AT THE EARTH'S CORE

The Geophysics of Planetary Evolution

Bruce Peret

Very little is actually known about the Earth's interior. Actual research is limited to what is pulled up from a scant few miles of the crust, by deep mines and drilling rigs. Volcanoes provide some additional insight as to the existence of a molten plastic-like layer between the crust and mantle known as the *asthenosphere*. However, the bulk of data beyond this point comes from the distant echoes of earthquakes, and the seismographic machines that plot their deviations as they traverse the depths of the Earth's interior.

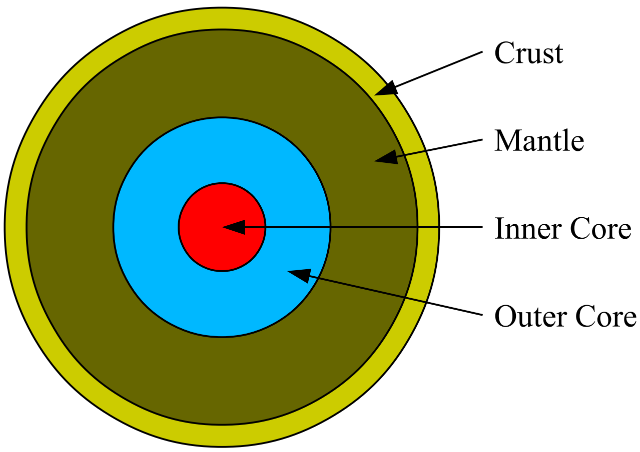


Figure 1: Planetary Interior

What seismology has discovered is that the Earth's interior is composed of several layers of varying density and composition. The topmost being the crust, a 40-mile-thick layer of silicon, aluminum, and magnesium, cracked into large, "tectonic plates," sitting on an 1800-mile thick layer of basalt known as the mantle, covering an 1200-mile thick, irregular sphere of molten iron comprising the outer core, and finally, a solid sphere some 1600 miles in diameter, of which very little is known—the inner core.

What goes on in the depths of the Earth is still a mystery. The farther down, the bigger the mystery. According to author Dougal Dixon, "The rules of conventional physics just do not apply to the Earth's core."[1]

There are also several planetary oddities that have stumped modern science. The drifting of the magnetic poles, their inexplicable reversal of magnetic polarity, the Van Allen belts of radiation, volcanic and earthquake activity, arctic areas with tropical fossils… the list goes on and on.

Perhaps the biggest mystery is the magnetic pole. "Like a magnet, the Earth has two magnetic poles. From time to time, the magnetic poles reverse polarity. …No one knows why this happens."[2]

Until now.

Background

Prior to examining the geophysics of planets, it is necessary to determine how planets were formed. This will reveal the processes involved in planetary phenomena, by identifying the components that generate them.

Geophysics can be considered an intersection between physics and astronomy—the boundary between physical processes of atoms and chemistry, and the stellar ones—otherwise known as, "the planet." The

1 Dixon, Dougal, *Geography Facts*, (Marboro Books Corp, 1992).
2 Hall, Cally & O'Hara, Scarlett, *Earth Facts* (Dorling Kindersley Publishing, Inc., 1995).

Reciprocal System of Dewey B. Larson covers a great deal of ground in both areas; yet the Reciprocal System itself has never before delved into the construct of worlds; only a brief summary of their formation[3], and the physical processes that occur at the atomic level.[4]

This paper is a summary of a preliminary investigation into the natural consequences of the Reciprocal System, applied to the study of geophysics. Here, I will propose a model of solar system formation, and the evolution of planets and biospheres, as a natural result of Larson's "backwards" stellar evolutionary sequence (as compared to modern astronomical theory). From this planetary model, all of the observed Earthly phenomena follow as logical consequence: plate tectonics, "drifting" continents, weather systems, the shifting of the poles, magnetic reversals, global cataclysms… even the whereabouts of the mythical lost continents of Atlantis, Mu and Lemuria, and what lies ahead in the next evolutionary stage.

Stellar Evolution

Modern astronomy differs from Reciprocal Astronomy in one major aspect: the stellar combustion process. An important aspect, for it is the combustion process that determines the stellar evolutionary sequence.

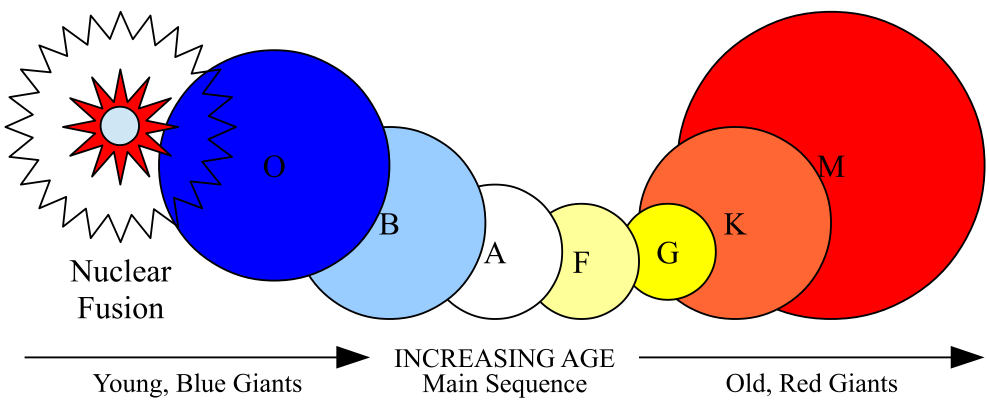


Figure 2: Modern Astronomy Stellar Evolution

Modern astronomy relies on the fusion of hydrogen to helium, the process observed within the photosphere (the outer layers of a star). This process starts out with a bang—a supernova—which forms a blue giant star, that gradually cools down, moves down the Main Sequence, and burns out due to lack of hydrogen fuel. At the end of its life cycle, a number of strange things occur, such as its sudden bloating up to a red giant, then re-condensing down to a white dwarf, or altogether vanishing from the universe in a "black hole."

Reciprocal System astronomy is a bit more straight-forward, analogous to heating up a piece of metal. The only thing required to build a star is "matter" (dust and rock) and simple gravitation does the rest.

3 Larson, Dewey B., *Universe of Motion* (North Pacific Publishers, 1984).
4 Larson, Dewey B., *Nothing But Motion* (North Pacific Publishers, 1979).

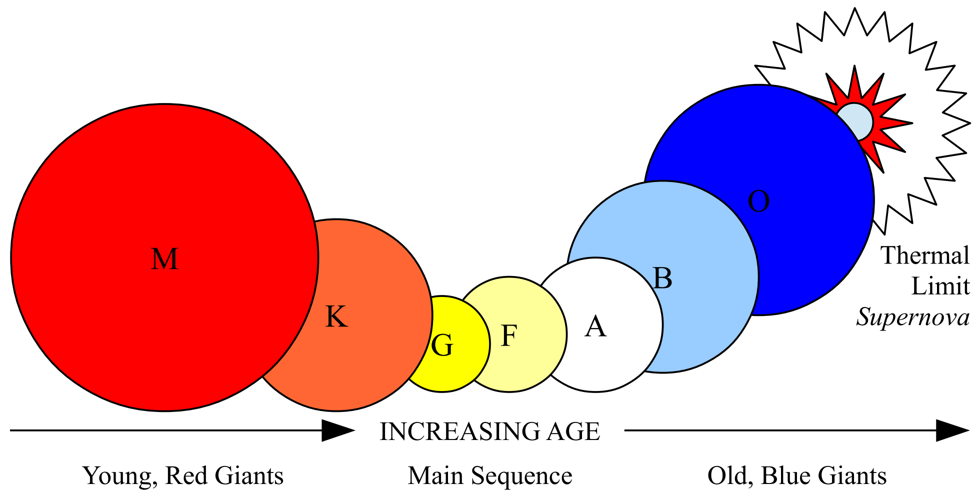


Figure 3: Reciprocal System Stellar Evolution

Stars, in the Reciprocal System, start out as large clouds of dust emitting infrared light from the sparse collisions of atoms. The gas and dust are pulled together by gravitation, and collisions become more frequent, heating the aggregate up so it glows dull red—a red super-giant. As more matter is pulled in, the gravitational pull of the star increases, reducing its size and increasing its temperature, moving down through orange giant stars, and on to the Main Sequence. From this point, the stellar matter can no longer be compressed, so the star becomes physically larger, and moves up the Main Sequence towards the blue giant—exactly the opposite evolutionary path as modern astronomy.

The most important aspect of the stellar evolutionary system that we are considering is the death of a star—the supernova. In the Reciprocal System, it comes in two varieties, both of which are observed by modern astronomers. The first occurs when the star reaches its *thermal limit*, and explodes as a "Type I" supernova. This *only happens* to the blue giant O-class stars, for only they are hot enough to reach the thermal limit.

The second stellar death can happen to any class star—the *age limit*. When the matter composing the star reaches a certain age (determined by isotopic mass), it explodes. When a large enough chunk of matter does this at the same time, a "Type II" supernova forms. The Type II supernova is more violent than the Type I, and typically propels matter into the ultra-high speed range (designated 3-x), moving far in excess of the speed of light.

The supernova explosion throws the outer layers of the sun off into space, comprised mostly of gases and light elements. The explosion also forces an *implosion* of the heavy elements in the core. (A spatial "implosion" in the Reciprocal system is a *temporal explosion*—the imploding matter *expands in time*, and *contracts in space*.)

As mentioned, stars are created from simple aggregates of dust and rock in space, so the obvious result of a supernova is a large cloud of expanding matter, which will eventually slow, stop, and re-condense to form another star at the center of gravity of the debris field, usually quite near where the original supernova occurred.

The second supernova byproduct—the imploded stellar core—forms a white dwarf star, with all of its unusual characteristics: inverse density gradient, intense magnetic field, quantized emission, and all the phenomenon associated with intermediate-speed (2-x) motion.[5]

5 Larson, Dewey B., "The Density Gradient in White Dwarf Stars."

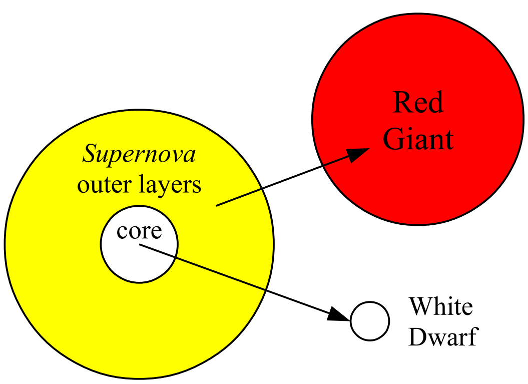
The supernova can be considered a "birthing process" of either a binary star system (red giant/white dwarf pair), or a single star with a planetary system, depending on its generation. (A "generation" being the number of times a star has been through the supernova/reformed star phase.)

Solar System Formation

In *The Universe of Motion*, Larson proposes that the solar system was formed by a Type II supernova, where there was insufficient "Substance B" (stellar core) to form a white dwarf, so the cool remains were distributed out across space in a linear form. This is one possible explanation, though it is difficult to accept that the imploding core of a star would suddenly decide to move linearly outward in space and break into fragments.[6] I offer an alternate explanation.

First generation stars, as those found in *young* aggregates such as globular clusters and dwarf galaxies, will *not* have any planetary systems, because their gravitation would simply pull in any nearby matter that would be the prospective planets. Even if a large rock were able to establish orbital velocity, it would decay fairly rapidly, because both the rock and the sun would be increasing in mass and gravitational attraction. The orbit would quickly degenerate to an ellipse, then the rock would be pulled into the sun, adding to its mass.

These first generation stars lead a solitary existence. Since they are composed primarily of "young" matter, they are most likely to continue to build mass, move up the main sequence, reach the thermal limit in the B and O-Class range, and become a Type I supernova. We see evidence of this in numerous open clusters (a globular cluster that has been pulled into the disk of the galaxy, and broken up), such as the *Pleiades*, that contain mostly blue stars, which are *about to become supernova*, and *enter* the binary and planet forming stages.



After the first generation star becomes a Type I supernova, the common binary star system is formed. Initially, neither component is visible. The original debris cloud is widely dispersed, and does not generate enough heat or light to detect, unless illuminated by nearby stars. The stellar core, *imploded in space* (and hence exploded in time), is too *hot* to observe, for its radiative emissions have moved into the X-ray band, well outside of the visible light and infrared.[7]

From this point, gravitation takes over and begins to condense the debris cloud, heating it up and creating a red super-giant (which we will refer to as the "A component"). Conversely, temporal gravitation takes effect on the stellar core remnant, pulling its components together in time, and expanding it in space, causing it to cool. Its emissions then move into the visible spectrum, forming the visible white dwarf star (which we will refer to as the "B component"). At this point, we have a red giant/white dwarf binary system—the second generation, and one of the most common star systems observed in this region of the galaxy. And the "parents" of an upcoming solar system.

However, the process of giving birth to a planetary system requires the death of the parents—another

6 The stellar core explodes in *time*, and contracts in space. It is possible, however, that fragmentation could occur and produce a planetary system from ultra-high speed (3-x) motion, which appears *linear* in space. However, the resulting planets would cool quickly, revert back to low-speed motion (1-x) and be consumed by the star, early in its evolutionary process. This may be the situation with giant planets in debris fields around single, M or K-class stars.

7 The X-ray emissions from imploded, stellar matter moving faster-than-light gave rise to the "black hole" theories.

supernova. Examining the characteristics of the candidates, we find that it is more likely that the A component will reach its age limit and become a Type II supernova, before the B component can reach either the thermal or age limit.

The matter in the debris field that forms the A component will have been exposed to neutrinos, so the isotopic mass of the elements will be high. Though the B component was also exposed, its temporal motion, and inverse thermal motion, will cause isotopic mass to drop making the matter "younger." By the time the A component forms a stellar object, the star will be prime for an age-limit explosion, just waiting on sufficient core density and magnetic ionization.[8]

So, by the time the A component reaches the orange giant (M or K stellar class), there is a high probability that it will become a Type II supernova.

The A component explodes, in a much more violent fashion than its predecessor, reaching into the ultra-high (3-x) speed ranges. Because of the proximity of the B component, the supernova will accelerate the white dwarf into the ultra-high speed range of the *pulsar*, shattering it into a number of pieces, from explosive shock wave.

These white dwarf fragments will behave like mini-pulsars, with the same "anti-gravity" motion, moving outward away from the center of mass of the system—which is the center of the supernova debris field; the former location of the A component star.

Thus, the second generation binary star system is destroyed and the third, planet-bearing generation begins to form. The core of the Type II supernova, being in the ultra-high speed range, will be a small pulsar. However, because of the lack of heavy materials at the core, it will be a very small object, and rapidly disappear from the Material Sector, to add to the background radiation of the Cosmic sector. Its vanishing point will, for some time, leave its mark as one focii of the elliptical orbits of the later planets.

Two other by-products of the Type II supernova are a ring structure, composed of intermediate (2-x) and ultra-high speed (3-x) matter, and a large cloud of low-speed (1-x) debris. The low-speed debris will eventually re-condense into another red giant sun, forming the third generation star.

The matter forming the ring structure will eventually cool, lose its ultra-high speed motion, and drift back towards the center of gravity (the newly forming sun). Gravitational attraction within the ring itself will create larger aggregates of matter within the ring, forming an asteroid belt. The white dwarf fragments, subject to the same conditions as the ring matter, will take up position on either side of this asteroid belt, depending on the velocity they achieved during the supernova explosion.[9] Being of intermediate and ultra-high speed motion, the position of the asteroid belt, and planets, will form a quantized relationship—identified as the Titus-Bode Law.[10]

The Planets

The remnants of the white dwarf companion, shattered into pieces and distributed in a narrow conic section outwards into space, will take up orbital positions around the newly formed giant star. Unlike low-speed matter which will simply be sucked into the gravitational whirlpool of the star, the white dwarf fragments will maintain broad, slightly elliptical orbits, using the new giant sun as one of the

8 Larson, Dewey B., *Basic Properties of Matter* (North Pacific Publishers, 1982).

9 The remnant of the white dwarf, itself, being near unit speed, will become a dwarf planet in the asteroid belt. In our solar system, that core is identified as *Ceres*.

10 A complete description of the Reciprocal System interpretation of the Titus-Bode Law can be found in *The Universe of*

foci, and the vanished core of the supernova as the other. The orbit is maintained because the white dwarf fragment possesses ultra-high speed motion, and like a true pulsar, will generate a motion in the same direction as the progression of the natural reference system—away from all gravitational sources. So, with gravity pulling in, and ultra-high speed motion pushing away, the planets enjoy a very stable, nearly circular orbit.

After the dust of the 2^{nd} supernova has settled, we find a red giant star, condensing and heating up, moving towards the main sequence, surrounded by a a ring of rock, and typically 8 large fragments of the former white dwarf, in the sequence 4 small fragments, asteroid ring, 4 large fragments, and finally the rock, dust, and bits and pieces that were expelled far out from the original supernova, of both A and B component matter (low and intermediate-speed range, as not all the "heavy" matter had settled into the core when the supernova explosion occurred).

The solar system will contain two general regions of planetary formation, on opposite sides of the asteroid belt. The larger fragments, having a more ultra-high speed motion (and thus a larger "outward" or anti-gravity movement), will be further out, past the asteroid belt, and will be called the "outer planets." The smaller fragments that exist between the sun and the asteroid belt will be designated as the "inner planets."

In the early stages of cooling, the outward motion of the white dwarf fragments will prevent any large amount of dust and debris from accreting on their surfaces. The cooling of the fragment itself, will, however, produce hydrogen and helium gases in its core which, like its stellar counterpart, will occasionally "nova," and expel these gases and other matter onto its surface, producing a bright, combustive flare. As cooling continues, heavier elements will be produced, as more matter drops into the low speed range, and this matter will allow meteors, dust, and debris to begin to accumulate on the surface of the fragment.

The Inner Planets

The smaller fragments forming the inner planets will allow them to cool faster than the outer planets, and build a gravitational field more rapidly. As a result, they will have a chance to capture more debris from the supernova cloud than the outer planets will. Due to the close proximity to the sun, there will also be more of the heavier elements present, because the lightest elements get thrown the furthest out during an explosion. Once a blanket of debris surrounds the white dwarf fragment, the cooling process slows—for the layers of rock acts as insulation.

Given a typical 4-inner-planet system, what we find is the innermost planet, Planet 1, will remain mostly "white dwarf," as being exposed to the heat of the sun will slow the cooling process. Its surface will be composed of the heavy metals (remembering that the white dwarf has an *inverse* density gradient, and the highest density is on the surface), in a near molten state. Meteoric dust will add a very small quantity to this, as the proximity to the sun will also pull most debris past this small world.

Planets #2 and #3 will cool at a similar rate, and collect a reasonable amount of debris from meteor aggregation. They will be similar in size (based on their fragment size), and collect a reasonable amount of dust and rock on their surfaces. Planet #2 will have a smaller core, but more mantle than Planet #3.

Planet #4, however, being near to the neutral point of the asteroid belt, will pick up some debris, but not nearly as much. It will cool faster than the other three, and will be the first planet of a system capable

Motion, page 92.

of harboring life, as the sun will still be in the giant phase, and providing sufficient heat and light for a reasonable, life-bearing environment.

Thus, the size distribution of the inner planets will be: small, medium, medium, small, with planet #4 developing life first, followed by #3, then #2 as the sun moves into the main sequence. Planet #1 will never form the water-based ecosystems that the three other planets will, as the sun will start to get hotter and larger (moving up the main sequence) before the surface of this planet cools sufficiently to retain water in liquid form. This, however, does not preclude the possibility of life based on other ecosystems.

As the sun grows in size and temperature, the inner planets slowly become uninhabitable, succumbing to solar heat, radiation, and charged particles, vaporizing their seas, and creating dry, arid climates.

In our system, Planets #1 through #4 are Mercury, Venus, Earth and Mars. Mars will be the first world to develop water-based life, followed by the Earth, then Venus. By the time Venus moves into the habitable range, Mars will have moved out of it, and Earth will be in its early habitable stage. Each planet's evolution is unique—Venus has one, short life stage, Earth has one long one, and Mars has two different stages, early and late.

The Outer Planets

The larger fragment sizes of the outer planets will put them in a relatively simple inverse distribution pattern—the largest fragment will be nearest the asteroid belt, and the smallest the furthest out.

If we continue our numbering system, again with a 4-planet spread going from #5 near the asteroid belt, to #8 at the outer limits of the solar system, we can determine some of the basic geophysics.

Most of the heavy elements will not have made it past the asteroid belt layer, so the bulk of material available to the outer planets will be the lighter materials, particularly hydrogen, helium, lithium, beryllium, boron, carbon, nitrogen, oxygen, fluorine, and neon. A number of compounds will also occur, namely hydrocarbons, such as methane, from the natural interaction of these elements.

The accumulation on Planets #5-#8 will be in standard spherical distribution; the planets closest to the sun will get the most debris, and hence develop the largest atmosphere. The white dwarf fragments will also be producing these gases in abundance, so the 4 outer planets will be "gas giants," having a thick gaseous atmosphere, surrounding a hot, white dwarf core will a small amount of heavy matter. The ratio of atmosphere to core will decrease as we move outwards to Planet #8. These planets will look like small suns, because they actually *are* small suns, without the miles of rock covering up the cores, as found in the inner planets.

Because these are larger fragments, they remain hot for a longer time, and hence "repel" any white dwarf debris. But gravity still pulls, so the larger chunks of debris end up in orbit around these bodies, as moons. The moons then aggregate the bulk of the supernova debris trapped in orbit, and become small "inner-type" planets, rather than having the characteristics of the host planet. The outer planets will have a large number of moons, whereas the inner planets will tend to have few to none.

When the white dwarf debris that makes up the core of a moon drops entirely into the low speed range, it can no longer resist the pull of the host planet, and breaks apart in the gravitational tide, forming a planetary ring, or rings.

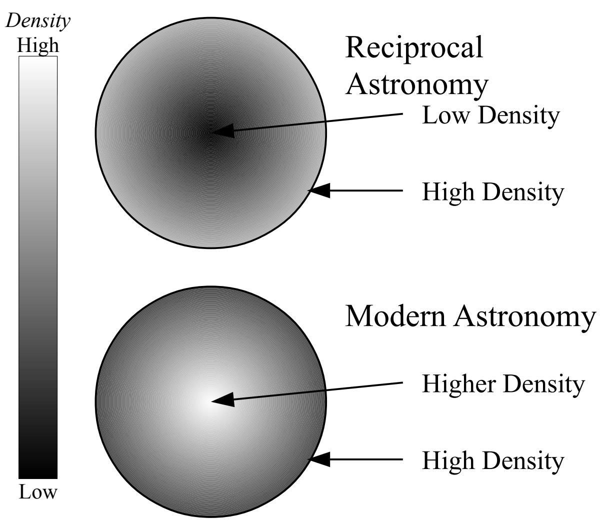
In our system, Planets #5 through #8 are Jupiter, Saturn, Uranus, and Neptune.

The Pluto / Charon System

Our solar system also has one other member, which through recent observation has proved to be a dual planetary system. Pluto and its moon Charon, have an elliptical orbit that takes the pair inside the orbit of Neptune. Due to this more highly elliptical orbit, and the closeness of Pluto to Charon, it is reasonable to assume that this pair was a small white dwarf fragment that may have chipped off the fragment forming the core of Neptune during the 2nd generation supernova, but at a distance from the sun. As such, it shares a near orbital path, but being small in size, has rapidly cooled off. Deprived of the ultra-high speed motion in its core that kept it in a stable orbit, the orbit has begun to decay. The eventual fate of Pluto/Charon will have Charon crashing into Pluto, forming a single planet, which will have an orbit that is more cometary, than planetary. And like all cometary orbits, it will eventually decay, and fall into the sun (or hit another planet).

The Geophysics of Planets

Having taken a quick exploration of the general planetary characteristics, we will now focus on the geophysics of planets, which may have some rather startling conclusions for your average geophysicist.



To understand the structure and behavior of the planets, it is necessary to understand the foundation upon which it is built—the white dwarf star. The most important characteristic of the white dwarf is that it is an *implosion* product, rather than an *explosion* product. As such, its atoms have expanded in time, rather than in space. There are several important consequence to consider with the white dwarf star:

The dwarf star has an inverse density gradient. The heaviest elements are on the surface of the star, and the lightest at the center.

1. Also, since the atoms are dispersed in time rather than space, they cannot be measured using spatial detection methods, and the star, itself, *appears* to be composed of what is viewed on the surface: a solid, metallic ball.
2. It is *very* hot. So hot that its radiation is well into the X-ray band.
3. A normal sun will condense and heat up over time, the white dwarf (being inverse) will cool down and *expand* over time.
4. As with all superluminal matter, transitions occur in quantized jumps, rather than a continuous transition.
5. As matter cools and drops back into space, it appears as light gases in the center of the star. When gas pressure in the white dwarf builds up, it erupts onto the hot surface, combusting, and producing a nova flare.
6. The intermediate speed range within the white dwarf will produce an intense magnetic field.
7. The ultra-high speed ranges at the *surface* of the star will produce thredules, a co-magnetic phenomenon.[11]

11 Nehru, K.V.K., "Glimpses into the Structure of the Sun, Parts I & II," *The Collected Writings of K.V.K. Nehru on The*

The white dwarf fragment that forms the core of the planets exhibit all of these characteristics. Applying this knowledge to what we know about the interior of planets allows us to explain a number of “inexplicable”phenomena that occur on this world.

Applying white-dwarf structure to the planetary core fragments, we can determine some of the early geophysical structure. Starting with the “bare fragment” itself, the first process will be cooling and expanding. The original fragment may have only been a few miles in diameter, but would appear to have the full mass of the current planet. As the core cools and expands, gas and light elements will make their way to the surface, changing the white dwarf to a “brown dwarf”: a hot, liquid body with a rarefied atmosphere of hydrogen, methane and ammonia (the light gases).

The atom-building process is not exempt from white dwarf fragments. Eventually, the lighter elements will become heavier elements, and sink to the core forming a normal density gradient over the inverse density gradient of the core. The region of highest density will be at the core *boundary*—**not** the center of the planet!

As a depth of matter builds over the core, it will eventually create sufficient insulation to become solid near the outer regions, retaining a liquid metal “outer core” around the white dwarf fragment, which is now the “inner core.” Most of this will be in the nickel-iron elemental range, as heavier elements will be combusted, as in the inner workings of a star.

As a result, several thermal ranges will develop. In the outer regions of the outer core, liquid metals will exist, in the low temperature ranges (low temperatures for stars, that is). The central regions of the outer core will have thermal motion in the intermediate speed ranges, generating intense magnetic fields. Right at the boundary of the outer core, ultra-high temperature ranges form, driven by the thermal motion of the white dwarf fragment.

The outer region of the inner core is basically the “stellar interior” of a white dwarf, having an inverse density gradient. It will have motion in the ultra-high speed range as well. Hence, there are two areas from which thredules (co-magnetism) can form. The central regions of the inner core would be in the intermediate speed ranges, again generating an intense magnetic field.

One of the direct results of this structure will be a planetary magnetic field, in two large “belts,” generated from the intermediate speed ranges of the outer and inner core, respectively.

As stated in consequences #4 and #5 above, the inner core will flare up at regular intervals, and send hot, explosive gases into the outer core, where they will detonate, shattering the solid structures above, allowing magma to seep through the cracks, and form a light layer of magma over the surface of this solid portion.

Meteoric dust and rock are also crashing into the surface, and being mostly of the stony type, are made of light materials that will float on this coating of magma, eventually crusting it over. The constant expansion of the inner core will utilize the outer core as a hydraulic ram, and split the crust into a large number of plates, just like dried mud smeared over the surface of an expanding balloon.

So far, we have identified the geology of the planets as:

1. An inner core, composed of a fragment of a white dwarf sun, having an inverse density gradient, intermediate and ultra-high speed ranges generating magnetic and co-magnetic effects, and anti-gravitational motion.
2. An outer core, composed of liquid nickel-iron, having a normal density gradient, but three

---

Reciprocal System of Physical Theory (North Pacific Publishers, 1994).

distinct temperature zones—a thin, ultra-high temperature region adjacent to the inner core creating short-term, co-magnetic thredules, an intermediate temperature zone, generating a large magnetic field, and a low temperature zone, forming the transition from molten to solid mantle.

3. A solid mantle, surrounding the outer core, of fractured rock, making the outer core boundary irregular.
4. A layer of magma that has seeped through the cracks in the mantle—the asthenosphere.
5. A solid layer of magma above the asthenosphere that has "crusted over," forming the simatic crust.
6. A thin crust of light materials from meteoric aggregation, cracked into large *tectonic plates*, forming the sialic crust of continents.

So far, we have a fairly accurate description of the geophysics of Mercury, Venus, Earth and Mars, when we compensate for the relative proportions of heat and white dwarf fragment size.

Mercury is mostly "outer core," with a thin mantle that is constantly melted by the proximity of the sun. Little to no crust, or atmosphere, exists. Venus is much like the Earth at a later stage. All the components are present, in approximately the same ratios.

Mars has a thin outer core and mantle, because of the smaller core size. Otherwise, it is very similar to Earth, and most likely had a hydrosphere and breathable atmosphere in the past, when the sun was larger and nearer to the planet.

The outer planets follow a similar design, but the actual "planet" is buried beneath thousands of miles of lighter compounds. Due to the larger fragment sizes, the outer planets are still in a stage of having a molten surface, covered by a light liquid/gaseous "mantle." Because there is insufficient insulation between the inner core and the hard surface, a crust cannot form—it is consumed instead.

Magnetic Fields and Poles

The bulk of the data regarding planetary magnetic fields, and the motion of the magnetic poles comes from a study of the Earth. The features recognized are:

1. The magnetic field reverses polarity, at fairly regular intervals.
2. The poles wander about the surface, sometimes appearing in equatorial regions.
3. Two distinct Van Allen belts of radiation, formed by charged particles running along magnetic lines of force.
4. Occasional disruption of magnetic fields on the surface of the Earth, typically associated with severe weather, either hurricanes, tornadoes, or super-cell thunderstorms.

The geologic structure of the inner and outer cores explain all of these phenomena. Some familiarity, however, is needed with Prof. K.V.K. Nehru's research on the interior of the sun, the seven states of matter, and the nature of sunspots.[12]

In quick summary, Nehru identifies seven states of matter: solid, liquid, gas, inverse gas, inverse liquid, inverse solid and "thredule." The one of interest concerning the magnetic phenomena of the Earth is the last, the thredule—termed *co-magnetic*, and is a 1-dimensional magnetic field where like poles attract, and unlike poles repel, are an inward scalar motion (normal magnetism is outward), and form the solar phenomena known as sunspots.

12 *Ibid*.

Motion in the ultra-high speed ranges produce the thredule phenomena. In our sun, they originate at the very center from two magnetic sheaths, projecting out like rays. When they pass through the intermediate ranges in the sun's outer core, a second set of thredules is induced, of the opposite polarity.

The same happens in the white dwarf core of planets, with a couple of important changes. Whereas our sun is a normal, "A component" star, the core of planets are "B component," the inverse of the A component. As such, some of the magnetic operations are flipped around and occur multiple times.

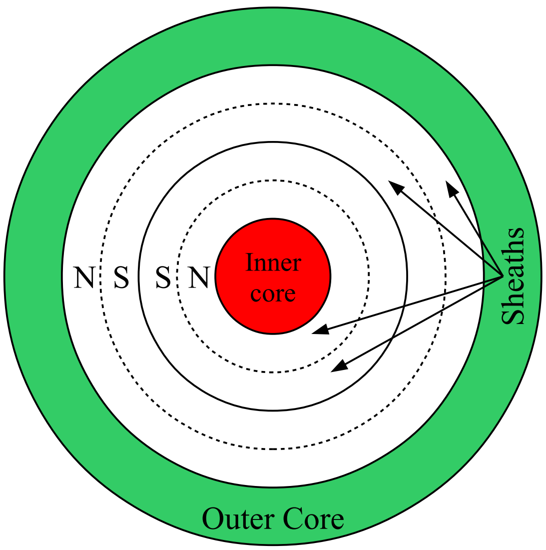
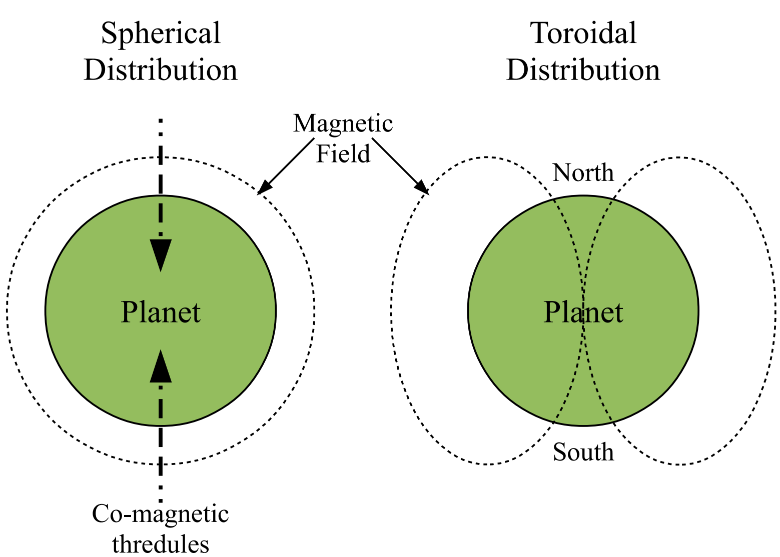


Figure 4: Thredule Generating Area

Normally, the thredule sheaths form in the very center of a star. In the white dwarf, they form on the surface, not the core, because the *surface* is the white dwarf "stellar interior," where the highest thermal motion takes place.

At the Earth's core, there are two thredule generating areas. The outer region of the inner core, and the inner region of the outer core. The sheaths formed maintain the same, alternating magnetic polarities:

The thredules from the inner core, being generated from the dwarf fragment component moving in time, are long-duration, existing for perhaps several thousand years. These sheaths form thredules, one projecting north, the other south, and form the magnetic poles (the magnetic poles will *never* coincide with the rotational poles). The toroidal shape of the magnetic field is due to this co-magnetic motion of the polar thredules.



Both the inner and outer cores generate intense magnetic fields, due to their intermediate-speed motion. However, because of the random motions involved in the constituent atoms, the magnetic field has no inherent direction, so it *should* be a spherical distribution. However, enter the thredules from the inner core—a 1-D magnetic pull, in the opposite scalar direction as normal magnetism. This gives the two magnetic fields a "favored direction"—like a child sticking his fingers in opposite sides of a balloon—and produces a toroid, with a definite north or south orientation.

Just as the sunspot cycles reverse magnetic polarity every sunspot season, so do planetary magnetic fields, for the same reason. When a magnetic pole first forms, call it the North pole, it will be in the 50-55° latitude range, then drift northward towards the rotational axis. Unlike its sunspot equivalent, there will be only a "North" projected—the south pole will not appear from this thredule, because of the inverse density gradient of the inner core—the south half of this thredule will project into the *center* of the planet, not its surface.

The south pole will be generated by the inner sheath of thredules, again with south pole thredule projecting only (with no induced thredule), and will manifest near the rotational pole, drifting to equatorial regions towards the 50° latitude range.

The time for a polar magnetic reversal can be determined by the locations of the poles. Once the north reaches the 15° area, the inner sheath will start to take dominance, and create a new magnetic pole cycle, of the opposite magnetic polarity. At this time, the planet's magnetic field will *appear* to collapse—it does not. The magnetic field is still there, as intense as ever, but has become *random*, because the co-magnetic pull of the inner core at the poles is no longer providing sufficient bias to orient the field, so it slips back to a random, spherical distribution.

Outer Sheath Thredules

The thredules in the lower regions of the outer core are far less energetic than their brethren of the inner core. They have a short life span, and are greatly affected by the sun's magnetic field. The planets, not running precisely along the sun's equatorial projection, will be exposed to the north magnetic field of the sun for half their year, and the south for the other half. This creates a bias in the formation of thredules in the outer core, so there occur two periods of thredule formation each year, during the transition, which occur during our spring and autumn seasons.

The short-lived thredules of the outer core form, project through the crust of the planet, and die off quickly, seldom lasting more than a few days. They are of the opposite polarity of the polar hemisphere they are in—south poles occur in the northern hemisphere, and north in the southern. However, their effect on the surface of the world can be somewhat extreme.

The outer core thredules, on Earth, project through the simatic crust (ocean floor) with little to no distortion, and upwards into the sky. When projecting through the continents, both the simatic and sialic crusts, the thredule is scattered and broken down into a number of smaller thredules, spread over a wider area, from the irregular concentration of elements in the sialic crust.

What the thredules do, being a 1-D inward motion in the inverse temperature gradient range, is to produce a super-cold column of air at high altitudes. When over the ocean, this cold air drops to the water, creating updrafts, lifting great quantities of vapor, and forming dense cloud layers, rotating around the original thredule projection, which remains a "clear eye" of downdraft—a hurricane.

When over land, the result is similar—but due to a lower quantity of water vapor, it produces super-cell storms, with tornadoes resulting from the scattered thredule projections. As such, tornadoes are more likely to form over flat ground, than mountainous regions, though no topography is excluded.

Even when the thredule dissipates, hurricanes can continue onward from the processes generated during its initiation, but dissipate rather quickly. Hurricanes also dissipate quickly over land, as the thredule driving the center becomes scattered, and the hurricane breaks down into an intense rain storm.

Thredule formation continues for about 3 months, before it weakens to the point where only minor effects on weather take place. When the Earth slides to a new solar polarity, the cycle starts again.

Since the inner core rotates at a slightly different rate than the mantle and crust, there is a general shifting of this phenomena, creating the weather "cycles" that occur over a number of years.

Where Did All the Water Come From?

Earth is unique in our solar system for having an enormous quantity of surface water. Given that the inner core is constantly expanding, and thus the surface area of the Earth is also expanding, and considering that ocean water levels are continuing to rise (as demonstrated by the continental shelf, which was once above the surface and is now 600’ below), where does all the water come from?

There is another attribute our world has that is not found on the other worlds of our system—we are covered with life, and an enormous variety of forms. Water and Life must be related.

As it turns out, most land-based ecosystems produce more water than they consume. Plant bacteria in particular, excrete water as a “waste product” by consuming oxygen and hydrocarbons. It is reasonable to assume that our hydrosphere is a by-product of the life of the land. As the amount of life increases, so does the depth of the water. It is a good thing that the Earth is expanding, or we would be a water world by now.

Considering that water is generated by life, rather than a geological process, we can now proceed to refine our view of the crust of the Earth.

Examining the crust, we find that under its original formation, the top layers of the molten asthenosphere solidify, as the lighter elements move to the surface. Over this solid crust of gabbro basalt, meteoric dust and rock fall, forming a second, lighter crust mainly of silica and aluminum (stony meteorites). This is a typical crustal formation of a planet like Venus, where no hydrosphere exists. Geophysicists name these two crustal layers *Simatic* and *Sialic*, after the primary elements of their composition—Silicon / Magnesium (gabbro basalt, SIMA for short), and Silicon / Aluminum (or SIAL for short).

The Earth expands; the outer crust (both layers) crack open, and through the cracks pour magma, which solidifies to more SIMA. We now have a surface where the SIMA is exposed, and at a lower elevation than the surrounding SIAL sitting on top of the SIMA. These great basins become the repositories for the water generated by the microscopic life forms existing in the SIAL layer, and develop into seas and oceans. The SIMA thus forms an underlying, global crust with large cracks, making tectonic plates. The SIAL forms the continents.

The interesting conclusion—life did not form in the oceans, life started out on the land, and formed the oceans, in which higher forms of life evolved, which moved back on to the land. Since the amount of water is constantly increasing on the planet, as the continental shelves were at one time exposed to the air, it is an indication that the time may be near for another quantum expansion of the planet.

Pangaea

Modern theory believes the continents all started out lumped together in a single, super-continent called Pangaea, where the rest of the world was ocean. Given the analysis of the crust, we find this is incorrect. Indeed, there was at one time, a super-continent of Pangaea, but the Earth was only a fraction of its current size—the whole of the land mass *was* Pangaea comprising the *entire surface* of the planet. The oceans had not yet formed.

The expansion due to the cooling of the core cracked Pangaea into a number of large pieces, with magma breaking through those cracks to fill in the gaps. A core flare occurred (the planetary core equivalent of a nova flare of a white dwarf star—same cause and reason). The eruption of the explosive gases pushed the Americas apart from Eurasia, along what is now the mid-Atlantic fault. This formed the first ocean bed—the Atlantic.

Water eventually filled in the basin, and formed the Atlantic Ocean.

The next core flare occurred in the Pacific basin, pushing Russia apart from North America. Leaving two super-continents, North America/South America/Antarctica (then attached to the west coast of the Americas), and Europe/Africa/Asia/Australia. This created a great number of weak fracture areas in the Pacific basin, which continue to exhibit the bulk of the expansion of the Earth.

A later core flare separated Antarctica from the Americas, rolling it off South America to its more southerly position, eventually disconnecting it from the continents, altogether.

If you look at a topography map of the ocean floor, the stretch lines are obvious. Continents are not sliding towards or away from each other vectorially, they are all sliding away from each other, in a *scalar* fashion—because the Earth is *expanding*. Oceans will grow wider. Other fractures occur as the surface area of the Earth increases, breaking up the large continents into smaller ones. Eventually, the Earth will be a large, ocean world with many large islands, and no major continents.

Lost Continents

There are three cycles to the expansion of the Earth. The first, and most mild, is the gradual cooling of the core, causing a slow expansion, and minor volcanic and earthquake activity worldwide, as things re-settle.

The second is the intermediate speed matter from the inner core dropping into the low speed (1-x) range. This is not done in a smooth, continuous motion. A threshold is reached, then there is an avalanche effect that causes a great deal of matter to drop out of motion in time, back to motion in space. Take, for example, motion defined as s/t. A motion of 5 units, in time, would be defined as 1/5, or as it would appear in space, 0.20. When those 5 temporal units invert to become 5 units of space, 1/5 becomes 5/1—what was 0.2 meters, is now 5 meters—a major expansion in volume occurs at the core of the planet.

This causes the plates, world-wide, to separate and exposes the magma of the asthenosphere to whatever is above, typically water. With wide gaps between the plates sitting on the molten, slippery asthenosphere are free to move, in relation to each other, as well as over the mantle of the crust.

Because the Earth is rotating, the plates will seek the “least energy” configuration. The largest continental bulge will tend to become equatorial. In most cases, this is one of the polar ice caps, with ice piled miles high. Thus, the plates containing these ice caps will slide to equatorial positions, normally turning the surface of the Earth 90° from its prior position. This would be a regular, and predictable, phenomenon.

The final cycle of expansion is the “core flare,” when enough gas is produced in the center of the core (the low density area), to generate sufficient gas pressure to break through the inner core, and into the molten outer core, and explode—the core flare. This has a devastating effect on the surface of the planet. The thermal release will break through a section of the mantle, literally blowing a several-mile-wide volcano in the surface of the planet to release the pressure. Enormous quantities of material will be pushed to the surface, causing another sudden increase of surface area, but localized to a region, rather than distributed globally. This outburst would most likely coincide with the second cycle, but not always occur. Again, it would probably be at a fairly regular interval, with a number of Cycle 2 events occurring between.

The results of this core flare could split a section off a continent, and push it several hundred miles away from its parent in a matter of a few days.

Consider a tribe living in a coastal area, with a large island visible to the west. The core flare occurs, and volcanism and earthquakes flare up all around for several days. The activity dies down, and they look to their west, and see nothing but muddy waters of the ocean, bubbling with volcanic remnants. Their reasonable conclusions: the gods have gotten angry, and sank the island continent to the west. In reality, the coast was the fracture zone, and that island just moved over the horizon, where it can no longer be seen, and will probably continue to move rapidly for several decades. The volcanoes and muddy waters make it look like the continent had sunk; in reality, it just moved a great distance in a short time.

We find evidence of this in the legends of Mu, Atlantis, Lemuria, and “Ancient Lanka (Ceylon).” Ancient Lanka was supposed to exist off of the west coast of India, where a series of islands now exist. However, since the water levels were much lower then, those islands were part of the coastal mountains of India. The topography of the ocean floor at that point indicates only simatic crust—no continental mass. However, by following the fracture zones and stretch marks, the ancient island of Lanka can be found.

Lanka is also known by the name Lemuria, named after the Lemurs found in both India and Africa, but not in any of the intervening lands. It was assumed a land bridge once spread between Africa and India, allowing these creatures to cross freely. And so was the case. Consider:

> “Because many of its animals, plants and rocks resemble those of Africa, some think that… was at one time connected to that continent. But it has also plants and animals seemingly of East Indian origin. This is the basis for supposing it to be a remnant of a continent called Lemuria, which is believed to have filled, in ages gone by, the central basin of the Indian Ocean."[13]

When the Earth’s size is reduced, as it was ages ago, an island does connect India to Africa—the island of *Madagascar*. Madagascar is Lemuria/Ancient Lanka. (The island seemed much bigger, then, because the Earth was smaller).

The same is true for Atlantis. Prior to the last major expansion, Antarctica was tropical and much closer to Africa and South America. North America was at the North Pole, and in an “Ice Age” (Ice Ages occur when the crust is reoriented so the place having the ice age is near one of the polar points). Antarctica is Atlantis. And Atlantis will “rise again,” when the next core flare occurs, as it now has the bulk of the elevated mass of the planet piled up in its ice sheets. When the crust slips, that bulk will become equatorial, and melt. However, all the remains of Atlantis are now crushed into sand, by the massive sheets of ice.

Continuing extrapolation shows that Mu was the continent of North and South America combined with Antarctica, just after the formation of the Pacific basin.[14] The core flare formed the basin, and pushed Antarctica off of America, rolling it south. Those survivors in America saw the continent of the west disappear, leaving only mud and volcanism. But it really isn’t gone, just relocated.

13 *Comptons Encyclopaedia*, Vol 9, 1946.

14 A later analysis of Sumerian records indicate that the people telling of these legends did a bit of migrating, and that the Americas+Antarctica was, in actuality, *Atlantis*, and Eurasia, the region of Sumer, was *Mu*.

Predicting Cycles of Destruction

Of the three cycles identified, the latter two can be predicted—and perhaps have been for many generations. If we look to India, there are records going back many thousands of years. They indicate that there are two cycles, known as "Yugas." A minor yuga is about 6,000 years. A major yuga is 4 minor yugas, or 24,000 years. I believe these represent approximations of the 2^{nd} and 3^{rd} destructive cycles of the core.

On the other side of the world, we have the sacred calendar of the Aztec and Maya, handed down from their ancestors, the Toltec, handed down from the people of Iltar, who migrated there when their home of Aztlan was destroyed. The Maya also have similar cycles, but hold a great deal more precision. The minor cycle occurs every 1,872,000 days, or about 5,125 years. The major cycle is 5 of the minor cycles, or 25,627 years (which is also a very close figure for the precession of the equinoxes).

Both systems indicate that the current major cycle will end within the next 20 years, around 2000 for the Yuga cycle, and on December 23, 2012 for the Mayan cycle. The Mayan date, though precise, may not be as accurate as hoped for, because there are errors in the current Julian calendar that may have caused an erroneous start date for the Mayan calendar. The actual Mayan "end time" could be as early as 2003.

As for a more scientific determination, it is difficult, as there is no prior data to base a theory on. Several features can be isolated, to aid in determining a date. For example, there will be a large drop in the Earth's magnetic field (the geomagnetic field has dropped 38% in the last 2000 years). A new south magnetic pole will begin to form in the northern hemisphere, near 50° N latitude (according to KVK Nehru's sunspot research, extrapolated for the Earth's core). This new south pole will cause some unusual phenomena, and being co-magnetic in nature, will cause the existing magnetic field to collapse at that point, allowing gamma rays to penetrate to ground level, causing sterility in the area of the new pole, as well as unusual magnetic, electric, and gravitational effects. There is one particular area on the Earth, at 52° N latitude, that fits this description—the Salisbury plains in England, in the area of Stonehenge, where the crop circle phenomenon is building. Observation agrees with mysticism—a "pole shift" is coming sometime soon.

Post-Cataclysm Earth

What will happen if a core flare occurs say, for example, in the springtime of 2003? Mayan records indicate that the earth trembled with volcanoes and earthquakes for 3 days. The sun and moon stopped in the sky, then moved "crazily" in different directions. Then they were blocked out by clouds, and the sun did not shine again on the land for 26 years (due to the volcanic ash and dust thrown into the atmosphere).

The Hopi describe it as:

> "The twins [the two gods who hold the rotational poles in place] had hardly abandoned their stations when the world, with no one to control it, teetered off balance, spun around crazily, then rolled over twice. Mountains plunged into the seas with a great splash, seas and lakes sloshed over the land; and as the world spun through cold and lifeless space it froze into solid ice."[15]

The equatorial paradise of the ancient Hopi had been relocated to the arctic region of the new poles.

15 Waters, Frank, *Book of the Hopi* (Penguin Group, New York, 1972), p. 16.

In Norse mythology, "Sibyl's Vision" says of *Ragnarok* (the final battle, where the gods are destroyed), "The sun will go black, earth sink into the sea, heaven be stripped of its bright stars; smoke rage and fire, leaping the flame lick heaven itself."[16]

From the Christian Bible, Revelation 6:12:

> "And I beheld when he had opened the sixth seal, and, lo, there was a great earthquake; and the sun became black as sackcloth of hair, and the moon became as blood; and the stars of heaven fell unto the earth, even as a fig tree casteth her untimely figs, when she is shaken of a mighty wind. And the heaven departed as a scroll when it is rolled together; and every mountain and island were moved out of their places."

Virtually all myths has a similar description of the end times, which seem to recur. The native tribes of the Americas describe four such destruction's in their history. The Yuga system describes three such cycles, others describe many more. All the recent destruction's seem to fit near these time frames, obtained from ancient records. Note that the dates *do not* correspond with geologic time scales.

Ancient Records (BCE)	**Geologic Period (BCE)**	**Era**	**Comments**
75,000	100,000,000	*Cretaceous*	Breakup of Mu
50,000	65,000,000	*Paleocene*	2nd breakup of Mu 1st breakup of Atlantis
24,000	45,000,000	*Eocene*	2nd breakup of Atlantis
16,000	12,000,000	*Oligocene*	Lemuria disappears
9,600	10,000	*Modern*	Final sinking of Atlantis
3,114	4,000	*Modern*	Start of Mayan calendar

It is interesting to note how the "ancient records" greatly differ in time scales from modern geologists. When examining the methods of long-term dating, I did discover that there is a cumulative, exponential error in geologic dating that relies on radioactive decay. Anything beyond the 5,000-year range of carbon dating may be drastically wrong, and the Earth may be much younger than ever conceived—by as much as a factor of 1,000:1.[17] The 4.6 billion year age of the Earth, may be as little as 500 million,[18] and mankind may have been present when dinosaurs walked the Earth, as actually shown etched in ancient Peruvian stone tablets. Also, recent fossil evidence in Texas is supporting this hypothesis—much to the objection of anthropologists—having found human footprints petrified in rock next to dinosaur tracks, as though the humans were hunting the dinosaurs. Originally thought a hoax, until they discovered the tracks continued under a large cliff, and when excavated, showed the same human/dinosaur prints.

It appears that a major disruption of the Earth's surface is due, as well as a magnetic pole shift. It may be possible to determine where the breaks will occur; plate tectonics are fairly well defined, but typically limited to oceans. Breaks under the continental crust can also be identified by the separation

16 Sturluson, Snorri, *The Prose Edda, Tales from Norse Mythology* (University of California Press, Los Angeles, 1954), p. 90.

17 Further analysis done in 2013 indicates a cumulative error, reaching as high as 230:1 for the age of the Earth. The dates surrounding the ancient continents are off by approximately 10:1, so 50,000 years is actually 5,000.

18 Work done by Prof. KVK Nehru in his paper, "The Large-Scale Structure of the Physical Universe, Part 1: The Cosmic Bubbles," places the age of our sun, and therefore the planets, at approximately 18.4 *million* years—not billions.

of land masses, and mountain ranges.

Conclusion

This preliminary investigation into Reciprocal Geophysics brings out a lot of concepts and ideas not likely to be accepted as a “matter of fact.” However, it does provide a more consistent view than the *ad hoc* collection of theories now used to try to explain the planet, its history, and its phenomenon. I consider this a starting point, needing much refinement and extrapolation. It offers the opportunity to get to the nature of many of the “core” problems our world faces, and also offers a basis to start correction.