

A Grand Introduction to Darwinian Mechanics

(The Need for an Expanded Scientific Framework: As the limited axiomatic scope of the mathematics of Relativistic Mechanics, alone, cannot improve mankind's overall understanding of the true Uncomputability, Immeasurability and Unpredictability of the Physical Universe).

Abstract

Throughout human history, the trend lines that have stretched across the many sets of civilizations that have inhabited the Earth, have indicated that sufficient advances in mankind's overall scientific agency, knowledge, and intellect could eventually culminate in the formulation of a cohesive set of equations, or mathematical axioms, that could be used to discern (or decipher) a set of physical laws that truly pertains to all things in the material universe; where these laws could include, but would not be limited to, the motion of galaxies, the creation of planets, and the sustained emergence of biological complexity within the universe. However, here in the twenty first century, many of the most advanced and widely accepted theories, or systems of equations, that have recently been put forth by humanity, tend to be diametrically opposed to each other; and, thus, fall far short of being able to explain, in any consistent way, many of the things observed within the universe, such as the creation of life, or the dynamic motion of stars within spiral galaxies. Consequently, this paper takes an intentionally unorthodox, unconventional, or a less mathematically rigorous approach, and instead uses plain standard language, or visually descriptive language, to highlight three (3) of the yet to be fully understood things about the nature of the physical universe. These are: (1) the mechanisms that facilitated the creation and evolution of the Earth's moon alongside the Earth; (2) the fractal system that shaped the Earth's position in the overall scale of the material Universe; and (3) the process by which energy from the planet helped to facilitate and induce the many nuclear, chemical and physical reactions that led to the emergence of eukaryotic biological complexity on the surface of the Earth.

Keywords: thermal energy, conservation of energy, angular momentum, inertia, biological complexity, creation of the moon, thermodynamics, gravity, galactic center, differential rotation, postulate, hypothesis, theories, axiomatic models, physical laws, plasma, fractals, interstellar molecular clouds, spiral galaxies.

INTRODUCTION

Prior to the early sixteenth century, it was widely believed that the Earth was located at the center of the material universe; and it took Nicolaus Copernicus to come up with a new approach (or, at the time, a seemingly strange new concept) to change the long held belief in the specifics of the geocentric model. Essentially, with his newly developed heliocentric postulate, Copernicus proposed that the Earth did not reside at the center of the universe; but instead, simply, revolves around a star, that happens to be located within our localized section of the universe. While, Copernicus rightly observed that the planets revolved around the Sun, it was, actually, Johannes Kepler who correctly defined the elliptical orbits of the planets in very precise and well defined ways, through the use of charts, diagrams, mathematical equations, and axiomatic notions; which were gleaned via many meticulous observations, and established a new paradigm for a more complete description of the orbital motion of planets and other stellar objects. Consequently, these ideas put forth by Kepler, and the ideas outlined in Newton's laws of motion and universal gravitation, along with the principles outlined in Euclidean geometry, stood unchallenged for more than two centuries; until, Albert Einstein presented his theory of Relativity in 1905; which deviated significantly from most of the dominant models that preceded his, and thus represented a new set of conceptual notions or equations that: changed the direction

of scientific research, changed the way how observed physical phenomena would be explained or interpreted, and brought about a completely new era in mankind's overall scientific knowledge.

So, here in the twenty first century, the collective set of ideas that are now dominant across the scientific landscape, are those of Einstein; and most of the main theories and physical models that are now used by the scientific community, are offshoots of the principles described by, or deemed possible within, the cardinality, measurability, computability, decidability and predictability of, the axiomatic, mathematical or logic systems built from Einstein's works. As such, the main physical models that are now used in the fields of astronomy and astrophysics, are those models, which reference the instantaneous collapse of clouds of interstellar material, that can create dense energetic stellar objects, or that can alter the curvature of space-time within their localized vicinity; or, those models that involve the relativistic notion of stars being formed from the rapid implosions of self-collapsing dust and gas clouds; as well as, those models that embrace the notion of planets, moons, comets, asteroids, and planetesimals being formed from the vast self-organizing debris fields (or proto-planetary disks) that can accumulate around various stars. Consequently, the universal acceptance of these relativistic notions have, now, caused the scientific community to view the gravitationally locked, or the tidally locked, orbital motion of the moon, and the numerous craters on the surface of the moon, as fully settled science (or as topics within science that have been fully researched, where all possibilities have been fully exhausted). Thus, the late heavy bombardment theory and the giant-impact hypothesis, which are the newest qualitative and quantitative logic statements or relativistic formulations about the formation of the moon, now, point to the notion that the Earth's natural satellite was made from the reconstituted fragments of a random foreign rocky object (or a random planetesimal) that, in the past, violently collided with the Earth, at the perfect trajectory, to settle into the perfect elliptical orbit around the planet; and these, relativistic formulations, also point to the notion that the numerous craters, or divots, on the surface of the moon were due in part to the tremendously violent and tumultuous past that, both, the moon and the Earth experienced (or to the high frequency with which these types of collisions use to occur).

However, it has been shown that these relativistic notions that have been used to describe the formation and motion of comets, moons, planets and stars, usually fail to properly explain, or predict, the differential rotation observed within spiral galaxies; which in relativistic mechanics is sometimes called the "Wind-up Problem," and is said to be connected to the presumed existence, or abundance, of dark matter and dark energy. So, under the restraints of the mathematics of relativistic mechanics, at least one significant natural physical feature of the universe, has only been partially explained, or is still presumed to be partly improbable, undefined, uncomputable, or undecidable; as revealed through the many sets of infinities and contradictions that still manifest within the axiomatic systems built from Einstein's works, or tensor equations. Yet, the scientific community continues to build numerous computer programs and simulations, using these partially incomplete axiomatic systems, to visually depict or illustrate the perceived formation and dynamic motion of galaxies and stars; and, continues to rely on selective telescopic data, which have to be digitally airbrushed or altered, by scientists or computer programs, to render these very opinionated depictions of nature as useful, relevant, or meaningful, under the postulates of relativistic mechanics. Essentially, for the past century, the scientific community has continued to knowingly accept and wilfully embrace the entrenched inaccuracies, contradictions, incompleteness, and inconsistencies of these models; and these models are now the cornerstones on which most of modern quantitative science have been built, and are the lynchpins on which many of the newest and most advance technologies of recent history, such as GPS and satellite guidance systems, have been anchored to; which ultimately serves to produce a normalization of deviance, and perpetuates a confirmation bias towards these relativistic models. Therefore, given the entrenched inaccuracies of these relativistic models, a day will come when our civilization will have to produce a cohesive set of ideas that can discern (or decipher) the physical laws that truly pertains to all things in the material universe; and within those moments, our civilization will have to move away from its over reliance on the potentially flawed principles or axioms of relativistic mechanics; and instead will have to create a completely new framework that focuses more on much broader scientific models that can put forth testable new

predictions, explain all the things observed in space and on the Earth itself in a more consistent way, and can be robust enough, or expansive enough, to properly reveal the set of physical laws that actually pertains to the motion and formation of entire galaxies, as well as the creation of life in the universe.

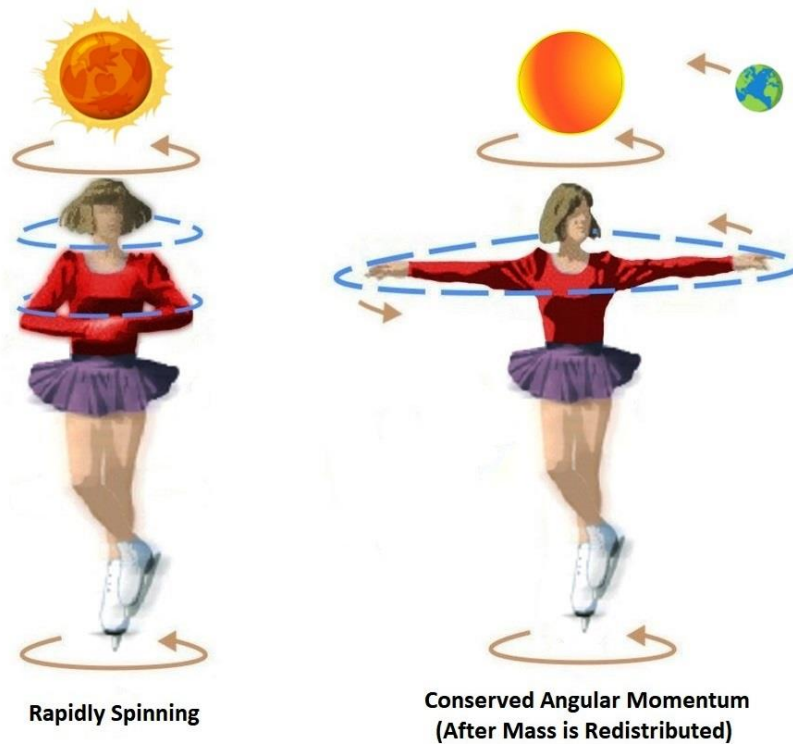
PHYSICAL LAWS

Before the rise to prominence of the notion that the Earth's moon was created from collisions within a very active proto-planetary disk, there was a radically different depiction of lunar and planetary evolution, in which George Darwin (son of the famous biologist and geologist, Charles Darwin), in 1879, proposed that an ancient rapidly spinning Earth somehow expelled a piece of its mass, and it was this expelled mass which congealed to create the large natural satellite that was now in orbit around the Earth. However, his model was quickly abandoned for a seemingly less radical, or seemingly more cohesive, relativistic model, which was able to provide a more unified set of axioms to seamlessly connect the creation of the moon to that of planets and stars. Essentially, this relativistic approach was able to successfully link the creation of the moon, to the notion of interstellar clouds of dust and gas that could spontaneously undergo gravitational collapse to cause massive rippling effects through space-time; and the notion of stellar size proto-planetary disks that could create planets, asteroids, and comets. But, when expanded to the galactic scale, this same relativistic approach failed to produce any accurate results, or predictions, about the differential motion that the stars within spiral galaxies tend to display; and instead, pointed to the notion that the significantly faster angular velocities of the stars near the galactic axis of rotation, relative to those stars that are further away in the spiral arms and other outer sections of that same galaxy, would quickly result in the galaxy folding in on itself, after only a few revolutions. So, this approach that was solely based on relativistic mechanics, ostensibly, failed to match any of the known observations that have been collected about the motion of stars within spiral galaxies. Therefore, given the entrenched inaccuracies of this relativistic approach, this would be the opportune time to formulate a new set of ideas, or to come up with a new set of physical models, that can be used to properly explain the differences observed in the orbital motion of the stars within spiral galaxies; and it would also be the perfect time to revisit, or re-analyze, some of the earlier hypotheses, or postulates, such as those that were put forth by George Darwin, which were grounded in the axiomatic system of Newtonian Mechanics (or that were compliant with the Principles of Euclidean Geometry, the laws of universal gravitation, and the Laws of Thermodynamics); as this could perhaps lead to some new insights into the fundamental nature of the physical universe.

Consequently, by utilizing Darwin's initial depiction of lunar and planetary evolution, the non-relativistic model that would emerge is one in which: The formation of the moon would be tied to the splitting of a large superheated plasma object (or a superheated proto-planet), to create two physically separated co-orbiting or gravitationally connected planetary bodies; where these objects would not necessarily be tidally locked to each other, but without making any further direct physical contact, after the split, the newly formed planet and its moon would proceed to gravitationally tow or haul each other around the sun, in perpetuity. Additionally, within this new context, the superheated temperatures of these two co-orbiting bodies would, necessarily, be connected to the conserved thermal heat energy that would have been retained from the object that created them; thus, immediately after the split, both the planet and the moon would, necessarily, have to have been a lot more viscous and substantially hotter than any relativistic model would suggest. The implications of which is that, the sun, as the definitively hottest object in our solar system, may have been the superheated celestial body that unexpectedly expelled a piece of its mass, early in the history of the solar system, and it was this expelled mass that later congealed, at a certain distance away from the sun, to create this superheated proto-planet, whose own internal instability would later cause it to split to create the planet and its moon. So, at some point in the past, the sun and this proto-planet would have been substantially closer to each other; and, for a brief period of time, both objects would have displayed a great amount of instability: With violent eruptions emanating from deep within their structures, which would manifest as cascades of

massive flares, or as thick energetic outburst, such as solar winds or plumes of viscous plasma material, that would stretch for several astronomical units out into space. Therefore, during these moments, in accordance with Darwin's initial ideas, the proto-planet would have more resembled a very active dwarf star (or a very active superheated gas giant that was in the process of having its entire atmosphere stripped), rather than baring any resemblance to a typical rocky planet, or a typical gas giant.

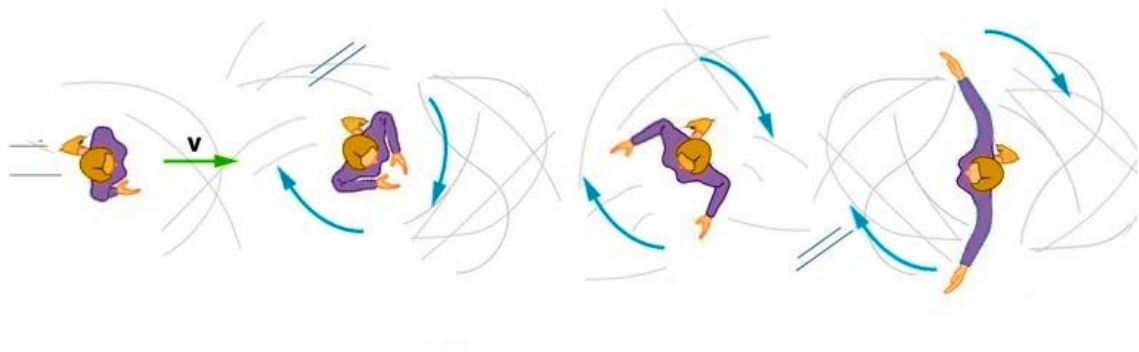
So, within the context of this non-relativistic model, a moon would be a large breakaway piece of a superheated planet (and in that same vein, a planet would not simply be an accumulation of cold dust and gas, but would instead be a large breakaway superheated piece of a very active star); which was able to remain in a gravitational co-orbiting relationship, with the main body remnant remains of the much larger object that it split from. Additionally, given that most planets within our solar system contain a wide array of chemical elements, or given that the Earth contains the full spectrum of all chemical elements from the periodic table, this would imply that our parent star, the sun, from very early on in its lifespan, would have always contained many relatively heavy elements, in relatively high abundance, instead of being comprised of solely hydrogen and helium. Consequently, the carbon, nitrogen, oxygen, silicon, aluminium, iron, copper, nickel, and titanium atoms that are now evenly distributed throughout the structure of the Earth and its moon, would have always been available in the main body of our parent star, the sun, in relatively high abundance; and the wide assortment of chemical elements now woven into the very structure of each planet, would have already been abundant in the superheated sections of the star that broke off and later became the planets of the solar system. Thus, preserved within the physical structure of these planets would be the chemical energy (or the atoms, isotopes and ions) and the mechanical energy (or the vibrations, oscillations, and collective inertial motion) that would have come directly from the sun; such that, each planet would possess its own unique geochemical and geophysical make-up; and the prograde orbits, or orbital synchronicity, of these planets would reflect the rotational inertia that would have been given to them by the star that they split from. Therefore, within this model that utilizes Darwin's initial ideas, our solar system should no longer be viewed as a spinning and swirling disk of material, which resulted from the collapse of a dense interstellar cloud of dust and gas, but should instead be viewed as a star (or proto-star) whose mass, somehow, got violently pushed outward and was redistributed several astronomical units out into space.



Figures 1: Illustration of the law of conservation of Angular Momentum

In other words, rather than being viewed as the by-product of a collapsed interstellar molecular cloud, perhaps our solar system should be viewed as the extended parts of a very large viscous plasmoid (or a very large star), that was able to shed most of its internal thermal and nuclear instability to turn itself into a relatively small star, encircled by a series of planets; where the outstretched arms of gravity would always ensure that, as this somewhat smaller star navigates its galactic orbital path, around the Milky Way Galaxy, it would always tow or haul these planets along, using the immense gravitational influence that it has over them. Furthermore, given that all the planets of the solar system travel around the sun via a complex network of elliptical prograde orbital paths (or orbit in the same direction as the rotation of the sun), and given that the time taken for each planet to complete one full orbit around the central axis of the solar system, correlates directly with its radial distance from the sun; then, the angular momentum preserved within the elliptical orbital synchronicity of these planets, relative to the main equatorial plane (or the central rotational axis) of the solar system, could be viewed as the inevitable result of redistributed solar mass being forced to adhere to the physical laws that govern the conservation of rotational inertia, angular momentum, and gyroscopic stability. Consequently, rather than bearing any resemblance to the rotational motion of a solid rotating disk, firmly attached to a fixed axle, the overall prograde motion of the solar system would be better represented by the multiple superimposed images of the inertial stability and gyroscopic balance of a series of figure skaters, who were successfully able to complete a Triple Axel Spinning Jump, relative to one specific rotational axis (or relative to one specific synchronized axial alignment); where each figure skater would start her routine, not with her arms outstretched but with her arms close to her chest, and after a few rotations she would have to extend her arms outwards (or redistribute her mass), to reduce her overall rate of rotation, which would allow her to preserve most of her rotational inertia, or angular momentum. Additionally, within this scenario, the sun's rotation would be represented by the fastest spinning figure skater; and the radial distance of the outstretched arms of the other figure skaters, would correlate directly with the radial distance of each planet from the sun, on a one to one basis. Essentially, all of this would represent a simplified reinterpretation of Kepler's initial observations, related to the elliptical orbital motion of the planetary bodies that exist within our

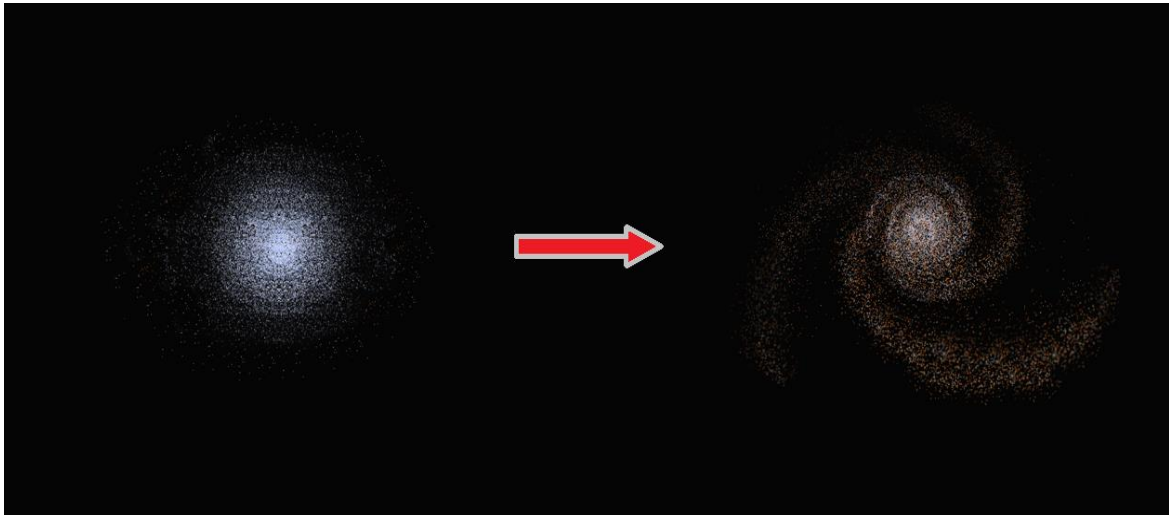
solar system; and would serve to reveal that, all rotating structures in the universe, even the ones that are mainly held together by gravitational bonds, rather than by chemical bonds or magnetism, can be viewed as gyroscopic systems that possess an intrinsic ability to preserve angular momentum (or to resist all external changes to their torque or rotational motion), rather than being viewed as structures that possess a tendency to collapse in on themselves. Therefore, within this context, all moons, planets, stars, solar systems, interstellar molecular clouds, and galaxies, can be viewed as a by-product of redistributed mass being forced to obey or adhere to some of the most basic tenets, or fundamental laws, related to the conservation of energy, momentum, and rotational inertia.



Figures 2: Illustration of the law of conservation of Angular Momentum depicted via a Triple Axel Spinning Jump

So, within this model that utilizes Darwin's initial ideas, these types of gyroscopic properties and natural tendencies would not only extend to solar systems and stars, but would also extend to galactic structures such as spiral galaxies as well; such that, within any given spiral galaxy, the angular momentum preserved within the collective orbital synchronicity of its spiral arms, relative to its main equatorial plane (or its central rotational axis), could be viewed as the inevitable result of redistributed galactic mass being forced to adhere to the physical laws that govern the conservation of rotational inertia, angular momentum, and gyroscopic stability. Thus, the overall orientation of a spiral galaxy, would be determined by the angular momentum, linear velocity, rotational inertia, centrifugal forces, inertial mass, chemical assortment, and gravitational properties, that, at some point in the past, would have been transferred, when energy and mass was expelled (or pushed outward), by a much older energetic and rapidly spinning galactic structure. In other words, if Darwin's fission principles were to be fully evoked at the galactic scale, then, a spiral galaxy would simply be viewed as the expelled parts of a once rapidly spinning unstable superheated structure, that ruptured, and over time gradually redistributed most of its mass and internal instability, along a specific plane of rotation, to turn itself into a stable galactic structure that possess a gigantic energetic central bulge, encircled by a cascade of several series of spiral arms. Consequently, if the figure skater analogy used for solar systems were to be applied to the galactic scale, then, in the case of a spiral galaxy, the collection of stars in the bulge at the center of the galaxy would be represented by the fastest spinning figure skater (or the figure skater who was able to keep most of her mass concentrated directly at the central rotational axis); while, the collection of stars that inhabit the spiral arms, and the other outer sections, of that same galaxy would be represented by the outstretched arms of the slowest rotating figure skater (or the figure skater who was able to extend her arms the furthest away from her body). In essence, within this model, as the spiral arms that encircle, but are not physically attached to, the galactic bulge at the center of a spiral galaxy, gets gravitationally towed or hauled along through space, they would all remain, collectively, in a stable orientation, relative to the main galactic

axis, or main galactic rotational plane, which would have been based, entirely, on the original mechanical energy and rotational inertia of the galactic structure that they split from. Therefore, a spiral galaxy would not simply represent a collapsed cloud of dust and gas, which manifested when particles and mass that were once very widely dispersed, somehow, got sucked towards one central point; but would, instead, represent an energetic rotating structure that is in the process of slowly pushing itself apart, or an energetic rotating system that is, methodically and slowly, using various processes and mechanisms to extract mechanical energy from the atomic and subatomic particles that make up the stars and other celestial bodies within its structure.



Figures 3: Illustration of a galactic transformation

So, all of this would be an indication that the Hubble galactic sequence, which shows a morphological classification scheme for galaxies (invented by Edwin Hubble in 1926, and colloquially known as the Hubble Tuning Fork Diagram), would be correct, in revealing that elliptical galaxies would represent the oldest set of anomalous galactic size structures in the universe (where these galaxies would possess no definitive shape, but would simply be dense concentrations of very large energetic objects). And it would also be correct in revealing that the transformation of one of those older galaxies could lead to the creation of a spiral galaxy, which would represent a younger and more organized galactic size structure (where this younger galaxy would possess a stable rotational motion and a flattened disposition in its distribution of its energetic objects). In other words, each individual spiral galaxy would represent the leftover remnant remains of an elliptical galaxy, after a galactic scale transformation process that would have taken several million years, or billion years, to unfold. Furthermore, this merger between the ideas of Hubble and those of Darwin, would also reveal that the energetic fast rotating structures known as quasars, which are thought to be black holes, would merely represent the transition structures, where elliptical galaxies that were once accumulating or hoarding vast amounts of mass and energy, would have started to release some of their pent up energy, or thermal instability, to reshape themselves into much more stable, or less massive and less energetic spiral galaxies, or to a lesser extent dwarf galaxies as well. As such, since the entire universe seems to be littered with these very energetic galactic structures, in different stages of their evolution or life cycle, which can take billions of years to unfold, as revealed through the numerous deep field images that have been captured by the Hubble Telescope, from all areas of the night sky, then, this would be a direct indication that, contrary to the principles contained within relativistic mechanics, absolutely no galaxy or galactic structure, in the universe, could instantaneously use up all of its internal energy or mass, in one go, to instantly expand to become a vastly expansive cloud of dust and gas that is infinitely dispersed; nor, could it instantaneously use up all of its internal energy or mass, to instantly collapse to become an infinitely dense, or an infinitely small, singularity. Instead, all of these structures within the physical universe would have to use processes and mechanisms that

adhere to established physical laws, to either systematically release, or systematically conserve, their energy, mass, inertia, and momentum, over a vast period of time (which may amount to billions of years). Therefore, the fast rotating galactic center, of any given spiral galaxy, would simply represent the main body remnant remains of the center of the original elliptical galaxy, that would have been left after the galactic scale transformation process was completed; while, the spiral arms and other outer sections, of that same spiral galaxy, would represent the parts of the mass of the original elliptical galaxy that would have been pushed outwards, or redistributed, along the plane of rotation (or perpendicular to the system's main axis of rotation), as part of a galactic release of energy (which means that the Hubble Tuning Fork Model, would actually represent a galactic version of the Lunar and Planetary Fission Model, that was proposed by George Darwin, in 1879).

Thus, the main reason the "Wind-up Problem" only manifest within relativistic equations, and in the computer simulations that are derived from those equations, but not in the real physical universe, is because, in actuality, the spiral arms in a real galaxy represents a cohesive layer of mass, that is actively accelerating outwards away from the center of the galaxy, rather than moving inwards. Which is a firm indication that under relativistic mechanics, or under relativistic axiomatic postulations, the differential rotation observed within real physical galactic systems were never properly explained, accounted for, or computed, relative to the firmly established physical laws that are related to the conservation of energy, and the conservation of angular momentum? Furthermore, since those physical laws, along with the principles of Euclidean Geometry, were intentionally circumvented, or ignored, rather than being built upon or expanded, within the tensor equations of relativity itself; it could be said that many of the most widely accepted relativistic ideas would actually be non sequiturs to the foundations (or protocols and axioms) that were set forth in the collective works of Copernicus, Galileo, Kepler, Euclid, Kelvin, and Newton. In other words, this is a firm indication that, the complex and, somewhat, unintuitive arithmetic that is contained within relativistic mechanics, which points to the conceptual notion that stars and galaxies were created from collapsed clouds of dust and gas (or that planets and moons were created from random collisions), would actually represent a set of postulates that do not follow the laws of thermodynamics, or the other well established laws of physics (or more specifically the laws of motion, universal gravitation, and conservation of energy, which are contained within the foundations of Classical Newtonian Mechanics). Therefore, to negate, overturn, or reverse, the numerous decidability, computability, predictability, and measurability problems that exist within the most prominent models related to the nature of the physical universe, physics will, first, have to undergo a "Grand Reset" to correct the many missteps that have been taken in the name of perpetual scientific advancements and innovations, or that have been taken in the name of concepts such as gravity waves, singularities, collapsed clouds, and curved space-time (as well as, in the name of newer concepts such as dark matter and dark energy).

In essence, the trend lines that have stretched across the many sets of civilizations that have inhabited the Earth, have indicated that, often, it is, only, through this type of drastic shift that mankind is usually able to end its over reliance on a model, or a set of ideas, that happens to be filled with entrenched inaccuracies, contradictions, incompleteness, and inconsistencies. This is why, prior to the early sixteenth century, when the civilizations that preceded ours looked up at the Earth's closest stellar neighbour, the moon, and saw it solely as something to worship (or as something to revere, and to be inspired by, whose beauty and mystery would always be out of their physical reach), it was only with a paradigm shift that mankind came to know the moon as something different, and was able to start to view it as a prize to race towards, or to ultimately reach out and touch. Which enabled our civilization to be the first ones to truly perceive the leap within mankind's overall scientific agency, knowledge, and intellect that would be required for us to physically leave the confines of this pale blue dot called Earth, or to witness mankind's first steps on the surface of the moon? And this was made possible by our civilization's willingness to embrace the works of the practitioners of classical physics, such as Newton and Kepler, and to accept the important roles that their works would play in reaffirming, or resetting, our growing understanding of the physical universe, by specifically revealing how the

celestial objects within the solar system move. Thus, when the first Apollo mission was launched, as mankind sought to take its first steps on the moon, there was absolute confidence that Newton's basic principles (or the mathematics of Classical Newtonian Mechanics) would hold true; and as such, for these missions to the moon, the guidance computers were always programmed to use orbital paths, or navigation calculations that were in accordance with Newton's laws of motion and universal gravitation. So, in general, it should be noted that, ultimately, the true beauty of physics is not brought out in the cleverness and intricacies of its mathematics, but it is brought out in the refreshing changes that it can adapt to and embrace (or in its support of new principles that can continually be proven true, to eventually become the building blocks for the advancement, or expansion, of mankind's overall understanding of the universe); which can eventually lead to the establishment of new physical laws that can be affixed to, instead of being kept separate from, the well documented lineage of ideas about the universe that stretch all the way back to the foundations that were set forth in the works of Galileo, Copernicus, and Kepler.

CONCLUSION

To gain a complete understanding of the true nature of the real physical universe, our civilization, will first have to acknowledge that, here in the twenty first century, there are many flawed, or at best partially incomplete, models that have become entrenched within the foundations of science. This is because, in the pursuit of a seamless perfectly symmetrical model, based purely on abstract mathematics, we have been left with countless conjectures and incoherencies that are diametrically opposed to the things observed within the material universe; and this has also resulted in a fundamental decidability, computability, predictability, and measurability limit being reached amongst, or within, these conflicting, contradicting, or paradoxical models. Consequently, the concepts or models that are solely beholden to closed mathematical systems, would only be able to compute or predict a very limited set of things about the universe, before these models would inevitably encounter an undecidability or immeasurability problem (or encounter a value that is deemed to be indeterminable or infinite). Thus, for example, the inordinate level of emphasis that have been placed on the abstract mathematical equations, encapsulated within relativistic mechanics, have caused us to completely miss or mislabel many of the important tangible, or observable, physical traits of the universe; hence, most models that are dependent on relativistic mechanics would be incapable of extrapolating the point, in the lifespan of a planet, where the geochemistry of the planet would have caused, or facilitated, the emergence of biological life on the planet's surface. Therefore, the best course of action, that our civilization could take, is to treat the development of physical models not as an exercise in the mathematics of Einstein, but as the wide reaching amalgamation of conceptual ideas that they are; which could allow these models to stretch into, or pull from, all areas of science, including the fields that are devoid of geometric specificity, mathematical notations, and mathematical assumptions, or only require the things contained within the material universe to be referenced using logic and arithmetic (or using plain words and basic thought experiments) that adhere to the known physical laws of nature, such as the conservation of energy, momentum, and inertia.

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