocated to, or carried away by, other particles which are no longer a part of the original nucleus.

But how can a deficit be "relocated"? A deficit doesn't exist, and you can't relocate something that doesn't exist. For this to make any sense, the binding energy can't be released when the nucleus is formed. It must be stored. It is the energy that binds the nucleus, obviously, so we have simply stored some of the input as binding energy. But even if that is true, it doesn't explain fission, since the energy to split isn't much. The incoming neutron is slow-moving, so we have very little kinetic energy to start fission. Fission can even start spontaneously, although this just means a passing neutron started it rather than a purposely introduced neutron.

Current theory used to tie this binding energy to the strong force, but due to problems with that, they now just call it a nuclear force. The nuclear force is said to be caused by the strong force, in poorly explained ways, but by burying the term "strong force" on the fission theory pages, the question is dodged. Regardless, I have shown that the strong force doesn't exist, so how do I explain binding energy? This is one question I am never asked by my opponents, although if I were them it is the first question I would ask. Perhaps they don't want to hear my answer. Or, they don't want the public to hear my answer, since that would defeat all their work at misdirecting the public.

I have shown two things that explain this without a strong force. One, charge does not exist in the nucleus in the way we have been told, so it doesn't resist gravity. This makes gravity much stronger than normal. In other words, we don't have the unified field in all parts of the nucleus, we only have gravity. You will understand what I mean by this once you study some of the nuclear diagrams. Two, I have shown that gravity is much much stronger at the nuclear level than is currently thought. Particle physicists have told us there is no gravity there, but that is a lie or a mistake. Gravity is not only present, it is enhanced.

We should have already known this, since if the strong force existed, large nuclei couldn't be split so easily. There is no way a slow moving neutron could overcome the strong force.

So where is the mass defect? Why do nuclei weigh less than their constituents? They don't. Their constituents are just different than we think, because the charge field is not present in the way we have been told. In other words, when we normally weigh protons and neutrons, we are weighing unified field protons and neutrons, which are recycling the charge field in their own ways. But in the nucleus, the protons and neutrons are recycling or blocking the charge field in a different way. So what we have is not a mass deficit, it is a charge field deficit. Since charge has mass equivalence, we have a mass equivalence deficit.

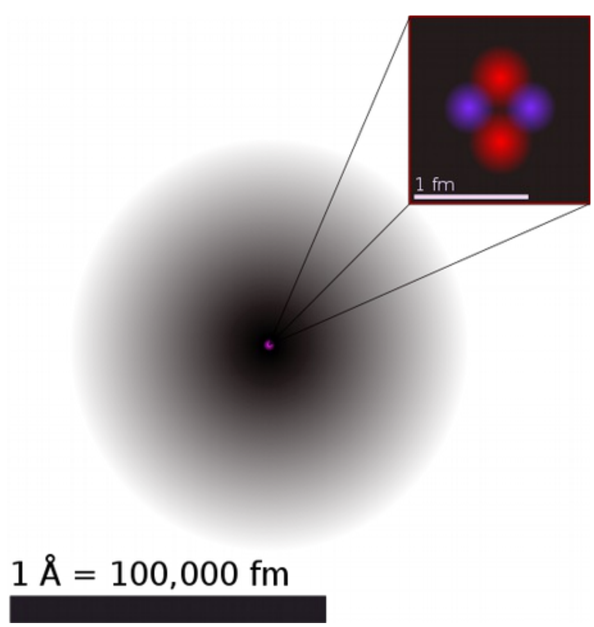
In the end, this just means that the nuclear binding energy is gravity, plus a loss of charge. It is stronger than what we normally think of as gravity because gravity at our level is actually the unified field. It is gravity plus the charge field.

We see more problems with current theory if we leave the nucleus and look at the electron shells. We are told that noble gases are super stable or non-reactive because they have the outer shell filled, but that isn't true with any noble gas above Neon. Argon, for instance, has 8 electrons in an outer shell that can contain 18. Why is the 3d sub-level wide open? According to current theory, Argon should be number 28, not 18. That, or Nickel should be the noble gas. Even the Madelung rule doesn't help us. It tells us that 4s will be filled before 3d, but doesn't tell us why, or what that has to do with noble gases or stability. Same with Krypton, which has an outer shell that can contain 32 electrons; instead, we find only 8 again. According to current theory, Krypton should be number 60, not 36. Or Neodymium should be the noble gas. According to the periodic Table, noble gases are actually filled up to the p-level, using the Madelung rule. But why? What is the mechanics of the Madelung rule and the p-level? And why do Copper and Chromium break it? Xenon, Radon, and Ununoctium also break the electron "rules", and they admit this of the last. They tell us 114 acts like a noble gas, not 118, but don't tell us why. We are told it is because of Relativity, but that is the saddest kind of dodge. They have these rules, but the rules don't fit the Table.

The octet rule is also just a rule of thumb which is broken often. It is about as accurate as Bode's law. The fact that we even still talk about these rules proves that the real rules aren't known. Elements aren't created by rough rules of thumb, they are created by unwavering math and mechanics, as I will now show.

The reason this hasn't been solved is that the historical and current diagrams of the atom are still so naïve. Up to this day, the atom is still drawn with a nucleus like a bag of marbles, with no shape beyond a general roundness. We have Keggin structures for heteropoly acids, we have buckyballs, we have complex molecular diagrams, but we have no diagrams of the nucleus?

Here is all we get at Wikipedia:

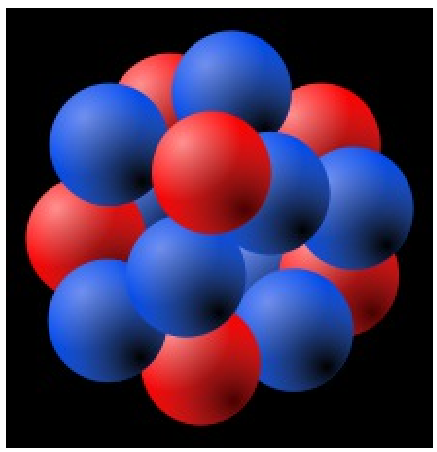


That is Helium. It is supposed to be state of the art. To explain the lack of diagrams of the nucleus, Wiki says,

In an actual helium atom, the protons are superimposed in space and most likely found at the very center of the nucleus, and the same is true of the two neutrons. Thus, all four particles are most likely found in exactly the same space, at the central point. Classical images of separate particles fail to model known charge distributions in very small nuclei. A more accurate image is that the spacial distribution of nucleons in helium's nucleus, although on a far smaller scale, is much closer to the helium **electron cloud** shown here, than to the fanciful nucleus image.

But as usual that is just falsehood and misdirection. All four particles *can't* be found in exactly the same space, due to the definition of "particle" and "space". Pauli at least understood that regarding electrons (see Pauli exclusion principle), but these people expect you to believe that four baryons can exist simultaneously at the same point. Then they want us to believe that a big blur is a "more accurate" image than a diagram. They expect you to believe that they aren't trying to model the nucleus because the impenetrable fog is more accurate. That is like saying there is no reason to model the galactic core, because from here it is more accurately depicted as a blur.

Here's another nuclear model from the mainstream:



Beneath that model, it says [Wiki]:

A model of the atomic nucleus showing it as a compact bundle of the two types of nucleons: protons (red) and neutrons (blue). In this diagram, protons and neutrons look like little balls stuck together, but an actual nucleus (as understood by modern nuclear physics) cannot be explained like this, but only by using quantum mechanics. In a nucleus which occupies a certain energy level (for example, the ground state), each nucleon has multiple locations at once.

See, just a bag of marbles. But then they improve that bag of marbles by taking you into quantum mechanics! Improve it how? By telling you that each nucleon inhabits multiple locations at once. In other words, they improve their physics by going non-physical.

Of course there *are* models of the nucleus, like Wigner's shell model from 1949. But these have been so unsuccessful that they now aren't even mentioned in many places, as you see above. As with the electron, particle physicists have dodged back into nuclear clouds to avoid questions.

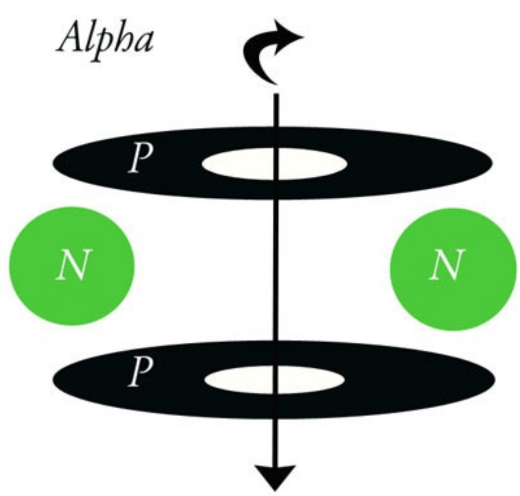
A little more recently, Robert Hofstadter won the Nobel Prize in 1961 for his work in bombarding the nucleus and nucleons with electrons, giving him a sort of rough model of the nucleus. Although his work has been mostly buried, what he found was that although the nucleus had a positive charge, the edge of the nucleus varied from pockets of positive charge to pockets of negative charge. I will show how this data matches my models exactly, since I will show that in order to recycle charge through the nucleus, the protons and alphas have to create charge channels. I will show the actual entries and exits of charge, and how they are created by each elemental structure. The entries of charge into the nucleus are Hofstadter's negatives, and the exits are positives. Although it wasn't recognized at the time, and has been buried since, Hofstadter's charge variations were proof positive of charge channeling by the nucleus. His extensive data was also proof positive against the strong force model, which is precisely why his work was buried. If charge is being channeled through the nucleus, we have no need of a strong force. I haven't been able to find it online, but if someone wants to send me Hofstadter's actual data for specific elements, I bet I can match his charge variations to my diagrams. This would be the final blow against the strong force.

[Addendum, April, 2014: I have now analyzed three of Hofstadter's papers from the 1950s, showing the mainstream models fail. My models, on the other hand, are easy to apply to the data, solving multiple problems simultaneously.]

But back to electrons. In current theory we are told that we have electron shells of different sizes, but no explanation of what causes the sizes. We are told 2,8,18 but we aren't told *why* 2,8,18. In fact, the number progression of electron shells isn't 2,8,18,32, as we can see just by looking the the noble gases or at the Periodic Table. Any quick glance tells us it appears to be 2,8,8,18,18.... I will prove this again below by diagramming the nuclei. So why are we told something that is clearly false?

To solve, we only have to discover the rules of building the nucleus, giving it a structure. As I did in my paper disproving the strong force, I will start with the Helium nucleus. Since the Helium nucleus is also the alpha particle, important in decay, we will take that as a big hint. I will show you that all elements can be built from alpha particles.

To begin, we will study the noble gases. This will be our way in, just as it was the way in historically. The noble gases are in a mathematical sequence that runs 1, 5, 9, 18, 27.... We just multiply by two to get the first five noble gases. As I showed above, the current model uses principle and azimuthal quantum numbers plus the Madelung rule to develop the noble gases, but that is all *ad hoc*. I will show the actual building method.



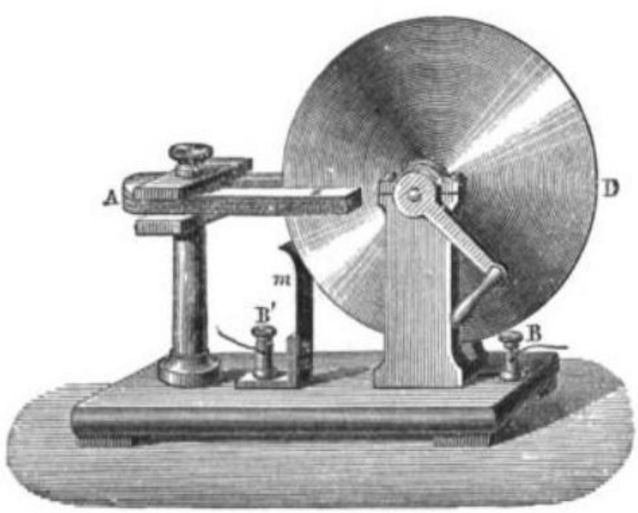
Before we move on, please notice how much that looks like the Wikipedia diagram above. If we make my protons red, we have the same configuration. But I didn't take my diagram from Wiki, or create it from a hunch. It is a mechanical model, with the neutrons placed there for a structural reason. You can read my mechanics of Helium in a previous paper.

Now let me show you how we can build the noble gases straight from alpha particles. But we also need the charge field. We must keep in mind that all these quantum particles exist in a charge field at all times. That is the second problem with mainstream theory. The first problem is that its diagramming is naïve. The second problem is that it doesn't know about the charge field. Photons are flying around in all directions, and this fact is important to our solution, as you will see.

I will be told that the mainstream is well aware of charge: that is what all the +'s and -'s are about, you know. But the charge in mainstream physics has become virtual. It has no field presence. They wouldn't admit to my "photons flying around everywhere," as I'm sure you're aware. For them, charge is mediated by a virtual photon, which has no field presence. It isn't real. After the specific charge "message" is given between particles, the photon disappears. And even while it is giving its message, it has no mass, radius, or energy. It is a ghost, and so it doesn't help us in any mechanical solution.

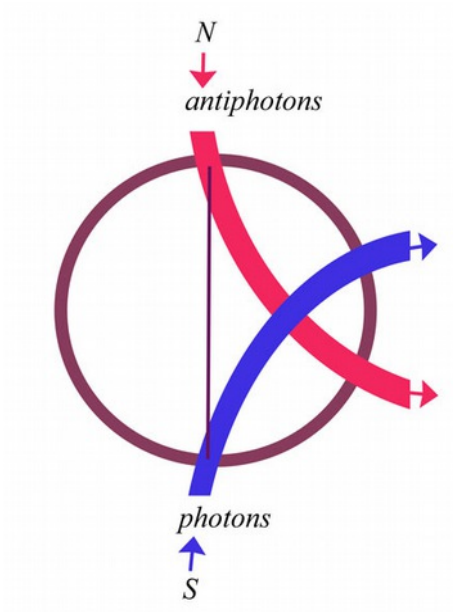
To solve we have to import some other mechanics from my earlier papers as well. All charged particles are recycling the charge field, so this alpha particle is recycling the charge field. This also gives the alpha particle a hole or charge field minimum top and bottom. This could also be called a low potential in the charge field. Just as with the Earth or any other spinning sphere, charge goes in those "holes" at the poles and out along the equator. But because the proton is spinning so fast, the charge emission tends to be compressed into one plane, at the equator only. This is what allows us to simplify them into disks in these diagrams. I don't have to draw protons or alphas as spheres, since I am diagramming the charge field of the particles here, not the particles themselves. The fast spin forces the charge into a plane.

In this way, the charge profile of the proton or alpha mirrors that of the famous Faraday disk motor, and this historical drawing may help you with your visualization:



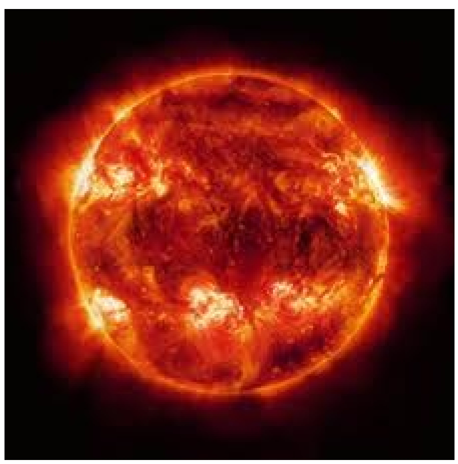
As with the old Faraday disk, the field goes in at the poles and out at the equator.

To help your visualization even further, I have imported a diagram I have used in other papers to show the main charge channels—although in this diagram, I draw the body as a (implied) sphere rather than a disk. Although you aren't looking at a flattened field as with the disk motor, you can see the main charge channel is in at the poles and out at the equator.



If that body spins very fast, its charge field will be compressed into a plane, making it match the charge profile of the Faraday disk motor. I have shown that all bodies, large and small, fit that basic charge profile.

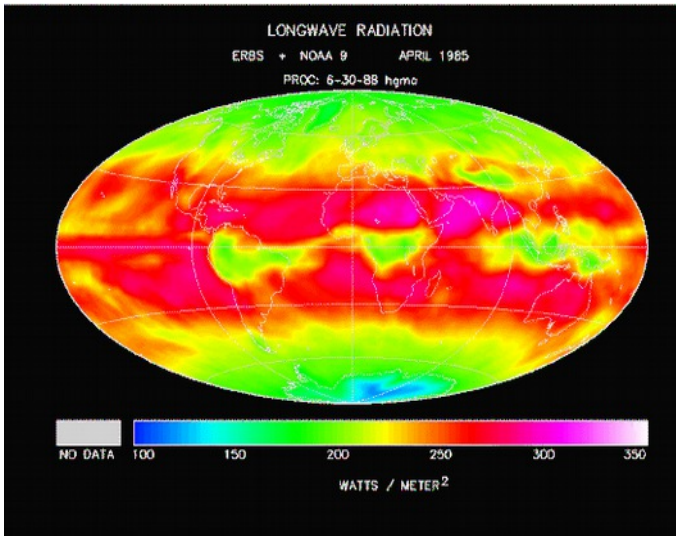
Most people doubt this the first time they hear it, understandably, but I can show you visual indication of charge recycling from new pictures and films of the Sun.



Do a Google search on images/Sun and notice that most real images (not computer models) show some sort of bands at 30 degrees north and south. This corroborates my main charge channels in the diagram above. To see it in motion, you may go to a NASA film called *The 3D Sun*. At minutes 19:40 to 20:20 you will see the heaviest emission near the Solar equator and the lightest at the poles. In fact, you get a close-up of the south pole, and a long look at the charge hole there. If the Sun were spinning faster, this effect would be increased.

This can also be seen in a second video from NASA at youtube, where they show you three years of the Sun in about 3 minutes. You can see for yourself the maximum emission 30 N and S, as well as the low activity at the poles. In fact, the top comment on the video asks why there are no "explosions" at the poles. There is less activity at the poles because that is where recycled charge is coming *in*. Those are lows in the potential field.

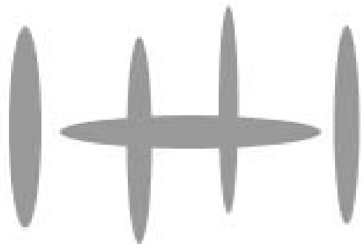
And here is proof from data, looking at charge recycling by the Earth.

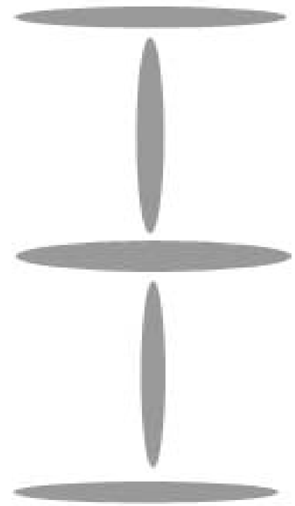


That represents data from NASA and NOAA, of radiation emission. As you see, it is heaviest at the equator, lightest at the poles. The Earth is taking photons in at the poles and emitting them at the equator, just as with the proton. All spinning spheres recycle the charge field, from the electron to the galaxy.

Others will ask me how I know the proton or alpha has a hole along its axis, one big enough to allow photons in but not electrons. A good question, and I don't *know* it. I deduce it. Nor is it such a difficult deduction. I am not saying the proton has an actual hole in the pole, I am simply deducing that the proton shell is porous to photons and not electrons. The proton is some 6 billion times larger than the photon, but is only 1821 times larger than the electron. So you can see that the idea is not such a stretch. I draw the pole as a hole only to indicate that this is where charge photons tend to go in. Since the angular momentum is greatest at the equator, that is the *least* likely place for them to go in. Conversely, and for the same reason, the pole is the *most* likely place. The electron cannot go in anywhere, but it is pushed to the poles by the photons, where it gets caught in an eddy.

Since I have already shown the diagrams for Lithium and Beryllium in a previous paper, let us move on to the next noble gas above Helium, which is Neon. I will show that Neon must be five alpha particles huddling in a very stable configuration. What configuration is that? Actually, Neon can (or could) find great stability in one of two shapes, both of which have ten neutrons. To diagram this, I will simplify the alpha particle into a single disk.





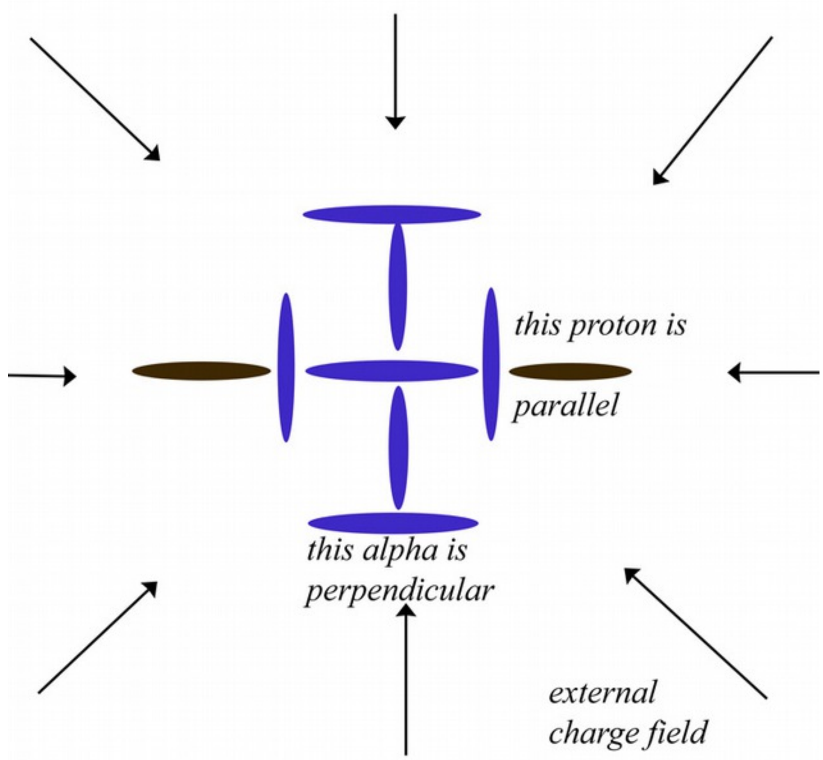
Again, each grey disk is an alpha particle. To create these diagrams, I simply lined up hole with edge, or plus to minus. The alpha particles are emitting on the edges of the disks, so those are field positives. The alpha particles are sucking in photons top and bottom center, so those are field negatives. We put them together because the field potentials would naturally tend to put them together.

The first diagram is not perfectly clear. It is meant to be four disks surrounding a central disk. But I have drawn the forward and back disks thinner than they should be, so as not to block your view of the central disk. Think of four CD's (CompactDisc's) surrounding a central CD, edge to hole, and you will have a pretty good picture of this configuration.

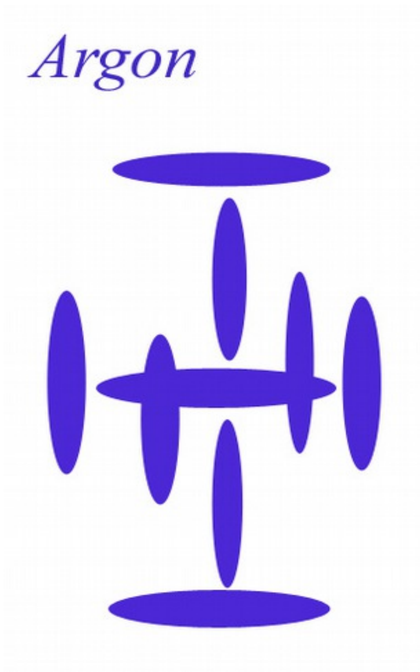
[Yes, it took me nearly as long to balance those CD's as it took to write this paper.]

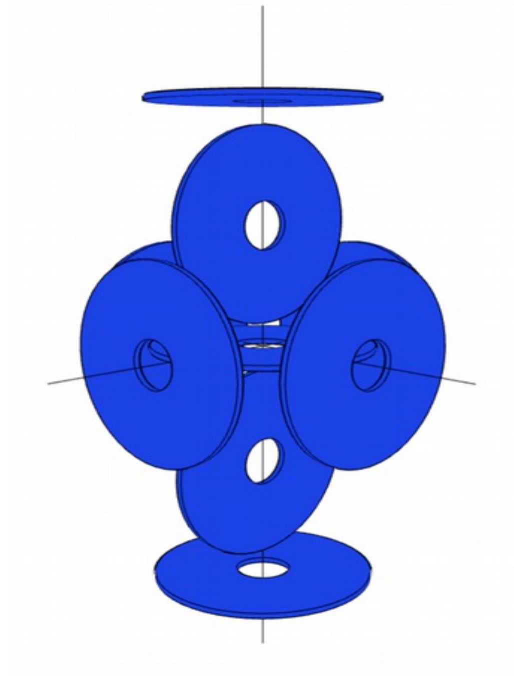
There you can see how the disks fit edge to hole. But why is either configuration of alphas above stable? you ask. Well, *all* stable elements are stable, but these are fairly unreactive because they don't fit well with other element shapes. Why not? Because their new minima and maxima are small or well hidden. To see this, we have to recognize that the new nucleus will spin. The first configuration will be given spin by the charge field, and it will spin like a carousel. That spin will create charge pressure out in the x,y plane, due both to the centrifugal force and to the fact that the central disk is emitting charge strongly out through the four holes. Then we also have charge pressure out in the z plane, plus and minus, due to the emission from the four outer disks. The nucleus is well-balanced in the three planes, and is therefore fairly unreactive.

Another reason these configurations are unreactive is that the charge field is fairly weak as it courses through its channels in the nucleus. So there is very little potential difference across the nucleus, either from top to bottom or from side to side. The most external protons here are perpendicular to the external charge field, and this acts like a wall to the charge. As we proceed, you will see that the outer protons pull in more charge when they are *parallel* to the external charge field.



The second configuration will also spin about the central disk, but in the z-plane. This spin will create pressure out in the z-plane, and the disk emission will create pressure out in the x,y plane. Again, nonreactive. And, again, those top and bottom alphas are perpendicular to the incoming charge, blocking most of it.

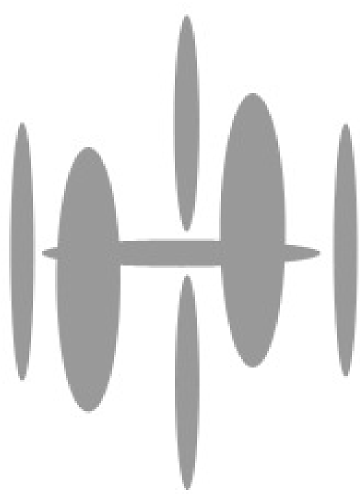




all new diagrams of this sort by
Arlo Emerson

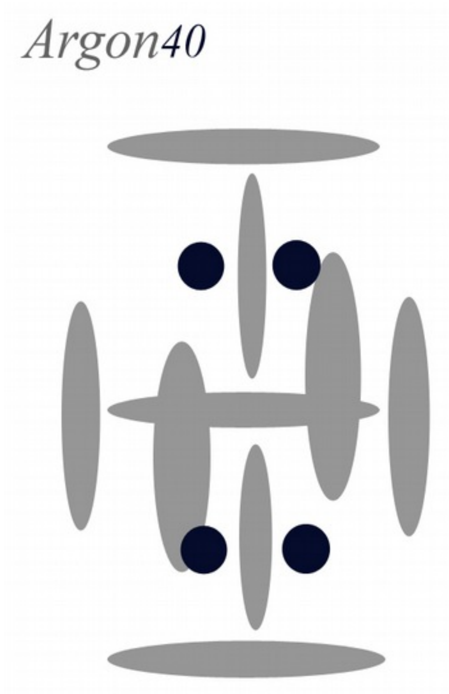
Now Argon. If we combine these two configurations, using the same center disk, we get nine disks instead of five. That gives us the 18 protons of Argon. You will say, "Wait, if Neon is unreactive, why does it take on all these new alpha particles?" Normally, it doesn't. These larger elements have to be built under extremely high pressure or temperature within stars or galactic cores, remember. You can't build Argon from Neon in the lab.

Silicon



This configuration resists building in normal circumstances, because the charge hole top and bottom (in the first configuration) is surrounded by four charge maxima. The alpha particle needs pressure to be pushed into that slot between them. But once it is in there, it is very stable. In fact, that configuration (before we put the top and bottom disks on) is Silicon. Silicon is very reactive, though not as reactive as Carbon. We can see why when we notice those two points out in the breeze. We will again get a carousel spin, but those maxima are now sticking up beyond the others, creating a hook for reaction. [One of my readers (Steven Smith) has begun to animate all the elements using my models, and he diagrams all the protons separately. He also diagrams the neutrons and electrons. Here is his animation of Argon.]

So let us return to Argon. The most common isotope of Argon has four extra neutrons. Where do we put those and why? Well, Argon is stable even without them, but maximum stability is created with neutrons here:



Neutrons are present when these elements are formed in stars and galactic cores, and they tend to get trapped in those spots, due to the charge minima there. Neutrons are "attracted" to minima just like electrons are, and it doesn't matter that they don't have their own charge in this case. They are driven by the photon wind due only to their materiality. In those spots, the neutrons act as stoppers for those inner holes. The "pillar" alphas have charge holes that would otherwise allow charge to pass through, as you see. The neutrons act to block that charge channel. This gives Argon40 extra stability in the ambient charge wind.

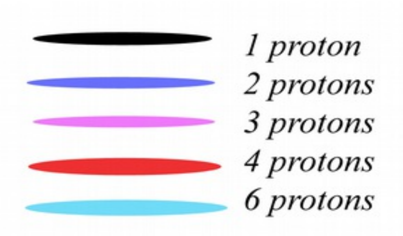
"So why not 19 or 21 neutrons?" you will ask. Because that would lop-side the particle. When the star eventually spits out the atom, the unbalanced neutrons create uneven internal pressure, and this uneven charge pressure breaks off the top or bottom alpha and we then have Silicon or Sulfur [more on this later].

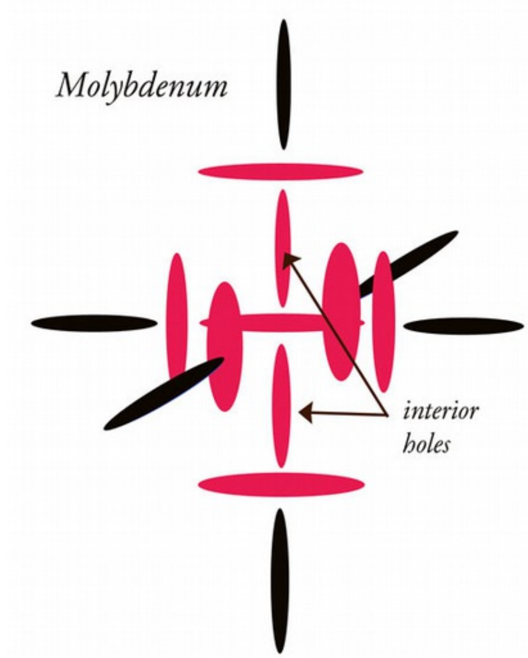
Now that we have all that under our belts, we can go back and look at the electrons in these atoms. I have put the electrons with the alpha particles, rather than in external orbits, and this explains for a start why the electrons in atoms are so stable. If they were orbiting, they would be extremely unstable, simply as a matter of collisions. But as I have them, inside the alphas, they are available for necessary reactions, but they are not hanging out in the breeze, ready to be stripped by any passing particle.

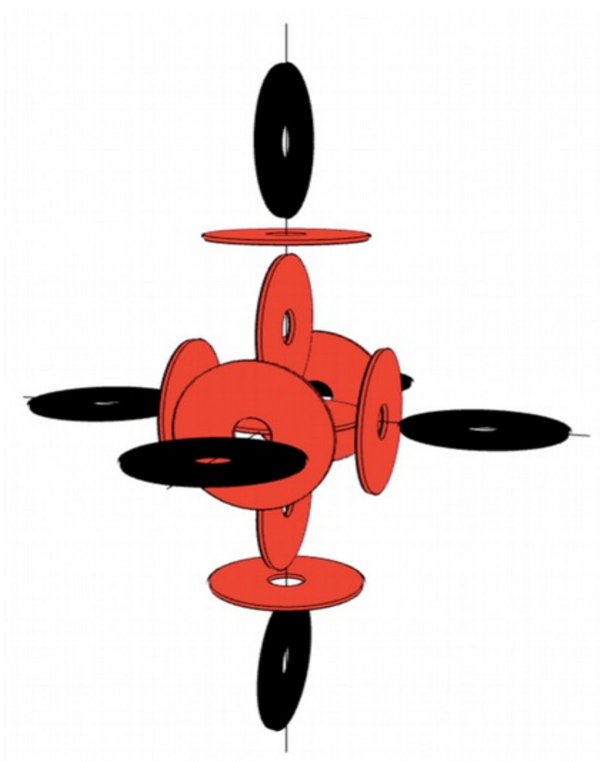
My spin model also explains the electrons' varying energies. If we go back to the first carousel configuration of Neon, we see that we have two electrons in the center and eight in outer alphas. Due to the carousel spin, the outer electrons will of course have more angular momentum than the two inner ones. They will have the angular momentum from the alpha they are in, plus the angular momentum of the carousel—the larger nucleus. In Argon, we have *four* sublevels of spin, since the third level is split into two groups. Level one is the center disk. Level two consists of the four carousel disks. Level 3a is the posts up and down. Level 3b is the caps top and bottom. Level 3a will have an energy more like level 2, and level 3b will be greater than both. We get this straight from the diagram. This happens to match the data of Argon, and explains what was previously unexplainable.

Before we move on to the big mysteries, let us solve Krypton and Xenon. This can be done very efficiently, since all we have to do is double and triple our alphas. We keep the same configuration and diagram as Argon, but have two alphas in each grey disk for Krypton and three for Xenon. This means that Krypton is like Argon, but with Beryllium blocks instead of Helium blocks. And Xenon is made with Carbon blocks (three alphas stacked—although Carbon isn't normally made that way, as we will see). With Xenon, this gives us a stack of six protons in each disk. This appears to be the limit for the single stack, because if we go to eight, we get failure (radioactivity). We will look at that failure later, but I will point out right now that this explains why Carbon is the basis for life, and one of the bases of the Periodic Table. We will find more and more evidence for this as we go. Also notice that my method of nuclear architecture follows the mainstream theory of alpha and triple-alpha process of building elements in stars. But here I go into much greater detail, showing you how we go from alpha to double-alpha to triple-alpha as we go down the Periodic table.

But can we explain other mysteries of the Periodic Table with these diagrams? To see, let us apply this method to Technetium, one of the greatest current mysteries among the elements. Technetium, at number 43, is unstable no matter how many neutrons you have available to play with, and no one has ever explained mechanically why that is. It always wants to go to 42 or 44, and usually does so very quickly. Why? Well, let us try to build it from Krypton, like a star would. Krypton is like Argon, but with two alphas in each disk. Now, if we want to start inserting new protons or alphas into this configuration, we see that we have six available holes. Let us insert six protons, one to each hole (remember, there is a hole in the center of each disk, like a CD). We then have Molybdenum, which looks very well balanced.

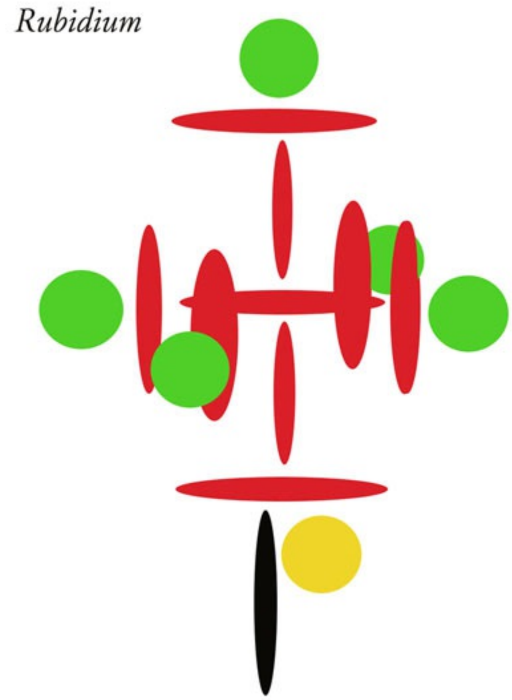






Now we want to build Technetium, so where do we insert the next proton? Looks like we have a problem. Wherever we insert the next proton, we will lopside the nucleus. You will say, “So what if the nucleus is lopsided. Why should we care if the nucleus is balanced?” Because, again, the charge field will cause the nucleus as a whole to spin. If the nucleus isn't balanced, this angular momentum will tear apart the interior of the nucleus, just as a matter of uneven forces. We also have to balance the charge channeling through the nucleus. If we don't, we will again get uneven forces and instability.

You will say, "By that argument, Technetium should be no more radioactive than Rubidium. Rubidium is extremely *re*active, but it isn't *radio*active." So let us look at Rubidium, to try to understand the difference. Rubidium has one more proton than Krypton. And looking at my diagram, you can see precisely why it would be so reactive. No matter what hole we put that proton in, it is still sticking out, creating both a lopside and a charge maximum. The charge maximum is fine, we don't need to explain it away, since it won't affect stability. But the lopside *is* a problem, one that can only be solved with neutrons. Rubidium needs 11 extra neutrons to gain stability, and that works out great with my models. The eleven neutrons, with the one proton, gives us twelve baryons to work with, and we can fill the six outer holes evenly, two to a hole. But since the neutrons are neutral, the hole with a proton in it still creates a charge maximum, and reactivity.



[The yellow circle is a single neutron, the green is a double. By drawing neutrons as circles instead of disks, I am not implying the are not spinning. I do that only to differentiate neutrons from protons.]

You will say, "How does that work? You have been filling holes with alphas, which have four baryons each, not two. Without the "filled sandwich" diagram you gave us for Helium, how do you explain the stability of two baryons in a hole?" Good question. What creates the stability for these baryon disks right next to one another is the directionalized charge field around the hole. Charge is being recycled through that hole, which means millions or billions of photons are rushing through it, into the proton interior. This prevents the two baryons from turning to interfere with one another. They are like rudders in a strong current, prevented from turning. So we don't need two more neutrons between them to prevent them from turning.

You will say, "If that is so, then we don't need all those neutrons in the other alphas. When the nucleus builds, why aren't they jettisoned?" Well, if you study the diagrams, you see that many of the neutrons *are* still needed. Only *some* of them now seem useless. This actually solves other problems we will come across later, in understanding why some neutrons seem to be more tightly bound than others. This solves that. But since larger elements are built from alphas that have *already* formed, the neutrons are trapped in the structure to a large extent. Although they may not be doing much in preventing protons from turning, they are still trapped by the charge field pressure around the nucleus, and filling all the holes in it.

You will say, "Wait, didn't you say that the charge field isn't in the nucleus? Isn't that why you were able to jettison the strong force?" No, I said charge wasn't in the nucleus in the way we have been told, tending to push baryons apart. As we see from the diagrams, charge can get into some crannies in the nucleus. This is what creates the whirlpools where the electrons exists, in fact. But due to the shape of the structure, the charge field can no longer be thought of as a huge force between all baryons. As we saw with Helium, that simply isn't so. And since many elements are just multiples of Helium, it isn't so with those nuclei either. Also, you have to remember that charge is 10^{22} smaller in my model than in the standard model. And gravity is 10^{22} larger. So even where charge gets in to the crannies of the nucleus, it can't overcome gravity. It can cause imbalance and radioactivity, but it can't blow all the baryons apart.

OK, we have explained Rubidium, but can we explain Technetium? Molybdenum fills all the holes of Rubidium with protons. . . or does it? What about those two holes we have left in the interior?

You can't just fill one or the other, you have to fill both or neither. Which means the atomic number must jump from 42 to 44. Why? Well, let's fill just one and see what happens. If we fill the top one with a proton, it acts like a powerful fan to the charge field. Charge is pulled through that hole, increasing charge strength in the top half of the nucleus. But the bottom half of the nucleus stays the same as before. So we have created a large charge imbalance in this element, which will tend to break it. That is what instability means in a nucleus. It means a large charge imbalance is preventing stability. If we fill one inner hole with a proton, we have to fill the other one as well.

Tc98 is the most stable isotope (HL 10^6 year) and let's see if we can find out why. Again, we have 12 extra neutrons; and again, we fill all the free holes like we did with Rubidium. But what we find is that Tc98 is actually mimicking the structure of Germanium, substituting neutrons for protons. In other words, Tc98 is trying to cover up inner instability with more outer stability. So we put neutrons in the six outer holes, to double the existing protons there. We put our 43rd proton in one of inner holes, and then use our other six neutrons to try to balance the inside, two in each hole. The most stable configuration is two neutrons in each hole, even though we only have one proton in the fourth inner hole. I assume this is because the neutrons are acting like stoppers, not like fans. While protons channel the charge field, neutrons block it. Since the red disks here are double alphas, not singles, it takes two neutrons in the hole to really block them up. This basically negates the charge of the inner proton, since it can't push charge through its hole. This configuration is only partially stable for two reasons. First, the inner nucleus still isn't balanced in terms of mass, with less mass in one quadrant than the other three. Second, the blocked charge from inner proton will still cause problems. It can release backwards to some extent, but we see from data that it isn't a full solution.

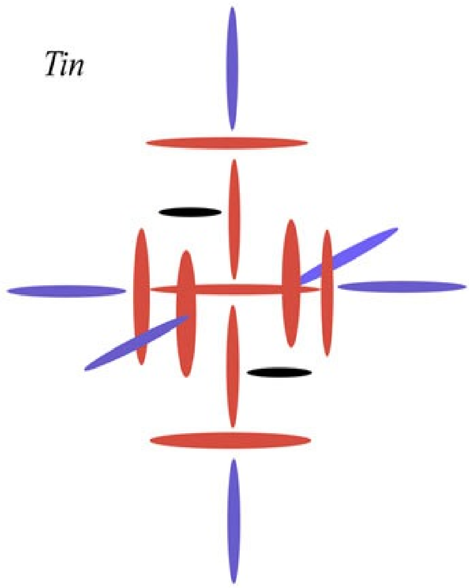
Of course this main analysis applies to Promethium as well, since Pm is also group seven, or seven numbers above the noble gases. I have shown why seven is the bad number of the Periodic Table. Promethium has these same interior holes that have to be filled together or not at all.

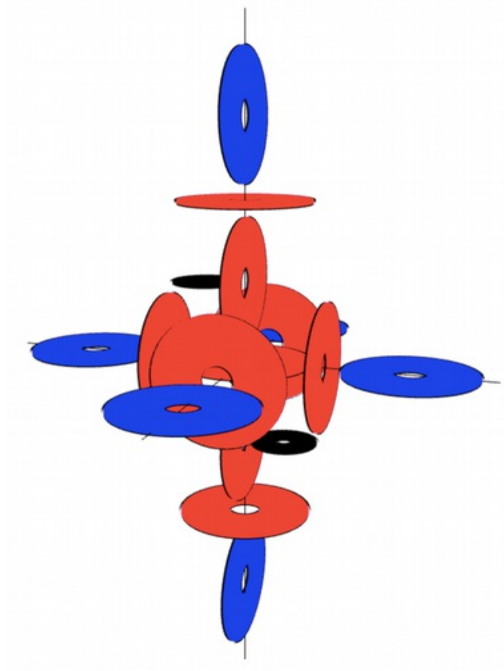
Also notice that my diagrams for Technetium and Promethium confirm their known hexagonal structure, since we have six vertices.

I will be asked why Manganese isn't radioactive, then? Manganese should have the same inner holes as Technetium, and filling one and not the other should cause a similar problem. How does Manganese avoid this problem? Manganese takes the easy way out, and doesn't even try to solve it. It leaves both inner holes open and starts double filling the outer six. Manganese puts the 7^{th} proton in one of the six outer holes, and uses its five extra neutrons to balance the other outer holes. In reaction, these neutrons can be pushed aside by incoming protons, which is why Manganese has oxidation states from +2 to +7. As I just showed you, Manganese has seven open holes.

OK, but why can Manganese get away with that but not Technetium? Why can't Technetium just skip the inner holes? Manganese can get away with it because skipping the inner holes doesn't create a fatal imbalance. Like all period 4 elements, Manganese is recycling charge through blue alphas. Its core is composed of 18 protons and neutrons. Therefore the charge field in and around Manganese is relatively weak. But Technetium is composed of red double-alphas, which channel twice as much charge. Therefore, Technetium can neither leave those inner holes open nor simply block them up with neutrons. The external charge field beating on those inner axis holes must be channeled through or it will break the nucleus from the axis out. So you see, Technetium *must* fill those holes with protons, but it can't. It has one proton for two holes, and it can't solve that problem.

Then why don't the elements just below Technetium have that problem? They are also made of red double-alphas. The reason is that although they have double-alpha capability in the core, they aren't actually channeling at that strength. For instance, Strontium has only two protons in the fourth level to pull in charge. Although the fourth level holes can accept 24 protons, Strontium only has two. It is not until all those six outer holes are filled with at least one proton that the nucleus really starts to draw the charge field through strongly. That is Molybdenum, the element below Technetium. Molybdenum is right at the limit of what those inner holes can handle from the outside field, and if Technetium tried to put the seventh proton in the fourth level instead of the inner level, it would draw more charge than Molybdenum. But the axial level can't handle that amount of charge. Even if Technetium blocked the inner holes with neutrons, the charge would still be coming in the gap above and below the carousel level, beating on the backs of those inner neutrons. Due to the architecture, the axis simply can't take that pressure. The nucleus must channel charge through or perish. That is the point of all charge channeling, remember, whether we are looking at the axial level or any other level.





Now let us move to period 5 of the Periodic Table, and look at Tin. Tin is interesting because it has 10 stable isotopes, the most of any element. Tin is so stable it doesn't much matter how you load it with neutrons. It can support almost any number. This stability is explained by my diagram. With Tin, we have those inner holes closed by protons, one each, then the four carousel holes double filled, as with alphas. The top and bottom holes are also filled with alphas. I haven't drawn the neutrons, but besides the neutrons in the alphas, Tin puts a lot of neutrons in the inner holes, with the two protons down there. This adds to the nuclear density. What this means is that Tin is extremely balanced in the way it channels charge through the nucleus. So balanced that many neutron configurations will not disturb that balance.

Some will say that Tellurium should be even more balanced, since it has four protons in the inner holes. But although Tellurium is equally balanced in that regard (being a sort of magic number), it isn't thereby more stable as a matter of isotopes. Why? Well, the answer is simple: because it has more nucleons in the inner holes already, it can put fewer extra neutrons down there. Tin has more space for neutrons down there, which gives it more stable isotopes.

Before we move on to the next section, I will answer a quick question. I have put most of the electrons inside the alphas so far, but in my diagram of Molybdenum, we see that we have six protons existing singly in outer holes. Where are their electrons? Once again, the electrons aren't orbiting the nucleus, and they aren't orbiting the proton, either. What the electron is orbiting here is the *hole* in the proton. Due to its spin, the proton has a charge minimum at both poles. One "hole" tends to attract photons, and the other tends to attract anti-photons. These charge photons are recycled by the proton, and are re-emitted at its equator. The proton, like the nucleus, is a charge-field fan-engine. Now, since I have shown (previously) that the electron is basically an overgrown photon, it is attracted to this charge minimum just like the photon, and for the same reason. But it is too big to go through the hole. So it simply circles the hole, like a pingpong ball too big to go down the drain. This gives the electron two separable angular momenta—one being its own spin about its center and the other being its spin about the hole—but neither momentum applies to a nuclear orbit. The electron is not going round the nucleus at all, as you now understand.

I have shown the method for building nuclei up to Xenon, but let us go above Xenon and see what happens. We have already seen that the old rules are mathematical rules, and that, as usual, physicists have tried to make the world match mathematical progressions (instead of making the math match the world). In other words, we are given the rule of electron orbits, consisting of the equation $2n^2$, where n is the shell level. The fact that the Periodic Table doesn't fit that rule doesn't seem to bother anyone, since it is still taught. We just push the Periodic Table to match it. But we have seen that it isn't mathematical rules that determine how nuclei are built, it is structural rules. If we want to understand how nuclei are built, so that we can then apply mathematics to them, we first have to build some nuclei. Now that we have done that, we see that $2n^2$ doesn't apply. It doesn't apply for the same reason Bode's equation a = n + 4 doesn't apply: the math is just a guess, and is based on no mechanics. We have seen that the electron shells spit out the numbers 2, 8, and 18, but not because they are following the equation $2n^2$. That was a decent guess, I suppose, but it is wrong. We saw this when 8 came up twice (in periods 2 and 3 of the Periodic table), and that should have been the end of it. But if we go past Xenon, we see more clear evidence against it, since we don't find the number 32, much less the number 50. I will show that the real progression is 2,8,8,18,18,18,18.... The number 32 never really comes up.

To see how it works above Xenon, we actually have to start at Krypton. Krypton is built like Argon, but with Beryllium blocks instead of alphas. But if we start filling in holes like we did with Rubidium, we find that we can add four protons in each hole, not just two like we would have with Potassium. So when we get up to Tellurium, we have a balanced but incomplete structure. We have six outer holes that are only half full, as I showed above. This means that all elements above Iodine have two possible structures. They can be made with Beryllium blocks or Carbon blocks. In other words, they can be built up from a Krypton base or a Xenon base.

Even Xenon should have a variant structure. There should be another form of the number 54 element, with a Krpyton base, and mostly half-filled holes: like a Zirconium structure but with two extra protons in each hole. For the same reason, we should have two forms of Samarium, one with a Krypton base and one with a Xenon base. The number 62 element made from Krypton should have all holes filled with four protons, acting somewhat like a higher order Germanium or Tellurium. [*April, 2014*: I have now shown why we don't find these variant structures. See my newest paper on Period 6. Turns out Samarium is built from *neither* Krypton nor Xenon.]

What this means is that we (may) have more than allotropes, since allotropes are variations in atomic structures. I am showing you variations in nuclear structures of the same elements. If Nature prefers not to build these variants, we must discover why. In my next paper, I will show you the variant nuclei of Uranium, *proving* that at least some elements can built in a variety of ways.

From all this, we can begin to see that Radon is not really like the other noble gases. It doesn't have the same shape as the others, or the same compactness. To see this more clearly, we have to understand that it isn't made from Oxygen blocks. We don't make our grey disks into 4-alphas, as we did when we made Krpyton from double alphas and Xenon from triple alphas. No, the disk stacking breaks down above the size of Carbon, and we cannot use Oxygen as our base when we build our nuclei. Instead, Radon is made from a Xenon base, with 32 protons in the holes. But the number 32 has nothing to do with a completed 4th level, as I will show. Radon is not a noble gas. There is nothing noble about radioactivity, and Radon is a gas for another reason.

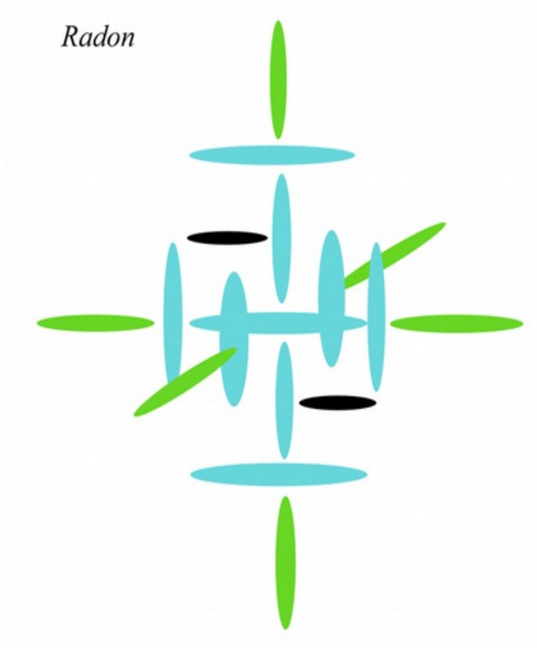
I will pause a moment to reflect on that last statement. From it, you should see that noble gases are defined not by completed outer electron shells, they are defined by completed *nuclear* structures: structures that have been filled at the outer level. With Radon, we *don't* have all the holes filled at that level. Radon is partially complete, like Tellurium, but it has problems Tellurium doesn't even begin to have.

Because Radon is built from Xenon, and because Xenon is built of triple alphas, each hole can take six protons. This means the 4^{th} level above Xenon is filled with 36 (or 60, if we count the inner holes) protons, not 32. You should have also noticed that although Radon is 32 protons above Xenon, that 32 doesn't come from $2n^2$. To get $2n^2 = 32$, n has to be 4. Yes, we *are* in a fourth nuclear level here, but we have been in a fourth nuclear level since we hit the number 19, Potassium. Argon has three levels, and so does Krypton, and so does Xenon. So the principle quantum number isn't telling us what we think it is, and it isn't telling us enough to solve this. It has mainly acted as misdirection from the beginning.

To see better what I mean by that, we can go back to Argon. Argon already completes the third nuclear level, and Potassium starts us into the fourth. Since Potassium is number 19, and since the 4^{th} level above Xenon is filled at 114, you *could* say that the fourth level has 95 possible steps or places in it, not 32. But a better and more precise labeling of levels would make only period 4 of the Periodic Table level 4. Elements built from an Argon base are level 4. Elements built from a Krypton base are level 5. Elements built from a Xenon base are level 6.

I will be told that the number 32 in current theory comes from electron orbitals, not the Periodic Table, which is true but still misdirection. If we study Radon using my diagrams, we could say Radon has 32 electrons in the fourth shell, if we take the fourth shell to mean the fourth nuclear level. But it then has 54 electrons in the first three shells, and the current principle quantum numbers can't make sense of that. According to my simple diagrams, what we have with Radon is 6 electrons in the first nuclear level, 24 in the second level, 24 in the third level, and 32 in the fourth level. You might say that roughly matches current theory, but it is a major correction to the inner shells of larger nuclei. Not only do we allow more than 2 electrons in level 1, which is a huge update to nuclear theory, but we define electron shells as a function of levels in the nucleus itself, not as a function of some kind of orbits. There are no external orbits, as you now see. Any “orbital” angular momentum is caused not by an actual orbit, but by the spin of the nucleus itself. Most electrons are INSIDE the nucleus.

So let us see if we can explain Radon's radioactivity using these new structural rules and diagrams. We have seen that Radon is built up from Xenon, with a semi-completed fourth nuclear level. It should be as stable as Tellurium. Why isn't it? Well, Radon could be built in several ways, but after some study I have concluded that it is probably built with five protons in each outer hole in the 4^{th} level, and only 1 proton in each inner hole. This gives us too much mass in the 4^{th} level, and thereby too much angular momentum. In other words, we have an inner/outer imbalance, as with Technetium. The nucleus tears itself apart from the inside out.



You see how Radon has built itself a cozy little fourth level, balanced in color all round. That balance all round makes the mainstream think it has some similarity to a noble gas, which is why they go to all that trouble re-arranging Periods to get Radon into that group. The problem is, to achieve that balance, Radon had to put only one proton in each of the two holes below. With 30 protons in the outer level, that isn't enough to maintain cohesion. The centrifugal force from the carousel spin can't be balanced by the gravity from interior mass, since there simply isn't enough. You will say, "So why not put some of those outer protons in the inner holes?" We can try that, but you will see that this first configuration is actually the *most* stable of all possible configurations at this number. Again, we have to look at the way those inner holes fill. Say we send two more protons to the inner level. To maintain balance in the carousel level, we have to take those protons from the top and bottom holes. But this means we are just rearranging protons already on the axis: it won't help our inner/outer imbalance, since those protons on top and bottom are already "inner." Yes, they are further away from center, but since they are right on the axis, they still count as inner. So this won't help us. So let us put two more down there. If we take these two from the axis, we still have the same problem, so let us take all four from the carousel, leaving five top and bottom. We now have six below, three in each hole. The problem with this configuration is that while it seems to give us a bigger version of Iron, Iron is small enough to maintain stability while Radon isn't. Why? Because we now have five protons pushing charge *in* on the axis but only four in the carousel positions pulling charge *out*. Iron can solve that problem by conducting the extra charge straight through the axis and out the other side, giving us the magnetism we measure. Well, if we built Radon this way it would try to do that, too. But it wouldn't work because while Iron has neutrons in the inner holes, keeping cross charge out of the axis, Radon now has six protons pulling charge through the axis. This through charge would interfere with the conduction of charge, preventing Radon from conducting its extra charge out the other end. You would get a charge build up in the axis alphas, which would cause dissolution from the inside out. Adding more protons down there would only increase this problem. Because of its size, Radon has to pull charge through the inner holes. It can't leave them open because the ambient field would get in and cause problems. It can't stopper them with neutrons, because the surrounding field is simply too strong. The powerful charge field coming in from the sides has to be channeled through. But as we have seen, Radon can't create stability with protons in the holes, either. At this atomic number, there is simply no solution, which is why Radon is not stable.

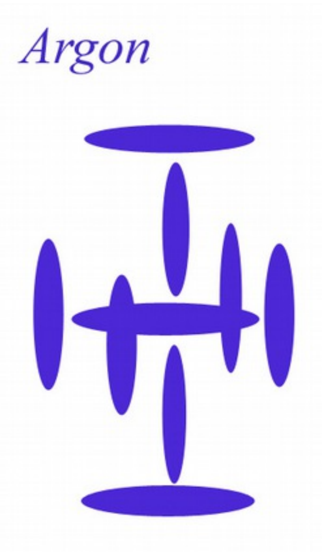
The radioactivity of Polonium and Astatine are explained in precisely the same way, and all the elements above Radon also meet similar problems.

If Radon is five protons in the outer holes, this explains why Radon is a gas. See my analysis of Mercury for more on this, but it comes down to way Radon must bond with itself. All the outer holes are 5/6 full, so when 5/6 meets 5/6, only one hole is open for five prongs. This means no bonding with itself, which means Radon must be a monatomic gas (which it is).

Before we conclude, let us take a quick look at elements 114 and 118. Ununoctium is currently placed in group 18, as a sort of noble gas. Unfortunately, it is number 114 Ununquadium that acts more like a noble gas. And of course my diagrams tell us why. Since the inner holes are open on both sides, we have ten holes in the outer level (six in the fourth level and four below). Although smaller elements don't ever fill the inner holes like that, the holes are there to be filled, and in extreme circumstances they can be. The nucleus isn't stable when filled that way, as I just showed you with Radon, but Ununquadium isn't like a noble gas because it is stable. It is like a noble gas because it is completely full at all existing levels. Ununquadium has six protons in all ten holes, you see.

For this reason, elements above 114 must be even more fleeting than those below. Since no more holes exist to be filled, any extra baryons added to the mix will just be existing in the charge streams beyond the fourth level. We see that there are six main streams, but these streams are so wide and powerful, they cannot be capped as we saw with smaller elements. What I mean is, under enough pressure, Neon can cap the pillar alphas below it, by placing perpendicular alphas top and bottom. But there is no similar way to cap these six-proton charge streams releasing from the fourth level of the atomic nucleus. You would need triple alphas, already bound (in stack), to even begin to do it, and then you would have to cap all six streams simultaneously. Otherwise you would just create imbalance. That may be possible for aliens, but it isn't what we are doing when we manufacture superlarge elements over 114. When we manufacture these fleeting elements, we are just forcing new protons to align momentarily in those six charge streams. But since no holes are being filled or capped, there is no "snap" to the creation, and the new element cannot stand. However this does suggest why multiples of six are special above 114. We know 126 is special in some way, since it is already given to magic numbers (see a later paper for more on this). Well, 126 is 12 steps above 114. We are forcing two protons into each stream. I wouldn't call that magic, and it isn't magic for the theoretical reason currently given. That is, it isn't magic because it comes out of the current flawed math. But it would be expected to be marginally more balanced than the numbers around it.

In conclusion, we may return to the current model and better see how and why it fails. To do this most efficiently, we will stay with the noble gases. As I showed you above, the stability and unreactiveness of Argon is currently explained using the octet rule. Argon has a "full set" of eight electrons in the outer shell, we are told, making it unreactive. Unfortunately, again according to current rules, the third shell is supposed to have 18 slots ($2n^2 = 18$) , meaning that Argon has ten empty.



When this is pointed out, the mainstream physicists hem and haw and say that they meant a full sub-shell, not shell. Argon has a full 3p sub-shell. But I have just shown you the diagram for Argon, and it matches none of that, neither regarding shells nor sub-shells. If we let the center alpha be the first shell and the carousel level be the second shell, Argon does have 2 inner shells, as we are told; but shell 2 isn't split into s and p levels. That only applies to some lower elements that aren't built like Argon (see the diagram for Oxygen, for instance). If we let the post and cap alphas be shell three, then that shell *is* split, but two ways, not three.

This means that the whole idea of "filling" levels is wrongheaded. Elements don't fill electron levels by any rules, since there are no electron levels. The levels are in the nucleus and are caused by protons. Any element "fills" itself with electrons only to match open holes or charge minima in the outer levels of the nucleus. This by itself destroys the current theory and math.

How was this error made? you may ask. It was made because historically nuclear physicists worked with the smallest elements first, as you would expect. They made their first rules to fit Hydrogen, then tweaked the rules as they hit Helium and Lithium and so on. They understood pretty early on that the noble gases were special, and were a clue, but they didn't read the clue right. They didn't understand that the noble gases were giving them a template—a template that was like a list of rules for building all the elements above Neon. Instead of using the noble gases as their bases, they tried to use Hydrogen as their base, rigging the math to Hydrogen.

The principle quantum numbers were invented to explain Hydrogen, which is the first reason they are faulty. The second reason is that particle physicists concentrated on the electron instead of the nucleus. The electron was discovered long before the nucleus, and most of the study of the quantum level started with electromagnetic theory, back in the 19th century. This is why quantum mechanics was built around the electron rather than the nucleus. This is why the quantum numbers are still given to the electrons, and why the nucleus is mostly ignored. The nucleus is also fairly opaque to experiments, or was for a long time, so no one had any real need to diagram it in the early years. Early on, the Periodic Table was tied to electron orbitals, and the nucleus receded even further into the background. After the nucleus was split, other questions came to the fore, questions about mesons and quarks and binding energies and so on. By that time, no one was interested in basic quantum mechanics, because they thought it had already been done. They had already given the pseudo-mechanics to the electrons. They thought it was perfect, and so they moved on.

Yes, the nucleus was first split in 1932—which is very early—but that was a splitting of Lithium, which didn't tell them much. It told them that Lithium was made from Helium nuclei, which might have led them where I just went, but they didn't go there. Cockcroft and Walton were more interested in measuring binding energies than in rebuilding Lithium with a diagram. And they came to the wrong conclusion even about binding energies, since they took the energy differences as a measure of particle energies, rather than as a measure of the charge field involved. In other words, since they didn't know about the charge field or the unified field, they thought the only things involved in this energy equation were the larger particles they were tracking. That has turned out to be false.

To be more specific, Cockcroft and Walton found that the outgoing Helium nuclei had more kinetic energy than the incoming proton and Lithium atom. This brings us back to the first problem of this paper. They interpreted this to mean that the binding energy was being turned into kinetic energy. This is where the energy of fission comes from. Current theory makes a hash of this in its explanations, but it is easy to understand with my mechanics. Elements have to be built in stars or cores, and great forces (pressures or temperatures) have to be applied to fuse them. These forces have to be used, because charge field pressure normally prevents baryons from achieving structures. There are a lot of photons flying around everywhere, and they simply get in the way when you start squeezing too much. Only stars and cores can provide the forces necessary to overcome the charge field. And without the charge field, these elements would just dissolve back into protons once they were released from the star, because there would be no pressure to prevent them from doing so. The charge field is both the initial pressure and the subsequent glue, and neither the resistance nor the bond could be explained without the charge field.

So what we have is great forces pushing baryons into configurations they couldn't otherwise achieve. The charge field then locks them into these configurations, with the new pressures and channels created. Since the charge field is still very strong outside stars and cores, elements don't evaporate into protons. But if the structure is punctured somehow, the pressure releases. It is this pressure that we call binding energy. The charge field then rushes through the new holes in the nucleus, driving any newly freed particles at huge speeds. Hence the energy of fission.

Current theory tries to explain this without the charge field, which is why the theorists are forced to say such contradictory things, as we saw above. To bookend the paper, we will look at another example from Wikipedia:

Nuclear binding energy is the energy required to split a nucleus of an atom into its component parts. If the binding energy for the products is higher when light nuclei fuse, or when heavy nuclei split, either of these processes will result in a release of the extra binding energy.... The mass of an atom's nucleus is always less than the sum of the individual masses of the constituent protons and neutrons. This notable difference is a measure of the nuclear binding energy, which is a result of forces that hold the nucleus together. Because these forces result in the removal of energy when the nucleus is formed, and this energy has mass, mass is removed from the total mass of the original particles, and the mass is missing in the resulting nucleus. This missing mass is known as the mass defect, and represents the energy released when the nucleus is formed. When the nucleus splits into pieces, this energy may be emitted as photons (gamma rays) or as the mass or kinetic energy of a number of different ejected particles.

I will never get used to reading such nonsense. I don't understand how other people read this. How can binding energy be released in both fission and fusion? It can't logically be the same energy, though we are told it is. We see how confused these people are when we are told that the mass defect "represents the energy released when the nucleus is formed. When the nucleus splits, this energy" is released. Well, if the energy was released when the nucleus was formed, where has it been all this time? Has it just been floating around in the vicinity, waiting for fission, so that it could be re-released? These people don't seem to understand what "released" means. You can't release the same energy twice, in opposing processes.

As I just showed you, this talking in circles is necessitated by the fact that current theory has no consistent field mechanics. It has no understanding of charge, or of how it fits into the field. Given the current field equations, there is no way to explain how or where binding energy is stored. These physicists have it just waiting around in vacuum, ready to be released by fusion and then magically re-released by fission, as if it can be released and stored at the same time.

I will be asked, "If the energy from fusion and fission don't come from the same place, then where does the energy from fusion come from?" Again, it comes from the charge field. When you force baryons into nuclear configurations, you have to squeeze the charge field out of certain areas in the nucleus, and you have to force charge to run in certain channels. It is like squeezing water in your hands: you are going to get some powerful jets rushing between your fingers. If you appear to be getting more energy out than in, it is only because you are measuring charge field effects going out and not going in. Fusion looks like a generator of power only because we ignore the charge energy that exists in the field at the beginning of the experiment, but then measure the energy effects of this same charge field at the end of the experiment. It is like ignoring the pressure of the water in your hand, then measuring the pressure of the water escaping your hand. It will look like the water has more energy than you gave it by squeezing.

This isn't to say that fusion isn't a source of power for us. It is. It is a tapping of energy like anything else, since the power out is more than *we* put in. We squeeze x, charge has pressure y, and we get energy output of x+y. Part of x+y goes to binding energy, and part is released like the water through the hands. But we certainly don't release binding energy during binding. *Binding* energy is *bound* during *binding*. That is what the words mean, for Pete's sake.

As a sort of postscript, I will point out to you that just as the charge field determines the structure of the nucleus, it also limits its size. We have seen that the protons and neutrons must position themselves to channel the charge field through and around the nucleus. This is done to prevent the charge field from pulling the nucleus apart. This limiting aspect of the charge field is what allowed me to understand the mechanics of nuclear structure, and it is ignorance of the charge field that had prevented nuclear diagramming before me.

Physicists have long known about charge, but they began hiding it in the math about 160 years ago (see Maxwell and quaternions). With QM and QED, charge went underground. It remained the defining and fundamental force of all the equations, but this foundation was purposefully obscured by the math. Charge went from being physical to being mathematical to being wholly virtual. In the current equations it is nothing more than a ghost, which allows it to be ignored. As I have shown in many other papers, charge needed to be ignored to keep it from messing up the gravity field equations of

Einstein. Physicists couldn't admit a charge field at the macro-level, because that would destroy all the field equations, all the way back to Laplace and Lagrange. That is why you find them misdirecting to this day. They have censored and slandered and built incredible walls to prevent this problem from seeing the light. When charge is finally admitted to exist in the field equations, all their towers will crumble into dust.

But charge cannot be ignored or taken for granted. It must be given a physical and mechanical place in the field. I have shown in previous papers what was already known by Maxwell: charge has exactly the same notation as mass, and like energy it has a mass equivalence. It therefore cannot be virtual, cannot be mediated by virtual photons, and cannot fail to take up space in the field. Photons have both extension and mass equivalence. In fact, they turn out to have shocking amounts of both, and this fact has been buried in the electromagnetic field equations from the beginning. Basic equations going back to Maxwell prove that the charge field "outweighs" normal matter by 19 to 1, which means that dark matter is just charge. Most charge is dark, it is weakly interacting in the way dark matter physicists require, and it is much more massive that anyone knew. Ninety-five percent of the universe is not dark matter, it is photonic matter.

Just as this explains so many other things, it explains the limit in the size of the nucleus. Since baryonic or nuclear matter has to exist in this powerful sea of charge, it is forced to limit its extension. Without external charge, the nucleus would seem to have no limit on size. What was preventing the nucleus from taking on ever more protons and neutrons? What was determining the ratio of protons to neutrons? What was determining when they would break up, or how they would bind? Until now, it was not possible to know. But the charge field answers all these questions, and answers them in a fairly straightforward manner. My diagrams above are not esoteric or difficult to understand. To discover them, I only had to follow a few steppingstones through a short bog, taking the right stones in the right order. Once I did that, the solution became simple. Please remember that. Every problem I have solved has been solved in the same way. Not with long pages of big math, but with a few short steps, judiciously chosen.

Of course I have a lots of other questions to answer about my nuclear model, and this paper is just the beginning. In upcoming papers I will solve many other problems that the mainstream has not been able to solve. I will also compare my model to the nuclear shell model of Wigner and other models, to show that it is superior in every way. I will show that it answers most of the begged questions, and fits the known constraints of data.

To see why Electron Bonding is a myth, go here
To see my diagrams applied to Uranium, you may go here.
To see my diagrams applied to the Lanthanides and Period 6, you may go here. I also show why Hafnium is not a
Noble Gas and how the Lanthanide contraction is caused.
To see my diagrams applied to the Oxygen molecule, you may go here.
To see my diagrams applied to Mercury, you may go here, where I show why Mercury is a liquid.
To see how Xenon reacts with Platinum and Fluorine, go here.
To read about AntiHelium4, go here.
To read more about Helium4 and bosons, go here.

To read about Diatomic Hydrogen, go here.
To see the Hydrogen Bond, go here.
To read about the Manganese-Aluminum quasi-crystal, go here.
To read about Uranium TetraFluoride and other Fluorine compounds, go here.
To see an analysis of MetaCinnabar, go here.
To see my diagrams applied to the Magic Numbers and the SEMF (semi-empirical mass formula), you may go here.
To see the strongest proof (so far) from actual data that I am correct, you may now go to my paper on Sr_2CuO_3, where I am able to match my nuclei to clear data spikes in a very convincing manner.
To see the density of Osmium explained with a diagram, you may go here.
To see most elements in Period 4 diagrammed, including Iron, go here.
To see Deuterium and Tritium diagrammed, and well as all the charge channels in Helium, go here.

*This section had to be rewritten to include subtleties I didn't discover until later.