# Nuclear Stability Models for Each of the Chemical Elements 

 by James CarterThe consecutive process of nuclear structure is carried all the way through the periodic table of the elements with the step by step addition of each proton and neutron to the stability model of the atomic nucleus.
These models of nuclear structure are formed by the mechanical interlocking of Protons, Mesons, and Neutrons. In these models that are actually a type of mathematical equation for each nucleus. The protons, mesons, and neutrons, fit together like jigsaw puzzles and are held together mechanically somewhat like nuts and bolts. Metaphysical fields and forces such as the strong and weak forces are not assumed or needed in this explanation of nuclear physics. By following a few structural rules the most common and most stable nuclear isotope of each element is formed in a step by step process that also provides unique structural models of each of the 2000 or more radioactive isotopes that have been discovered.


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## Elemental Structure

Lithium is formed when a Promestone attaches to one of the Alpha Center's vacant nucleon receptors to make Li-6. Lithium's most common isotope, Li7 , forms when a neutron attaches to the vacant nucleon receptor, opposite the Lithium Leg.

Beryllium is formed when a Promestone attaches to Li-7 to form a second Lithium Leg opposite the first. The thus-formed Be-8 nucleus is extremely unstable, and decays into two alpha particles (He-4 nuclei) in . 0000000000000002 second. The reason for this extreme instability is that $\mathrm{Be}-8$ contains the components needed to make two of the highly stable alpha particles (four Promestones and four neutrons). Because the probability for the formation of alpha particles is higher than for other particles, there are no stable isotopes with atomic weights of either eight or five. Isotopes with atomic weight eight quickly decay into two alpha particles, while isotopes with atomic weight five decay into one alpha particle and one neutron.

The stable isotope $\mathrm{Be}-9$ is formed when a neutron attaches to one of the two vacant nucleon receptors in the alpha center of the Be-8 nucleus. Beryllium is the only even numbered element that has only one stable isotope.

## Elements with Stability Anomalies

## Hydrogen

The first element that violates the Stability Number Rules is Hydrogen. According to the rules, the Archetope of hydrogen should be H-3 (Tritium). However, Tritium is unstable, with a half-life of 12.26 years.


## Beryllium

The next element to violate these rules is Beryllium. Its only stable isotope is Be-9. Be-8, which should be its Archetope according to the rules, is one of the most unstable isotopes known. The reason for Be-8's extreme instability is that it contains the components necessary to make two alpha particles, and as a result, a $\mathrm{Be}-8$ nucleus splits into two alpha particles (He-4 nuclei) almost as soon as it's formed.

## Nitrogen

The next element that doesn't quite fit the rules is Nitrogen. According to the rules, its Archetope is $\mathrm{N}-15$. However, although $\mathrm{N}-15$ is stable, it is $\mathrm{N}-14$ that is by far the most abundant Nitrogen isotope, making up $99.63 \%$ of the Nitrogen found on earth. However the abundance of both of these isotopes found in cosmic rays is about equal. The prevalence of $\mathrm{N}-14$ over $\mathrm{N}-15$ on earth is confusing, but perhaps there is some nuclear process that could explain this disparity.

Boron is formed when a Promestone attaches to the vacant nucleon receptor of Be-9. Carbon results from the attachment of a Promestone to the remaining nucleon receptor of the alpha center of B-11.

Nitrogen is formed when a Promestone is attached, in a cross formation with one of Carbon's four Lithium Legs, to form a Nitrogen Cross. In a Nitrogen Cross, the proton occupies one set of crossed nucleon receptors; the neutron occupies the other set.

Oxygen is formed when a Promestone attaches to $\mathrm{N}-14$, to form a second Nitrogen Cross opposite the first.

Fluorine is formed when a Promestone attaches to one of oxygen's Lithium Legs and a "balance" neutron attaches to the opposite leg, and then neon forms when a Promestone attaches to form a fourth Nitrogen Cross.

The second Lithium Process begins when a Promestone attaches to one of neon's Nitrogen Legs to form Sodium. As with almost all odd numbered elements, a balance-neutron must be added, on the opposite side of the nucleus from this Promestone, to form the stable isotope Na-23. In this way, the second Lithium Process continues, step by step, to form the elements Magnesium, Aluminum, Silicon, Phosphorous, Sulfur, Chlorine, and Argon, first with the addition of a Promestone, then with a balance neutron.

## ARGON

Argon does not conform to the Archetope rules, since its most abundant isotope, Ar-40, makes up $99.6 \%$ of Argon isotopes but is not Argon's Archetope. Ar-36 is argon's Archetope because it has an external neutron arrangement most like those of $\mathrm{Cl}-35, \mathrm{~K}-39, \mathrm{Ne}-20$, and $\mathrm{Kr}-84$. However, it is likely that when the truth is known, we will find that the most abundant Argon isotope in the universe at large is Ar-36 rather than Ar-40. This prediction is based on my assumption that when the earth was formed, Ar-36 was the most abundant Argon isotope present, but because Ar- 40 is constantly being formed by the radioactive decay of Potas-sium- 40 , which decays into either Ca-40 or Ar-40, the earth's supply of Ar-40 is constantly increasing, while the supply of Ar-36 remains relatively constant. After some four billion years of this slow Ar-40 production, it has become by far the most abundant Argon isotope on earth.



## Scandium and Titanium

The next two elements with stability anomalies are Scandium, with a Stability Number of +5 , and Titanium, with a Stability Number of +3 . Both Sc-45 and Ti-48 have more neutrons than would be expected from the previous pattern of nuclear structure. Up to this point, the Archetopes of the even-numbered elements have an equal number of protons and neutrons, and those of oddnumbered elements have an extra neutron. After $\mathrm{Ca}-40$, there are no more stable isotopes that contain an equal number of protons and neutrons. The reason for this is that with Scandium, the first layer of internal nuclear structure begins to form. When a Promestone is added to the interior of the nucleus, neutrons must be present in corresponding positions within the other legs of the nucleus for it to be stable. Perhaps the purpose of these extra neutrons is both to provide balance, and also to dampen harmonic motion which might otherwise break the nucleus apart.

## Nickel

The stability anomaly of Nickel is that its Archetope (Ni-60) is not its most common isotope, making up only about $26 \%$ of terrestrial Nickel. Its most abundant isotope is $\mathrm{Ni}-58$, which makes up $68 \%$. Three other stable isotopes, $\mathrm{Ni}-61, \mathrm{Ni}-62$, and $\mathrm{Ni}-64$, make up the remaining $6 \%$. If we look at the structure of the Nickel nucleus, it is plain that the symmetry of its just-completed layer of Chromium Crosses gives it a greater range of stability. Even though both Ni58 and Ni-60 are stable, we can say that Ni-60 is 'more' stable, because it has a smaller neutron-absorption cross-section (2.6 barns) than Ni-58 (4.4 barns). Under conditions of neutron bombardment, $\mathrm{Ni}-58$ would be transformed to Ni59 at almost twice the rate that Ni-60 could be transformed into Ni-61.

The third Lithium Process begins with the formation of Potassium and Calcium, and is then temporarily interrupted for the next nine elements, when the first internal layer of nuclear structure begins to form with Scandium. Scandium is formed when a Promestone attaches to one of the inner Nitrogen Crosses on one of calcium's Nitrogen Legs. This structure is called a Scandium Ear. To be stable, Scandium must have a balance-neutron attached to each of the three remaining inner Nitrogen Crosses.

Titanium is formed when a second Scandium Ear is attached opposite the first, and then Vanadium is formed with the attachment of a third Scandium Ear.

When a fourth Scandium Ear is added to a vanadium nucleus, a Promestone from one of the Lithium Legs is immediately sucked down into the layer of internal structure, where it combines with a Scandium Ear to form a Chromium Cross. This process is called a Dual Event Transformation.

Manganese is then formed when a Promestone replaces the Lithium Leg that was sucked into the nucleus in the previous step. The next three successive elements, Iron, Cobalt, and Nickel, are formed as three more Promestones are attached to complete three more Chromium Crosses.

Copper is formed when a Promestone is added to one of Nickel's Chromium Crosses to form a Copper Ball. At the same time, a Promestone from a Lithium Leg moves down into this internal layer to form a second Copper Ball opposite the first. In a Copper Ball, the third meson is attached to where the two mesons of the Chromium Cross cross and attach to each other. One of these two junctions contains three mesons and a proton, and the other contains three mesons and a neutron. These two Copper Balls both begin and complete the first layer of two Copper Balls.



Rubidium and Strontium are formed in the first two steps of the fourth Lithium Process, which is temporarily halted by the next Scandium Process, when a Promestone is attached to Strontium to form a Scandium Ear and the element Yttrium. Zirconium is formed with the addition of a second Scandium Ear.

The next element, Niobium, is a Dual Event Transformation element that follows the Niobium Rule. When a third Scandium Ear is added to Zirconium, a fourth is immediately formed when a Promestone moves down, from a Lithium Leg, into the inner nuclear structure. Molybdenum is formed when a Promestone is attached to Niobium to form a fifth Scandium Ear. Technetium

is formed when a Promestone is attached to form the Lithium Leg that was lost when Niobium was formed.

The next element, Ruthenium, is also a Dual Event Transformation element, which obeys the Niobium Rule. It is formed when a sixth Scandium ear is added to Technetium, whereupon a Lithium Leg immediately migrates down into the inner nuclear layer to form a seventh Scandium Ear. Rhodium is formed with the addition of an eighth Scandium Ear.

## Technetium

Technetium is the first element that has no stable isotopes. Also, its Archetope, Tc-99, has a half-life of 212,000 years, which is considerably shorter than the $2,600,000$ year half-life of Tc-97. However, Tc-99 must be designated as Archetope, because Tc-97 does not have its key neutrons in place.


The next element, palladium, is the fifth Dual Event Transformation element, and it obeys the Copper Rule and the Palladium Rule. It is formed when a Promestone attaches to one of Rhodium's two remaining Chromium Crosses to form a Copper Ball. The Promestone from the remaining Lithium Leg moves down into the other Chromium Cross to form a second Copper Ball, which completes the layer of four Copper Balls, and the first Scandium Process.

The next eight successive elements (Silver, Cadmium, Indium, Tin, Antimony, Tellurium, Iodine, and Xenon) follow the Lithium Process rules to complete the fourth Lithium Process, and then Cesium and Barium are formed in the first two steps of the fifth Lithium Process.

## Cadmium

Cadmium has a Stability Number of +7 , and eight stable isotopes. The reason for cadmium's wide range of stable isotopes is that the two external neutrons in its four Copper Balls are not needed for stability. Cadmium isotopes are stable when these eight nucleon receptors are either empty or full; of all nine steps, only Cd-107, Cd-109, and Cd-115 are unstable.

## The Palladium Discrepancy

Any new theory, such as the Circlon Model of nuclear structure, needs an experiment that can be performed to demonstrate its superiority over the current existing theory. Up until Palladium, the Circlon Model and the Standard Quantum Mechanical Model of nuclear structure are identical on a quantitative basis if not a qualitative. Beginning with Palladium, there are discrepancies between the two models in the electron shells predicted by each model.

The electron shells, which surround the nucleus, are analogous to its Promestone Layers, since each Promestone holds an electron. The structure of the Promestones within the nucleus should be reflected in the structure of the electron shells surrounding the nucleus. With each of the elements up to palladium, the electron shells have been exactly the same for both the Standard

Model, and the Circlon Model. However, beginning with Palladium, the electron shells of these two models depart from one another. It is this discrepancy that can make possible an experimental test that could show one model to be superior over the other.

When the transition is made from Rhodium to Palladium, the Standard Model assumes that both the electron from rhodium's ( O ) shell, and the new electron needed to make Palladium go down into the ( N ) shell. However, as we can easily see from the Circlon models of the nucleus, these two electrons drop down, not into the ( N ) shell, but rather into the ( M ) shell. The ( M ) shell has remained at 18 since the formation of copper. If we look at the model of Copper-63 it is easy to see that the first Scandium Process cannot be considered complete until its two
 remaining Chromium Crosses have been transformed into two more Copper Balls to complete the layer of four. These two Copper Balls do not form until Palladium because of the Palladium Rule.

A closer look needs to be taken at the experiments used to verify the electron configurations of the Standard Model. Without a physical model of the nucleus to go on, an experimenter could easily assume that palladium's last two electrons reside in the $(\mathrm{N})$ shell since the (M) shell has been inactive and apparently "full" for the previous sixteen consecutive elements.

It may be possible, by experimenting with highly ionized Palladium atoms, to determine which of these two electron shell models most accurately describes physical reality. The same situation occurs in the transition from Platinum to Gold, so ionized Gold atoms could also be used in this experiment.


PALLADIUM-110


CESIUM
BARIUM
LANTHANUM


Lanthanum is formed when a Promestone is attached to one of Barium's Nitrogen Legs to form a Lanthanum Spear. A Lanthanum Spear is like a Scandium Ear, except that it initially occupies a higher point on one of the nuclear legs, and then migrates down into the internal structure of the nucleus during a Dual Event Transformation.

Cerium is formed when a Promestone is added to a Lanthanum nucleus to form a Chromium Cross, and the Lanthanum Spear immediately moves down to form a second Chromium Cross. The next five successive elements (Praseodymium, Neodymium, Promethium, Samarium, and Europium) follow the Scandium Process as each forms a Chromium Cross.


## Cerium

Cerium's anomaly is that it has a Stability Number of +1 . Considering its location on the periodic table, and the fact that it has only four stable isotopes, it can be considered the least stable of all the even-numbered elements. All evennumbered elements near it have seven or eight stable isotopes. The reason for its limited range of stability is that it only has two Chromium Crosses to which neutrons can be added or subtracted to obtain stable isotopes. However, even with its limited number of stable isotopes, Cerium is by far the most abundant of the fifteen rare earth elements.

## Neodymium

The stability anomaly of Neodymium is that its Archetope, Nd-144, making up only $24 \%$ of the metal, is not its most abundant isotope. Instead, Nd-142 accounts for $27 \%$ of its earthly abundance. Also, Nd-144 is slightly radioactive, but its half-life is so long $(2,400,000,000,000,000$ years) that only a tiny portion of Nd-144 nuclei would have decayed within the few billion years that they have existed. Because of its stability and greater natural abundance, it could be argued that Nd-142 is Neodymium's Archetope rather than Nd-144. However, the greater symmetry of balance neutrons within its four Chromium Crosses argues a slightly stronger case for recognizing Nd-144 as its Archetope.


## Samarium

Samarium has a Stability Number of +7 . Its wide range of stable isotopes is the result of its six Chromium Crosses, which permit neutrons to be added or subtracted while still producing several stable isotopes.

## Gadolinuim

Gadolinium obeys the Lanthanum Rule with the formation of a Lanthanum Spear.
Following Gadolinium, Terbium obeys the Terbium Rule. It is formed when a Promestone is added to Gadolinium to form an eighth Chromium Cross, whereupon the Lanthanum Spear is immediately pulled down into the inner nucleus to form the first in a layer of eight Copper Balls. The Scandium Process then continues for the next five elements (Dysprosium, Holmium, Erbium, Thulium and Ytterbium), each one forming with the addition of a Copper Ball.


Lutetium is formed by the beginning of the third Scandium Process, which continues for the next seven elements, until the formation of Platinum. Gold obeys the Palladium Rule, and is a Dual Event Transformation element. The formation of two Copper Balls within its internal nuclear structure completes the second Scandium Process. The Lithium Process takes over the next nine elements, until we arrive at Radium.


## Rhenium

The anomaly of Rhenium is that its most abundant isotope, Re-187, is slightly radioactive, with a half-life of $43,000,000,000$ years.


## Platinum

Platinum's stability anomaly is that its Archetope (Pt-196) makes up only $25 \%$ of Platinum nuclei, while Pt-195 has an abundance of $34 \%$. This makes Platinum unique as the only even-numbered element that has an isotope with an odd atomic weight as the most abundant of its stable isotopes. Pt-196 must be designated as Platinum's Archetope, because Pt-194 probably doesn't have platinum's key neutrons in place. These are the fourth balance neutrons located in its two Chromium Crosses. However, there is the possibility that these two neutrons must be in place before the fourth and final balance neutron can be added to the six Copper Balls. If this is the case, these two Chromium Crosses would receive their fourth balance neutrons in the formation of $\mathrm{Yb}-176$. Even if this is true, and these two neutrons were in place long before the formation of Pt-196, it must still be designated as Platinum's Archetope. It has a more complete symmetry than the more abundant isotopes, Pt-195 and Pt-194, since all six of Pt-196's Copper Balls have all of their nucleon receptors filled.


## Thallium

Thallium departs from the Archetope classification system since its Archetope (Ti-203) has an abundance of only $29.5 \%$, while its other stable isotope (Ti205) makes up $70.5 \%$ of naturally-occurring Thallium. However, there is no doubt that Ti-203 is its Archetope, because the additional two neutrons needed to form Ti-205 would be placed in Thallium's two opposing Lithium Legs and these neutrons do not become key neutrons until the next element, lead.

## Lead

The Archetope of Lead must be $\mathrm{Pb}-206$, even though $\mathrm{Pb}-208$ makes up over $50 \%$ of terrestrial Lead isotopes. The problem here is not really an anomaly, but the fact that three of lead's four stable isotopes are the end products of the radioactive decay series of Th-232, U-235, and U-238. These three isotopes are the only ones heavier than Bi-209 (the heaviest stable isotope) to have long enough lifetimes to still be present in the 4 to 5 billion-year-old earth (Th-232 14 billion yrs, U-238 4.5 billion yrs, U-235 710 million yrs).

Th-232 eventually decays into $\mathrm{Pb}-208$, U-235 decays to $\mathrm{Pb}-207$, and U-238 decays to $\mathrm{Pb}-206$. Therefore, the abundance of these three Lead isotopes reflect both the natural occurrence of lead isotopes, and the abundance of thorium and Uranium combined with the age of the earth. Only Pb-204, which makes up only $1.5 \%$ of lead isotopes, represents the true natural abundance of that element.

Since Thorium is twenty times more abundant than Uranium, (.001\% vs $.00005 \%$ ) and almost as abundant as Lead (.0015\%), we should expect $\mathrm{Pb}-$ 208 , at $52.3 \%$, to be the most abundant Lead isotope.

If we assume the earth to be about 4.5 billion years old, then about one third of its original thorium would have decayed to $\mathrm{Pb}-208$, one-half of its U-238 would have decayed into $\mathrm{Pb}-206$, and $99 \%$ of its original $\mathrm{U}-235$ would have decayed into $\mathrm{Pb}-207$. Since, at the present time, $\mathrm{U}-238$ is about 100 times more abundant than U-235, we can extrapolate backward and determine that
4.5 billion years ago, U-238 and U-235 had roughly equal abundance. This means that for every $\mathrm{Pb}-206$ nucleus that is the product of $\mathrm{U}-238$ decay, there are about $100 \mathrm{~Pb}-207$ nuclei, which came from U-235 decay. From this we can conclude that Uranium-decay products can make up no more than about $1 \%$ of $\mathrm{Pb}-206$ isotopes, and no more than about $99 \%$ of $\mathrm{Pb}-207$ isotopes. Therefore, if we could remove all lead isotopes that were formed from radioactive decay, we would find that $\mathrm{Pb}-206$ was by far the most abundant Lead isotope, making up probably more than $90 \%$ of the lead that was formed "naturally", through the process of protons, neutrons, and alpha particles being absorbed by lighter elements. $\mathrm{Pb}-206$ is truly the Archetope of lead.

## Bismuth

The anomaly of Bismuth is that its only stable isotope, the Archetope Bi-209, has a Stability Number of +3 , whereas all other odd-numbered elements past Gallium have Stability Numbers of +1 .

LEAD


BISMUTH


## Polonium and Astatine

Polonium and Astatine both have the same stability anomaly; neither has any stable isotopes, and the longest lived isotope of each, Po-209 and At-210, respectively, are not their Archetopes. Po-209 has only one of its two key neutrons in place, and At-210 is missing its one key neutron. Their Archetopes, Po-210 and At-211, are the second longest-lived of each. The real significance of the Polonium/Actinium anomaly is not that they violate the Archetope rules by one neutron each, but that they begin the list of the last two dozen elements among which none have any stable isotopes. The question that must be asked at this point is: why does instability begin with Polonium rather than some other element? One would expect instability to begin with an odd-numbered element, since they have far fewer stable isotopes than even-numbered elements. Also, both of the two previous unstable elements, Technetium and Promethium, have

odd atomic numbers; 43 and 61, respectively. Part of the answer to this question must come from an examination of the next element, Radon.

## Radon

Radon has a Stability Number of +11 . Radon's Archetope, Rn-222, is eleven units heavier (one proton and ten neutrons) than Astatine's Archetope, At-211. This is by far the largest increase in mass from the Archetope of one element to the Archetope of the next. The reason for this large jump is the layer of eight Scandium Ears that was completed with the formation of Platinum.

Being at the end of the Lithium process, radon's key neutrons are all located in its highest nucleon receptors. No neutron could remain in these top receptors as long as there was an empty Scandium Ear below them in the nucleus, even if the neutron was first received by a key receptor. Any neutrons
received by Radon nuclei lighter than Rn-220 would fall into the Platinum layer of Scandium Ears. If the radon nucleus was lighter than Rn-212, then the neutron would fall from the Scandium Ears into the next lower layer, which would be the Copper Ball balance neutrons.

With the several elements before radon, the reverse process occurs. Any neutron captured by a Scandium Ear would fall down into any empty key neutron receptors of that element. For example, if As-210 were to capture a neutron in one of its eight Scandium Ears, it would immediately fall into the lower position of Astatine's key receptors at the end of its Lithium Leg to form As-211. Add more neutrons to As-211 and only then will the Platinum layer of Scandium Ears begin to fill with balance neutrons.

The heaviest stable isotopes of the elements $\mathrm{Hg}-204, \mathrm{Ti}-205, \mathrm{~Pb}-208$, and $\mathrm{Bi}-209$ are each at the stage of their structure where the next neutron they receive will go into the Platinum layer and form an unstable isotope. If fact, the Platinum layer of Scandium Ears seems to be some kind of stability milestone, since there are no more stable isotopes at the exact point in nuclear structure where this layer begins to receive balance neutrons. Also, until Thorium, which is the point in nuclear structure where these balance neutrons begin to become key neutrons, there are not any long-lived isotopes. Among the six elements from Polonium to Thorium, the longest-lived isotope is Ra-226, with a half-life of only 1,602 years. The rest of these highly radioactive elements have isotopes which are even more radioactive than that; Francium's longest-lived isotope, Fr-223, has a half-life of only twenty-two minutes!


In the eight elements from Thorium to Berkelium, the Platinum layer of Scandium Ears become transformed into Chromium Crosses. The isotopes of these elements have substantially longer lifetimes than those of the previous six elements.

Actinium obeys the Lanthanum Rule, and is formed by the addition of a Lanthanum Spear to a Radium nucleus. Thorium is formed when another Lanthanum Spear is added to Actinium. Protactinium is formed when a Promestone is added to Thorium's internal nuclear structure to form a Chromium Cross, which causes one of its Lanthanum Spears to move down to form a second Chromium Cross in a Dual Event Transformation.

Uranium and Neptunium are formed as two Promestones are added to form two more Chromium Crosses. Plutonium is formed next, in a Dual Event Transformation in which a Promestone is added to Neptunium to form a Chromium Cross, and then Neptunium's Lanthanum Spear moves down into the internal nuclear structure to form another Chromium Cross. A seventh Chromium Cross is added to form Americium, and then a Lanthanum Spear is added to form Curium.

THORIUM



NEPTUNIUM
PLUTONIUM



Berkelium is formed in a Dual Event Transformation, when a Promestone is added to curium to form a Copper Ball, and its Lanthanum Spear moves down into its internal structure to form an eighth Chromium Cross.

The next five elements follow the Scandium Rule, with the addition of five more Copper Balls, to form Nobelium. The next seven elements would be expected to follow the Scandium Process, whereupon Roentgenium should begin a Dual Event Transformation to form the last two Copper Balls of the third Scandium Process.



MENDELEVIUM
NOBELIUM


## The Periodic Table of Circlon Elements

This periodic table of the elements shows a circlon model of the most common or most stable isotope of each of the elements. It also contains an isotope graph that lays out nearly 2000 stable and unstable isotope and shows the maximum and minimum neutron structure of many.

This table is really just like a mathematical system with a series of equations representing the isotopes of each element. This system is not a theory and cannot be falsified except by another system that could produce different but equivalent and more symmetrical models. Once the first few isotopes are constructed, all the rest of the isotopes just construct themselves from the system. This model of nuclear structure is $100 \%$ experimental fact and $0 \%$ atomic theory. This is a mechanical system and not a theory. A theory would have to assume some kind of a strong force field to hold the nuclei together instead of the simple basically nut and bolt assembly of circlon nuclear structure. You don't need a theory to know what holds a nut and bolt together. It is simple engineering.

The 27 " x 39 " full color wall chart on the next page can be received postpaid anywhere in the world by sending $\$ 15$ to

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Periodic Table of the Circlon Model of Nuclear Structure


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NUCLEAR STABILITY MODEL


## Nuclear Stability Model

The Nuclear Stability Model shown on the back cover is a composite, sequential model of all known elements, up to Copernicium-272. Each is labeled with the element symbol and atomic weight of the nucleus formed with the addition of that particular nucleon. Each proton is represented by a pink circle and each neutron by a yellow box. The meson attached to each proton is colored to match its element group on the periodic table below.

Up to the isotope of Bismuth-209, which is the heaviest known stable isotope, all nucleons in this model form stable isotopes when they are added to a nucleus, except for atomic weights 5 and 8 , and the Protons that form Technetium and Promethium. The Protons and neutrons added after Bismuth-209 follow a line through the longest lived isotopes of those elements.

The periodic table presented here is different from a "standard" periodic table in that Lutetium and Lawrencium are moved from the last places in the Lanthanides and Actinides up into the main body of the table. This is because these two elements are each formed with the addition of a Scandium Ear and not with a Chromium Cross or Copper Ball as are the other Lanthanides and Actinide elements.

The periodic table is divided into 13 groups, each with its own color. Each vertical row of the Lithium Process elements is given a separate color, while the elements of each of the four Scandium Processes have different colors.

Silver and Cadmium are shown to be the last two elements of the first Scandium Process even though the last two Copper Balls of this process were formed with palladium. This is to maintain symmetry in both the structure of the model and the coloring system. The Lithium Legs that form Silver and Cadmium first became part of the nuclear structure with the formation of Rubidium and Strontium and then moved down into the internal nuclear structure during the formation of Ruthenium and Palladium. Rather than label these two Lithium Legs twice, it makes more sense to label the last two protons of palladium's Copper Balls as Silver and Cadmium. These elements are thus considered to be the last two members of the first Scandium Process rather than members of the fourth Lithium Process even though they are each formed by the addition of a Lithium Leg. The above explanation is also applicable to Gold and Mercury, and to elements \#111 and \#112.

