SELINUS UNIVERSITY
OF SCIENCES AND LITERATURE

The Space Mechanism, The Facts About The Solar System Including The Sun And The Planets Belonging To It

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A DISSERTATION

Presented to the Department of

Astrophysics

Program at Selinus University

Faculty of Life & Earth Science in fulfillment of the requirements for the degree of Doctor of Philosophy in Astrophysics

Abstract

This research focuses on multiple facts regarding the earth gravity and the space mechanism, mainly on the solar systems including the Sun and the planets belonging to it. Our solar system consists of our star, the Sun, and everything bound to it by gravity based on Albert Einstein and Isaac Newton theories. The planets are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune and Pluto, dozens of moons, millions of asteroids, Comets and meteoroids. Also, it will discuss about The Geocentric model and how scientifically proofed that the Earth is not orbiting the sun as it has a fixed position in the universe with the rotation around its axis and the sun is orbiting the Earth in one solar year. The output of the Geocentric model led to that the gravity is a feature generated by the planet itself to be measured reference to the weight granted to the matter.

Life is a gift for all humans as it gives meaning to their existence by practicing and exploring the Events, and Activities that occur around them.

To explain these events, we need to look at the root of causing them by understanding how these objects, events, creatures, or any matter are created. So we will go over a Journey on how this life is working and explain about the mechanism of this life since it's made.

The goal of this paper is to simplify the understanding of our lives and to put the priorities where human needs to work together to create a better life, and peaceful environment.

Astronomy is the crucial factor to accomplish this goal by giving it the right and fair explanations on how the Objects are working, connected or Created, and understanding the way of the Universe system is designed and what is worth and not worth to be explored and analyze, human efforts shall be utilized and optimized on what reflect benefits on them for continuous life improvements and developments.

Keywords

Astronomy, Life, Deep Space, Earth, Sun, environment, Galaxy, Big Bang, Gravitation, Heliocentric Model, Geocentric Model, Orbit, Planet, Solar System, Space Exploration.

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1. Chapter One: Introduction

Researches are always measured by logic and experiments, as a fact, humans build their results based on what they discovered and observed within their environment. All the analyses are built on what we learned and what the human brains can understand it, and this knowledge is an output from the place where we live, as in the same environment the humans and other Creatures are learning from each other and create rules based on best practices and best results that they got from these practices.

What we learn and practice in the Sea is differed than what we learn in the Desert, Jungle or on the Mountain, even countries are different from each other, and every environment has its own rules, creatures, plants, living style and culture.

Looking to the Earth Gravity, it's a tangible force provided to the objects on its surface and the other matters around it for the stability and continuity to their functions.

Any object on the earth has the same speed of the earth rotation speed at any layer or altitude, granted from this rotation (with consideration to the distance from the core). This object is sustained on the earth with Zero speed as long it's not producing another speed from walking for the human, engines for the cars and any other forces generated by the object itself or by other object.

The geocentric model, in which planet Earth is the center of the universe and is circled by the sun and all the planets, had been the accepted cosmological model since ancient times. By late antiquity, this model had come to be

formalized by ancient Greek and Roman astronomers, such as Aristotle (384 - 322 BCE), who's theories on physics became the basis for the motion of the planets, and Ptolemy, who proposed the mathematical solutions.

The geocentric model essentially came down to two common observations. First of all, to ancient astronomers, the stars, the sun, and the planets appeared to revolve around the Earth on daily basis. Second, from the perspective of the

Earth-bound observer, the Earth did not appear to move, making it a fixed point in space.

In the 16th century, Nicolaus Copernicus began devising his version of the heliocentric model, which represented the culmination of year's worth of research. Like others before him, Copernicus built on the work of number classical astronomers who did not support the geocentric view.

And this belief (the Heliocentric Model) is continued with the next scientists up to the day. And this is what will be discussed in this research, why do we need to consider the Geocentric as a base model for our universe.

This exploration Journey will provide an overview of human life from Astronomy prospective as it will explain the stages of Life creation from the time was born and the events that came after.

We will discuss what has been discovered during this period and what we learned, and how this revolution of knowledge gained, impact human lives itself and what can be added in the future.

We are Looking close at the purpose of this Life and if the events and activities of the Universe behavior have relations and direct impact on the human or if our Life is just a consequence or sub phenomenon of the cosmic event.

We will analyze the solar system mechanism as a direct impact system on the Earth and if there are any influences between the Earth and the other planets or if each matter has its characteristics and behavior.

In-depth evaluation of the Physics Laws or Astrophysics especially, and if there are any relations with these laws to the other objects outside the earth's atmosphere, or if these Laws are applied to the solar system overall.

In conclusion, what should be the road map of the following Astronomy studies and researches? How these researches will impact human Life as a direct influencer from the cosmic events, What should be learned and researched, and what is not worth the efforts spent on such researches and as a result how we can develop a better human Life by understanding the purpose of this life and how its work.

1.1 Method

1. The method used in this research is an analysis of the given data from multiple resources such as Space Agencies, Astronomy, and physics authorities, mainly from their websites and published researches.

2. Physics and mathematical formulas have been involved in process and comparing the given data, such as Newton's Law of Motion, F = M * A.

3. Besides the self-study and monitoring of the earth sphere, supported with shots of the stars and planets.

1.2 Purpose

1. To simplify the understanding of Astronomy, how it works and what should be learned as helpful information for the general public.

2. To assign the priorities of the research and, optimize the resources for the purpose of each task, utilizing the efforts taken in the right direction of the studies.

3. To come out with the conclusion to improve human Life and develop a road map of creating a framework to get a peaceful and safe environment.

4. To provide a clear understanding of the Earth Gravitational and

Geocentric Phenomenon, the causes and the relation with other influences and objects, such as the stars, planets and mainly the sun.

5. To discuss the existing theories and formulas those belongs to this subjectand connect them with other facts and inputs.

6. To come out with new or amended Theory and Formula that might lead tosignificant changes on physics science and Space exploration.

2 Chapter Two: The Current State of Art in Astrophysics

Astrophysics is the science of physical processes in the cosmos. It uses data gathered by astronomers using telescopes on Earth and in space combined with the laws and theories of physics in order to interpret the universe around us. If astronomy asks what and where, astrophysics asks how and why.
A sister science planetary science studies the planets in our solar system and distant solar systems in our Milky Way galaxy. Another sister science cosmology studies external galaxies and voids, and the large scale structure and history of the universe.

For example, an astronomer might spend nights at the telescope gathering data on a star. Putting on his or her astrophysicist hat and depending on which instruments were used in conjunction with the telescope (photometers or spectrometers, for example) that scientist would then turn to the laws of physics to understand how that star produces its energy, whether it has a companion (or perhaps planets, or perhaps an encircling disk), and how the star moves through space.

Galactic astrophysicists would then ask how that star fits with what's known about our Milky Way galaxy.
Cosmologists would then ask how the knowledge of the stars fits with that of the universe as a whole.

Modern astronomical research often involves a substantial amount of work in the realms of theoretical and observational physics. Some areas of study for

astrophysicists include their attempts to determine the properties of dark matter, dark energy, black holes, and other celestial bodies, and the origin and ultimate fate of the universe.

Topics also studied by theoretical astrophysicists include Solar System formation and evolution, stellar dynamics and evolution, galaxy formation and evolution, magneto hydro dynamics, large scale structure of matter in the universe, origin of cosmic rays, general relativity, special relativity, quantum and physical cosmology, including string cosmology and astro particle physics.

In this chapter, we will explain how Space Agencies, Astronomers, Physics Scientists, Researchers, or any stakeholders in this domain are looking at the Universe over history.

The overview of the mechanisms of how the universe works, the laws that apply to it, what are the scientific explanations of the phenomenon, and the events observed within our galaxy.

What has been discovered in Astronomy, what is under study, what needs more explorations and input data to provide the right explanations of events, states, and behavior of the Universe.

2.1 The Big Bang

The big bang is how astronomers explain the way the universe began. It is the idea that the universe started as just a single point, then expanded and stretched to grow as large as it is right now, and it is still stretching.

When the universe began, it was just hot, tiny particles mixed with light and energy. It was nothing like what we see now. As everything expanded and took up more Space, it cooled down.

The tiny particles grouped together. They formed atoms. Then those atoms are grouped together. Over lots of time, atoms came together to form stars and galaxies.

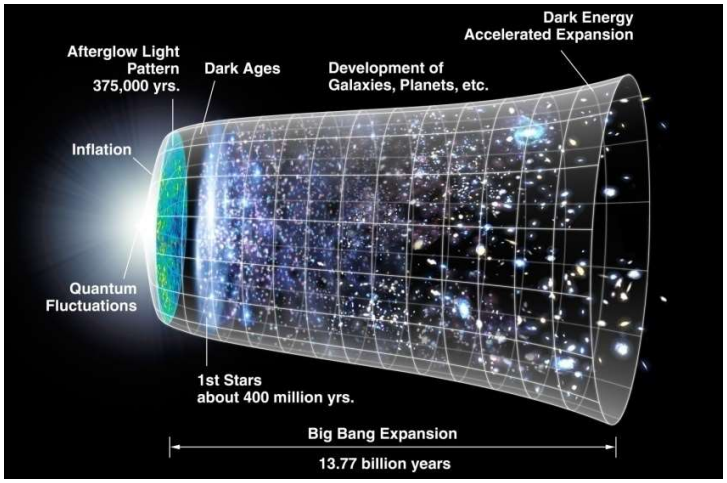
The first stars created bigger atoms and groups of atoms. That led to more stars being born. At the same time, galaxies were crashing and grouping together. As new stars were being born and dying, then things like asteroids, comets, planets, and black holes formed.

Existing technology doesn't yet allow astronomers to literally peer back at the universe's birth, much of what we understand about the Big Bang comes from mathematical formulas and models. Astronomers can, however, see the echo of the expansion through a phenomenon known as the cosmic microwave background.

While the majority of the astronomical community accepts the theory, there are some theorists who have alternative explanations besides the Big Bang such as eternal inflation or an oscillating universe.

With what is known about the universe today, the researchers in this 2021 study compared their understanding of how gravitational forces interacted in the primordial universe with their thousands of computer modeled universes. If they could predict the starting conditions of their virtual universes, they hoped to be able to accurately predict what our own universe may have looked like back at the beginning. Other researchers have chosen different paths to interrogate our universe's beginnings.

In a 2020 study, researchers did so by investigating the split between matter and antimatter. In the study, not yet peer reviewed, they proposed that the imbalance in the amount of matter and antimatter in the universe is related to the universe's vast quantities of dark matter, an unknown substance that exerts influence over gravity and yet doesn't interact with light. They suggested that in the crucial moments immediately after the Big Bang, the universe may have been pushed to make more matter than its inverse, antimatter, which then could have led to the formation of dark matter.



The Big Bang (by NASA)

2.2 The Building Blocks of the Universe

Galaxies are vast cosmic islands of stars, gas, dust, and dark matter held together by gravity. Hubble's keen eye has revealed intricate details of the shapes, structures, and histories of galaxies whether alone, as part of small groups, or within immense clusters.

From super massive black holes at galactic centers to giant bursts of star formation to titanic collisions between galaxies, these discoveries allow astronomers to probe the current properties of galaxies as well as examine how they formed and developed over time, Galaxies are concentrations of stars, gas, dust, and dark matter. They come in a variety of shapes and sizes. Some are fated to collide, like the Milky Way and Andromeda.

Astronomers classify galaxies into three major categories: elliptical, spiral and irregular. These galaxies span a wide range of sizes, from dwarf galaxies containing as few as 100 million stars to giant galaxies with more than a trillion stars.

Elliptical, which account for about one-third of all galaxies, vary from nearly circular to very elongated. They possess comparatively little gas and dust, contain older stars and are not actively forming stars anymore.
The largest and rarest of these, called giant elliptical, are about 300,000 light years across. Astronomers theorize that these are formed by the mergers of smaller galaxies. Much more common are dwarf elliptical, which are only a few thousand light years wide.

Spiral galaxies appear as flat, blue white disks of stars, gas and dust with yellowish bulges in their centers. These galaxies are divided into two groups: normal spirals and barred spirals. In barred spirals, the bar of stars runs through the central bulge.
The arms of barred spirals usually start at the end of the bar instead of from the bulge. Spirals are actively forming stars and comprise a large fraction of all the galaxies in the local universe.

Irregular galaxies, which have very little dust, are neither disk like nor elliptical. Astronomers often see irregular galaxies as they peer deeply into the universe, which is equivalent to looking back in time. These galaxies are abundant in the early universe, before spirals and elliptical developed.

Aside from these three classic categories, astronomers have also identified many unusually shaped galaxies that seem to be in a transitory phase of galactic development. These include those in the process of colliding or interacting, and those with active nuclei ejecting jets of gas.

In the late 1970s, astronomer Vera Rubin made the surprising discovery of dark matter. She was studying how galaxies spin when she realized the vast spiral Andromeda Galaxy seemed to be rotating strangely. In an apparent violation of Newton and Kepler's Laws, the material at the galaxy's edges was moving just as fast as the material near the center, even though most of the mass she could see was concentrated at the center.
Some extra non visible mass, dubbed dark matter, appeared to be holding the galaxy together. She soon discovered that a huge halo of dark matter was present in galaxy after galaxy that she examined.

Nearly half a century later, scientists still don't know what dark matter is. They do know however that dark matter comprises some 84 percent of the universe's material. Its invisible and ubiquitous presence affects how stars move within galaxies, how galaxies tug on each other and how matter clumped together in the early universe.

Some of the best evidence for the existence of dark matter comes from galaxy cluster 1E 0657-556, also known as the Bullet Cluster. This cluster was formed after the collision of two large clusters of galaxies, the most energetic event known in the universe since the big bang. Because the major

components of the cluster pair stars, gas and the apparent dark matter behave differently during collision, scientists were able to study them separately.

The galaxies' stars, which the Hubble and Magellan telescopes observed in visible light, were mostly unaffected by the collision, and passed right through. The hot gas from the two colliding clusters, seen in X-ray wavelengths by the Chandra X-ray Observatory, contains most of the cluster pair's normal matter. Because the gases interact electromagnetically, the gases of both clusters slowed down much more than the stars. The third element in this collision, the dark matter, was detected indirectly by the gravitational lensing of background objects.

The dark matter by definition does not interact electromagnetically (i.e., with light) it's dark, So during the collision, the dark matter clumps from the two clusters slide quietly past one another, just like the stars, leaving the hot gas (most of the normal matter) behind. The gravitational lensing stayed with the dark matter and not the gas.
If hot gas was the most massive component in the clusters, such an effect would not be seen. Instead, the observations appear to be the first direct proof of dark matter.

While the distances between galaxies seem large, so too are galaxies' diameters; Compared to stars, galaxies are relatively close to one another. They interact and even collide. When galaxies collide, they pass through each other; their stars don't crash into each other because of the immense distances between them. However, gravitational interactions between colliding galaxies

could create new waves of star formation, supernovas and even black holes. Collisions do distort a galaxy's shape and computer models show that collisions between spiral galaxies can eventually make elliptical.

Four billion years from now, our own Milky Way galaxy is destined for a collision with the neighboring spiral Andromeda galaxy. The Sun will likely be flung into a new region of our galaxy, but our Earth and solar system are in no danger of being destroyed. Andromeda; is now 2.5 million light years away, but it is inexorably falling toward the Milky Way under the mutual pull of gravity between the two galaxies and the invisible dark matter that surrounds them both.

Computer simulations derived from Hubble data show that it will take an additional two billion years or more after the encounter for the interacting galaxies to completely merge under the tug of gravity. They will reshape into a single elliptical galaxy similar to the kind commonly seen in the local universe. Simulations show that our solar system will probably be tossed much farther from the galactic core than it is today.

To make matters more complicated, the third largest galaxy in the Local Group, the Triangulum galaxy or M33, will join in the collision and perhaps later merge with the Andromeda/Milky Way pair. There is a small chance that M33 will hit the Milky Way first.

The appearance and make up of galaxies are shaped over billions of years by interactions with groups of stars and other galaxies. While we don't know for

certain how galaxies formed and took the many shapes that we presently see, we have some ideas about their origins and evolution.
Using supercomputers, scientists can look back in time and simulate how a galaxy may have formed in the early universe and grown into what we see today.

Astronomer Edwin Hubble's observations led to the idea that the universe is expanding. Scientists estimate the age of the universe at 13.8 billion years based on the rate of expansion. Because the deeper you look into space, the further you see back in time, we can conclude that galaxies several billions of light-years away formed fairly soon after the big bang.
While most galaxies formed early, data indicates that some galaxies have formed within the past few billion years relatively recently in cosmic terms.

The early universe was filled mainly with hydrogen and helium, with some areas slightly denser than others. These dense areas slightly slowed the universe's expansion, allowing the hydrogen and helium to accumulate into small clouds swirling through space. Gravity caused the gas in these clouds to collapse and form the first generation of stars. These first stars rapidly burned out.

Gravity continued to collapse the clouds. As other clouds came close to each other, gravity sent them careening into one another and knitted the clouds into larger, spinning packs. As the clouds further collapsed, they became rotating disks, which amassed more gas and dust. New stars formed, creating extensive spiral arms filled with colonies of stars.

Sprinkled along the periphery were globular clusters, along with a halo of gas, dust and dark matter.

While Hubble is unable to see the very first galaxies, it can track the development of galaxies over much of cosmic time. The series of Hubble Deep Field images and other deep surveys have uncovered galaxies at many different distances out in the universe, and therefore at many different times in their development.

Farther galaxies, seen earlier in time, have less developed structure. Nearer galaxies, seen later in time, grow to resemble the familiar galaxy shapes we see in the local universe.

2.3 The Solar System & the Heliocentric Model

Our solar system consists of an average star we call the Sun, the planets Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, and Pluto. It includes: the satellites of the planets; numerous comets, asteroids, and meteoroids; and the interplanetary medium. The Sun is the richest source of electromagnetic energy (mainly in the form of heat and light) in the solar system. The Sun's nearest known stellar neighbor is a red dwarf star called Proxima Centauri, at a distance of 4.3 light years away.

The whole solar system, together with the local stars visible on a clear night, orbits the center of our home galaxy, a spiral disk of 200 billion stars we call

the Milky Way. The Milky Way has two small galaxies orbiting it nearby, which are visible from the southern hemisphere.

They are called the Large Magellanic Cloud and the Small Magellanic Cloud. The nearest large galaxy is the Andromeda Galaxy. It is a spiral galaxy like the Milky Way but is 4 times as massive and is 2 million light years away. Our galaxy, one of billions of galaxies known, travels through intergalactic space.

Most of the satellites of the planets, and the asteroids revolve around the Sun in the same direction, in nearly circular orbits. When looking down from above the Sun's at the North Pole, the planets orbit in a counter clockwise direction.

The planets orbit the Sun in or near the same plane, called the *ecliptic*. Pluto is a special case in that its orbit is the most highly inclined (18 degrees) and the most highly elliptical of all the planets.

Because of this, for part of its orbit, Pluto is closer to the Sun than Neptune. The axis of rotation for most planets is nearly perpendicular to the ecliptic. The exceptions are Uranus and Pluto, which are tipped on their sides.

About 4.6 billion years ago, a giant cloud of dust and gas known as the solar nebula collapsed in on itself and began to form what would eventually become the solar system's sun and planets.

Meteorites, or pieces of space rock that have fallen to Earth, have helped scientists figure out the age of the solar system. Some of these small pieces

have broken off of moons or planets and can yield interesting scientific information about the chemistry and history of their home body.

Others have been traveling around the solar system since its beginning, before the planets even existed. The Allende meteorite, which fell to Earth in 1969 and scattered over Mexico, is the oldest known meteorite, at 4.55 billion years old.

Scientists think the solar system formed when a nearby exploding star, called a supernova, triggered the collapse of the solar nebula. According to this theory, the explosion sent shock waves through space, and those shock waves pushed parts of the nebula closer together, leading to collapse. The supernova may have even seeded material into the nebula, Live Science previously reported.

For instance, scientists have found that aluminum 26, an element formed only in the hearts of stars, most likely originated from a series of nearby supernovas.

The Sun, Moon, and brightest planets were visible to the naked eyes of ancient astronomers, and their observations and calculations of the movements of these bodies gave rise to the science of astronomy. Today the amount of information on the motions, properties, and compositions of the planets and smaller bodies has grown to immense proportions, and the range of observational instruments has extended far beyond the solar system to other galaxies and the edge of the known universe.

Yet the solar system and its immediate outer boundary still represent the limit of our physical reach, and they remain the core of our theoretical understanding of the cosmos as well. Earth launched space probes and landers have gathered data on planets, moons, asteroids, and other bodies, and this data has been added to the measurements collected with telescopes and other instruments from below and above Earth's atmosphere and to the information extracted from meteorites and from Moon rocks returned by astronauts.

All this information is scrutinized in attempts to understand in detail the origin and evolution of the solar system a goal toward which astronomers continue to make great strides.

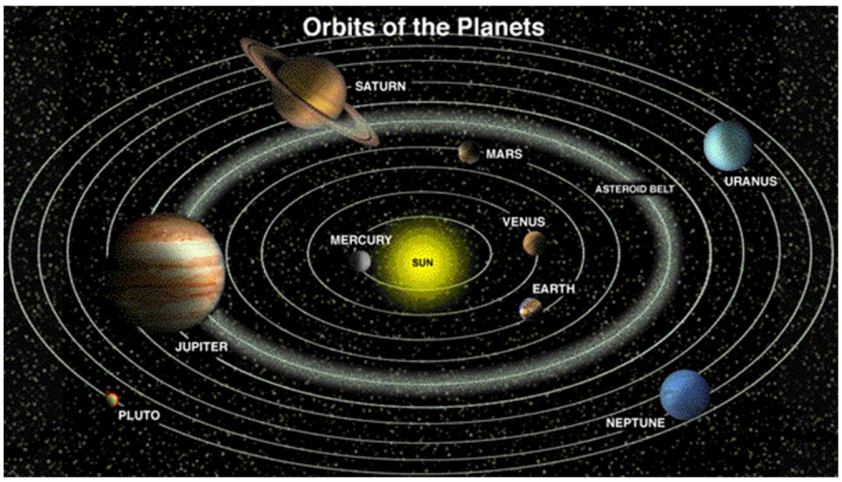


Figure 2. The Solar System

2.4 Gravitational Theory

The universal force of attraction acting between all matters. It is by far the weakest known force in nature and thus plays no role in determining the internal properties of everyday matter. On the other hand, through its long reach and universal action, it controls the trajectories of bodies in the solar system and elsewhere in the universe and the structures and evolution of stars, galaxies, and the whole cosmos.

On Earth all bodies have a weight, or downward force of gravity, proportional to their mass, which Earth's mass exerts on them. Gravity is measured by the acceleration that it gives to freely falling objects. At Earth's surface the acceleration of gravity is about 9.8 metres (32 feet) per second per second. Thus, for every second an object is in free fall, its speed increases by about 9.8 metres per second. At the surface of the Moon the acceleration of a freely falling body is about 1.6 metres per second per second.

The works of Isaac Newton and Albert Einstein dominate the development of gravitational theory. Newton's classical theory of gravitational force held sway from his Principia, published in 1687, until Einstein's work in the early 20th century. Newton's theory is sufficient even today for all but the most precise applications.

Einstein's theory of general relativity predicts only minute quantitative differences from the Newtonian theory except in a few special cases. The major significance of Einstein's theory is its radical conceptual departure

from classical theory and its implications for further growth in physical thought.

The launch of space vehicles and developments of research from them have led to great improvements in measurements of gravity around Earth, other planets, and the Moon and in experiments on the nature of gravitation.

When two celestial bodies of comparable mass interact gravitationally, both orbit about a fixed point (the centre of mass of the two bodies). This point lies between the bodies on the line joining them at a position such that the products of the distance to each body with the mass of each body are equal. Thus, Earth and the Moon move in complementary orbits about their common centre of mass.

The motion of Earth has two observable consequences. First, the direction of the Sun as seen from Earth relative to the very distant stars varies each month by about 12 arc seconds in addition to the Sun's annual motion. Second, the line-of-sight velocity from Earth to a freely moving spacecraft varies each month by 2.04 metres per second, according to very accurate data obtained from radio tracking. From these results the Moon is found to have a mass 1/81 times that of Earth.

With slight modifications Kepler's laws remain valid for systems of two comparable masses; the foci of the elliptical orbits are the two body centre of mass positions, and, putting M1 + M2 instead of MS in the expression of Kepler's third law.

Those relations are sufficient to determine the individual masses. Observations of the orbital motions of double stars, of the dynamic motions of stars collectively moving within their galaxies, and of the motions of the galaxies themselves verify that Newton's law of gravity is valid to a high degree of accuracy throughout the visible universe.

Ocean tides, phenomena that mystified thinkers for centuries, were also shown by Newton to be a consequence of the universal law of gravitation, although the details of the complicated phenomena were not understood until comparatively recently. They are caused specifically by the gravitational pull of the Moon and, to a lesser extent, of the Sun.

The value of the attraction of gravity or of the potential is determined by the distribution of matter within Earth or some other celestial body. In turn, as seen above, the distribution of matter determines the shape of the surface on which the potential is constant. Measurements of gravity and the potential are thus essential both to geodesy, which is the study of the shape of Earth, and to geophysics, the study of its internal structure.

For geodesy and global geophysics, it is best to measure the potential from the orbits of artificial satellites. Surface measurements of gravity are best for local geophysics, which deals with the structure of mountains and oceans and the search for minerals.
We will discuss and explain the recent Theories of the gravity law's in the Modern History, which established the current Physics and Astronomy Sciences, There are two main Roots in this field as shown below:

2.4.1 Sir Isaac Newton (1643-1727)

"Gravity really does exist," Newton stated in 1687. It acts according to the laws which we have explained, and abundantly serves to account for all the motions of the celestial bodies. Before Newton, no one had heard of gravity, let alone the concept of a universal law.

Cambridge University, where Newton studied, was closed due to plague in 1665. Finding respite at his childhood home, the 23 year old plunged into months of feverish mathematical brainstorming.

Plus a dubious apple descent in the back orchard, laid the foundation for his master work in Philosophies, Naturalism, Principia and Mathematical. In Principal, Newton described gravity as an ever present force, a tug that all objects exert on nearby objects.
The more mass an object has, the stronger its tug. Increasing the distance between two objects weakens the attraction.

Principals mathematical explanations of these relationships were simple and extremely handy. With his equations, Newton was able to explain for the first time why the Moon stays in orbit around Earth.

To this day, we use Newton's math to predict the trajectory of a softball toss or of astronauts landing on the Moon. In fact, all everyday observations of gravity on Earth and in the heavens can be explained quite precisely with Newton's theory.

The truth is, Newton could describe gravity, but he didn't know how it worked. "Gravity must be caused by an agent acting constantly according to certain laws," he admitted.

Newton came up with the theory of gravity instantly, when an apple fell from a tree and hit him on the head. And it got him to thinking about the mysterious force that pulls objects to the ground. Stating that the more mass an object had, the more it attracted other objects.

Newton's law of gravitation (First Law), statement that any particle of matter in the universe attracts any other with a force varying directly as the product of the masses and inversely as the square of the distance between them.

$F = G(m_1 m_2)/R^2 \qquad G = 6.673 \times 10^{-11}\ \mathrm{N \cdot m^2/kg^2}$.

From this law, we can calculate the earth gravity as: $g = G * M_{earth}/R^2 = 9.8\ (\mathrm{m/s^2})$ Earth Surface.

Newton's Law of Motion (second law), the acceleration of an object as produced by a net force is directly proportional to the magnitude of the net force, in the same direction as the net force, and inversely proportional to the mass of the object.

$F = M * A = W$ (weight) $= M * 9.8\ (\mathrm{m/s^2})$ Earth Surface.

2.4.2 Albert Einstein (1879-1955)

As a German-born theoretical physicist who developed the theory of relativity, one of the two pillars of modern physics.

Gravity is most accurately described by the general theory of relativity (proposed by Albert Einstein in 1915), which describes gravity not as a force, but as a consequence of the curvature of space time caused by the uneven distribution of mass.

Apparently Albert Einstein wasn't intimidated. He even apologized. "Newton, forgive me," he wrote in his memoirs. "You found the only way which, in your age, was just about possible for a man of highest thought and creative power."

In 1915, after eight years of sorting his thoughts, Einstein had dreamed up (literally he had no experimental precursors) an agent that caused gravity. And it wasn't simply a force. According to his theory of General Relativity, gravity is much weirder: a natural consequence of a mass's influence on space.

Einstein agreed with Newton that space had dimension: width, length, and height. Space might be filled with matter, or it might not. But Newton didn't believe that space was affected by the objects in it.

Einstein did. He theorized that a mass can prod space plenty. It can warp it, bend it, push it, or pull it. Gravity was just a natural outcome of a mass's

existence in space (Einstein had, with his 1905 Special Theory of Relativity, added time as a fourth dimension to space, calling the result space-time. Large masses can also warp time by speeding it up or slowing it down).

You can visualize Einstein's gravity warp by stepping on a trampoline. Your mass causes a depression in the stretchy fabric of space. Roll a ball past the warp at your feet and it'll curve toward your mass. The heavier you are, the more you bend space. Look at the edges of the trampoline--the warp lessens farther away from your mass. Thus, the same Newtonian relationships are explained (and predicted mathematically with better precision), yet through a different lens of warped space. Take that, Newton, says Einstein. With regrets.

Einstein's theory also triumphantly punched a hole in Newton's logic. If, as Newton claimed, gravity was a constant, instantaneous force, the information about a sudden change of mass would have to be somehow communicated across the entire universe at once. This made little sense to Einstein. By his reasoning, if the Sun disappeared suddenly, the signal for the planets to stop orbiting would logically have to take some travel time. And it would definitely take longer to arrive at Pluto than it would Mars. Nothing universally instant about that at all.

What did Einstein propose as the missing agent of communication? Enter, again, his very useful space warp. Much like a stone thrown into a pond, a change in mass will cause a ripple in space that travels out from its source in all directions at light speed. As it moves along, the ripple squeezes and stretches space. We call such a disturbance a gravitational wave.

With this final blow, Einstein's General Relativity explained everything Newton's theory did (and some things it didn't), and better. "I am fully satisfied," Einstein said in 1919. "I do not doubt anymore the correctness of the whole system."

As he worked out the equations for his general theory of relativity, Einstein realized that massive objects caused a distortion in space-time. Imagine setting a large body in the center of a trampoline. The body would press down into the fabric, causing it to dimple.

A marble rolled around the edge would spiral in ward toward the body, pulled in much the same way that the gravity of a planet pulls at rocks in space.

One of the most famous equations in mathematics comes from special relativity. The equation $E = m * c^2$ means "energy equals mass times the speed of light squared".

Theory of General Relativity

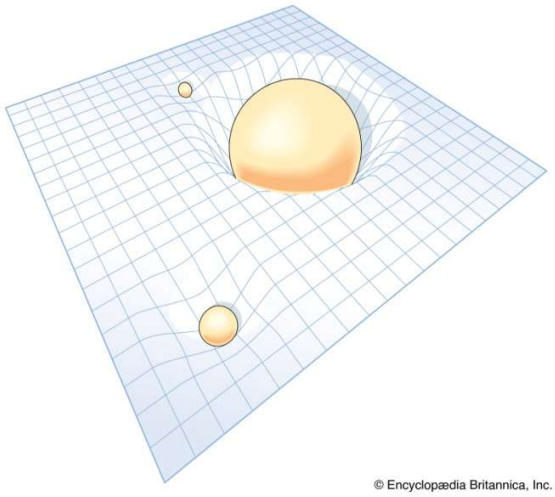
The part of the wide-ranging physical theory of relativity was formed by the German-born physicist Albert Einstein. It was conceived by Einstein in 1916. General relativity is concerned with gravity, one of the fundamental forces in

the universe. Gravity defines macroscopic behavior, so general relativity describes large-scale physical phenomena.

General relativity follows Einstein's principle of equivalence: on a local scale, it is impossible to distinguish between physical effects due to gravity and those due to acceleration. Gravity is treated as a geometric phenomenon that arises from the curvature of space-time.

The solution of the field equations that describe general relativity can yield answers to different physical situations, such as planetary dynamics, the birth and death of stars, black holes, and the evolution of the universe. General relativity has been experimentally verified by observations of gravitational lenses, the orbit of the planet Mercury, the dilation of time in Earth's gravitational field, and gravitational waves from merging black holes. Gravity is most accurately described by the general theory of relativity, which describes gravity not as a force, but a consequence of the curvature of space time caused by the uneven distribution of mass.

As he worked out the equations for his general theory of relativity, Einstein realized that massive objects caused a distortion in space-time. Imagine setting a large body in the center of a trampoline. The body would press down into the fabric, causing it to dimple. A marble rolled around the edge would spiral inward toward the body, pulled in much the same way that the gravity of a planet pulls at rocks in space.



The General Relativity

2.5 The Dark Matter and the Dark Energy

Galaxies in our universe seem to be achieving an impossible feat. They are rotating with such speed that the gravity generated by their observable matter could not possibly hold them together; they should have torn themselves apart long ago. The same is true of galaxies in clusters, which leads scientists to believe that something we cannot see is at work.

They think something we have yet to detect directly is giving these galaxies extra mass, generating the extra gravity they need to stay intact. This strange and unknown matter was called “dark matter” since it is not visible.

2.5.1 Dark matter

Unlike normal matter, dark matter does not interact with the electromagnetic force. This means it does not absorb, reflect or emit light, making it extremely hard to spot. In fact, researchers have been able to infer the existence of dark matter only from the gravitational effect it seems to have on visible matter. Dark matter seems to outweigh visible matter roughly six to one, making up about 27% of the universe.

Here's a sobering fact: The matter we know and that makes up all stars and galaxies only accounts for 5% of the content of the universe! But what is dark matter? One idea is that it could contain "super symmetric particles" hypothesized particles that are partners to those already known in the Standard Model. Experiments at the Large Hadron Collider (LHC) may provide more direct clues about dark matter.

Many theories say the dark matter particles would be light enough to be produced at the LHC. If they were created at the LHC, they would escape through the detectors unnoticed. However, they would carry away energy and momentum, so physicists could infer their existence from the amount of energy and momentum “missing” after a collision.

Dark matter candidates arise frequently in theories that suggest physics beyond the Standard Model, such as super symmetry and extra dimensions. One theory suggests the existence of a “Hidden Valley”, a parallel world made of dark matter having very little in common with matter we know.

If one of these theories proved to be true, it could help scientists gain a better understanding of the composition of our universe and, in particular, how galaxies hold together.

2.5.2 Dark energy

Dark energy makes up approximately 68% of the universe and appears to be associated with the vacuum in space. It is distributed evenly throughout the universe, not only in space but also in time – in other words, its effect is not diluted as the universe expands. The even distribution means that dark energy does not have any local gravitational effects, but rather a global effect on the universe as a whole.

This leads to a repulsive force, which tends to accelerate the expansion of the universe. The rate of expansion and its acceleration can be measured by observations based on the Hubble law.

These measurements, together with other scientific data, have confirmed the existence of dark energy and provide an estimate of just how much of this mysterious substance exists.

3 Chapter Three: Research Analysis

In this chapter, I will explain the other aspect of the gravity phenomenon after gathering and connecting multiple factors together, which led to other theory, differs than the other two mentioned earlier.

3.1 The Sidereal Day Statistics

In this system, the stars always appear at the same place in the sky at the same time each sidereal day. Sidereal noon is when the *vernal equinox* – where the sun sits in the sky at the first moment of northern hemisphere spring – passes directly overhead.

The four minute difference between sidereal and solar days can be seen by watching the stars rise four minutes earlier every night. If Vega is rising at 9 P.M. tonight, then it will rise at 8:56 P.M. tomorrow; and 8:52 P.M. the following night, and so on. As Earth travels about the sun, we see each star earlier and earlier.

Sidereal days are also how astronomers define the rotation periods of other planets. It helps isolate how quickly the planet is actually spinning from how fast it's traveling about the sun.

In most cases, like Earth, the difference between a solar day and a sidereal one is pretty small. But our solar system does have some notable exceptions.

Mercury's rotation rate is two-thirds of its orbital period: a Mercurian sidereal day is 58 Earth-days while its year is 88. Because the sidereal day is a

considerable fraction of the planet's orbital period, an inhabitant of Mercury has to wait about 170 Earth-days from one noon to the next.

But this means that a solar day on Mercury is longer than its year.
One Mercury year is about one-half of a Mercury solar day. Imagine ringing in the year 2012 at midnight, and then gearing up for the next New Year's celebration at noon.

Venus is a particularly odd case. She goes around the sun faster than she spins on her axis: a 225 Earth-day orbit versus 243 to complete one rotation. This is why Venus is the slowest spinning planet in the solar system. At Venus' equator, the planet is spinning at about 6 km/hr while Earth's equator is hurtling along at nearly 1700 km/hr.

What's more, Venus does this while spinning backwards. If there were ever to be a break in Venus' stifling cloud layer, the native Venusians would watch the sun rise in the west and set in the east.

The backwards rotation makes Venus the only planet in the solar system where the sidereal day is actually longer than the solar one. The sun returns to it highest point in the sky *before* the planet has completed one rotation.

Combining all this together leaves Venus with a solar day that takes 117 Earth-days; Put another way, the sun only rises twice in a Venus year.

Sidereal time measures the rotation of our planet relative to the stars. It allows astronomers to keep time without worrying about the motion of Earth around the sun.

And it reveals some of the quirky motions of our planetary brothers and sisters. Next time your clock strikes noon, try and imagine what life might be like on a world where the sun moves backwards or doesn't get a chance to set before the year is over.

Heliocentric model was built on several theories as explained above, one of the key factor to make this model doable is the Sidereal day and solar day as shown in **Figure 1** below:

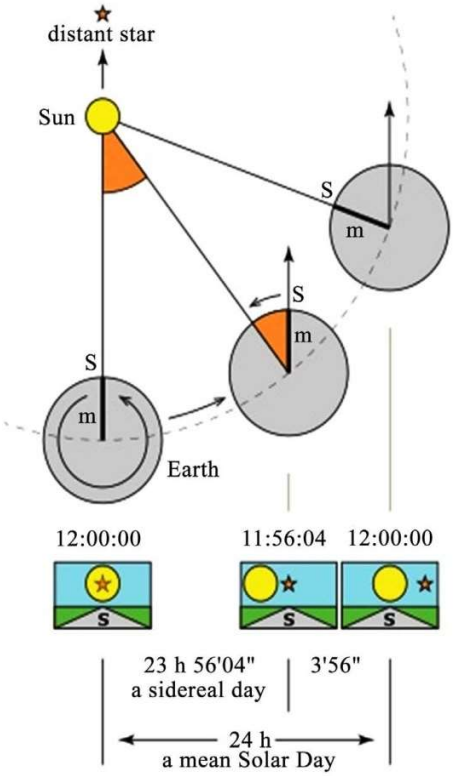


Figure 1. The sidereal day.

As shown in the figure that the sidereal day against to the distant stars is 23 h 56 m and the solar day is 24 h. So to maintain the solar day 24 h, Earth makes one rotation around its axis in a sidereal day. During that time it moves a short distance (about 1˚) along its orbit around the Sun. So after a sidereal day has passed, Earth still needs to rotate slightly more before the Sun reaches local noon according to solar time.
A mean solar day is, therefore, nearly 4 minutes longer than a sidereal day.

This statistics is not accurate according to several facts as shown below:
Let's assume the earth is rotating in straight track in **Figure 2**, as an example to simulate the earth orbit at different track models for rotation behavior clarification.

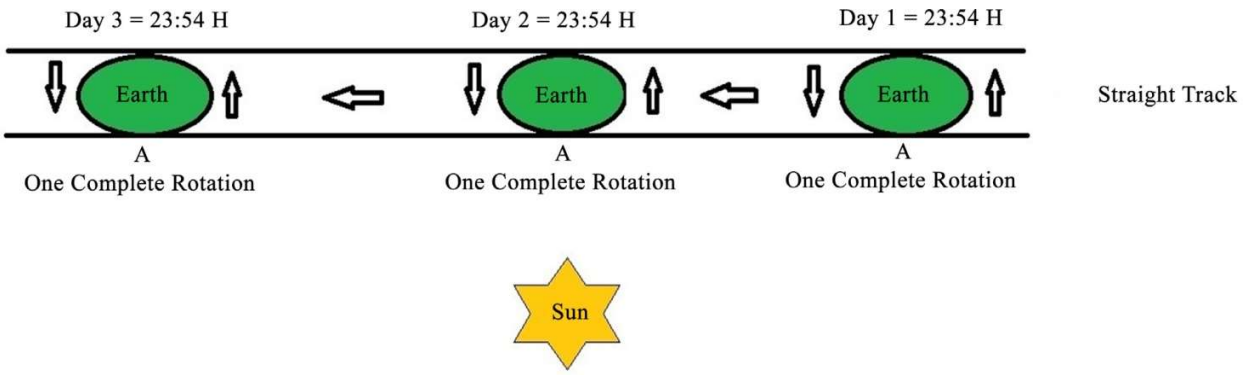


Figure 2. Straight track orbit.

If we bend the orbit in **Figure 3**.

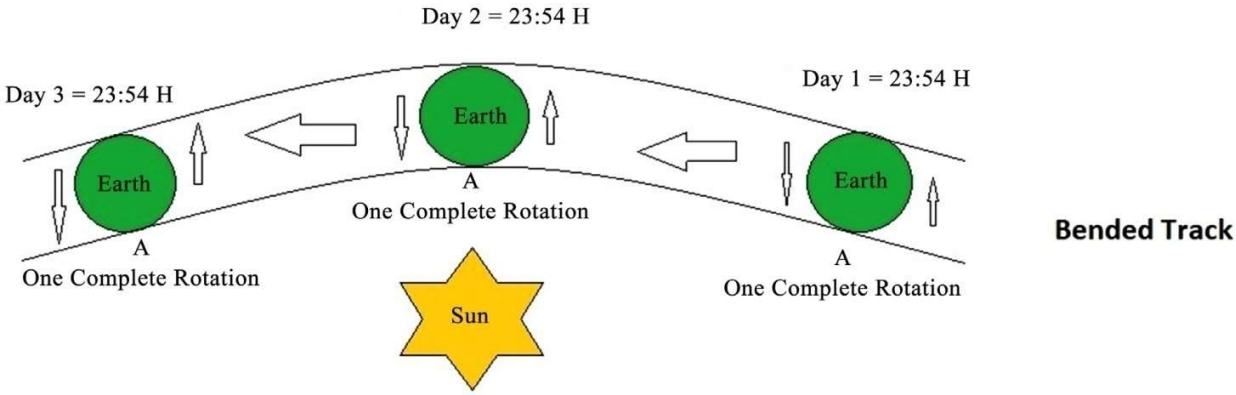


Figure 3. Bended track orbit.

The earth also will complete one rotation around its Axis from A-A in 23:54 H As a result, the earth will not moves a short distance (about 1˚) every day to maintain the solar day 24 h.

Another fact, if we look to the moon as its orbits the earth and rotate around its Axis once every Month; and let's do the same assumptions we did with the earth above in **Figure 4**.

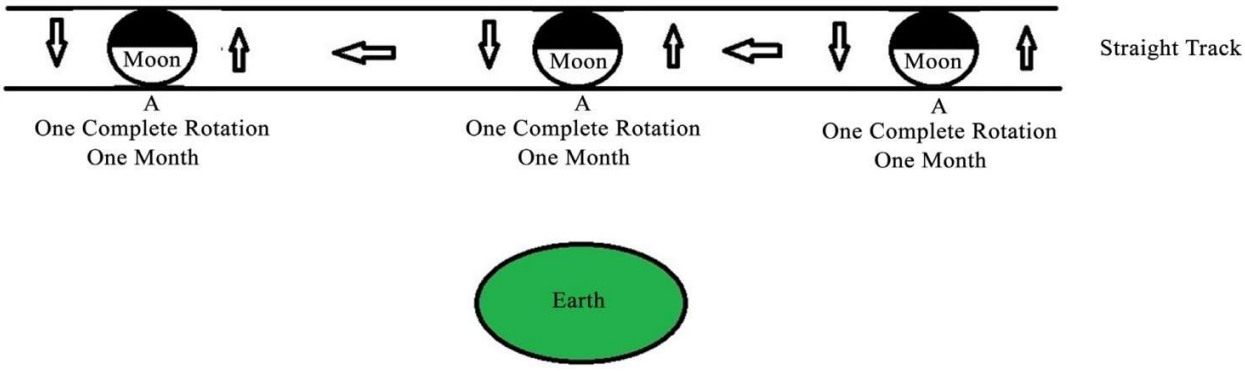


Figure 4. Straight track orbit.

The Moon will complete one rotation around its Axis from A-A in one month in a straight track.

And if we bend the orbit in **Figure5**.

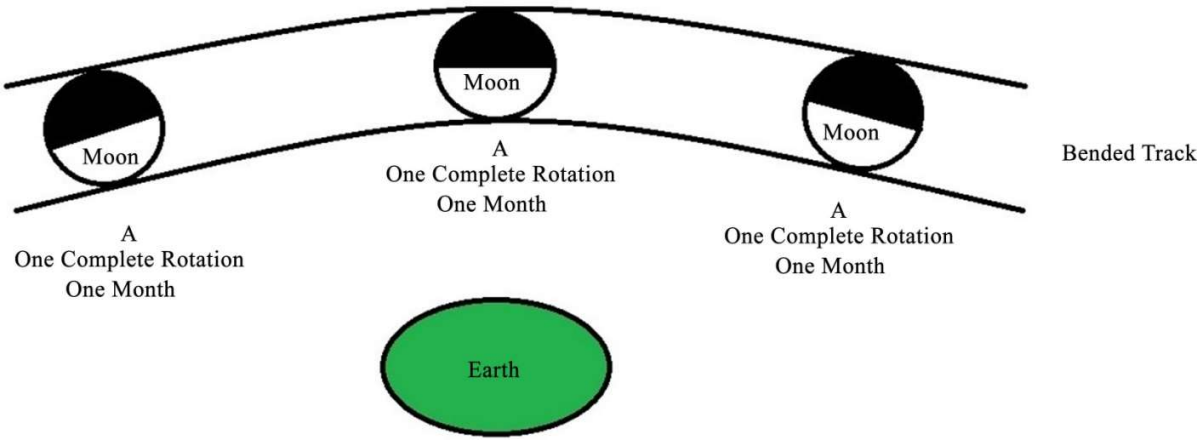


Figure 5. Bended track orbit.

The Moon will also complete one rotation around its Axis from A-A in one month.

And this is why we get the same face side of the moon around the month while it's orbiting the Earth as show in **Figure 6**.

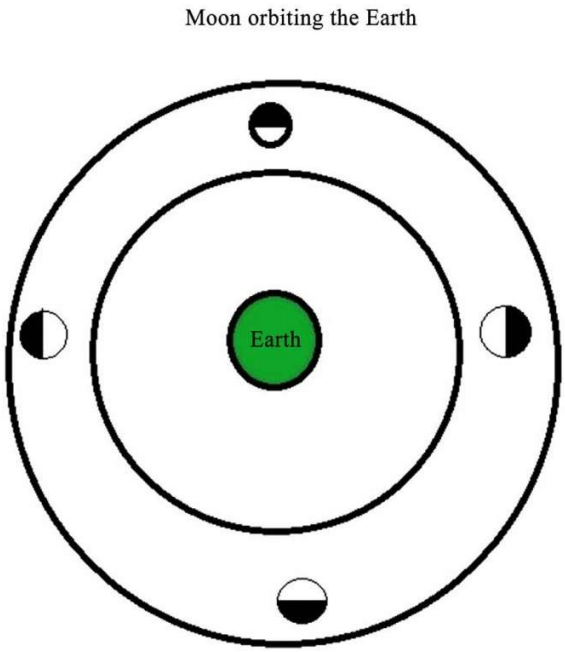


Figure 6. Moon orbit the earth.

This is the behavior of the planets including the earth while they are rotating around their axis.

So Sidereal day theory with earth movement by less one degree to maintain the Solar day is not correct in **Figure 7**.

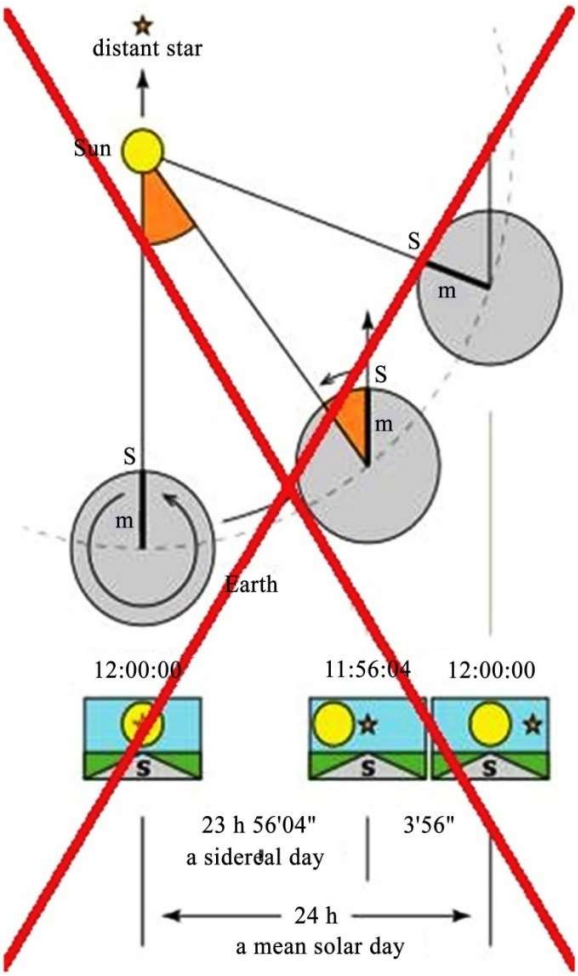


Figure 7. Sidereal day.

3.2 The Geocentric Model vs. the Heliocentric Model

Based on the current statistics, the earth rotate around its axis once every 23.9 Hours at speed of 1676.56 km/h, and the circumference of the earth is 40,074.16km.

The Earth orbit the sun in 365.25 Days at speed of 107,280 km/h, and the circumference of this orbit is 940 Millions/km.

Linking the above statistics, we realize that the earth is finishing a complete one rotation in 23 hours and 56 min, by −4 minutes every day of the length of the day which is 24 Hours. For example, if today the sun rise at 6 am at certain location on the earth, tomorrow the sun will rise at 6 am −4 minutes at the same location, same scenario every day by −4 min.

Let's apply the explained fact in (3.1) to the heliocentric model as below in **Figure 8**.

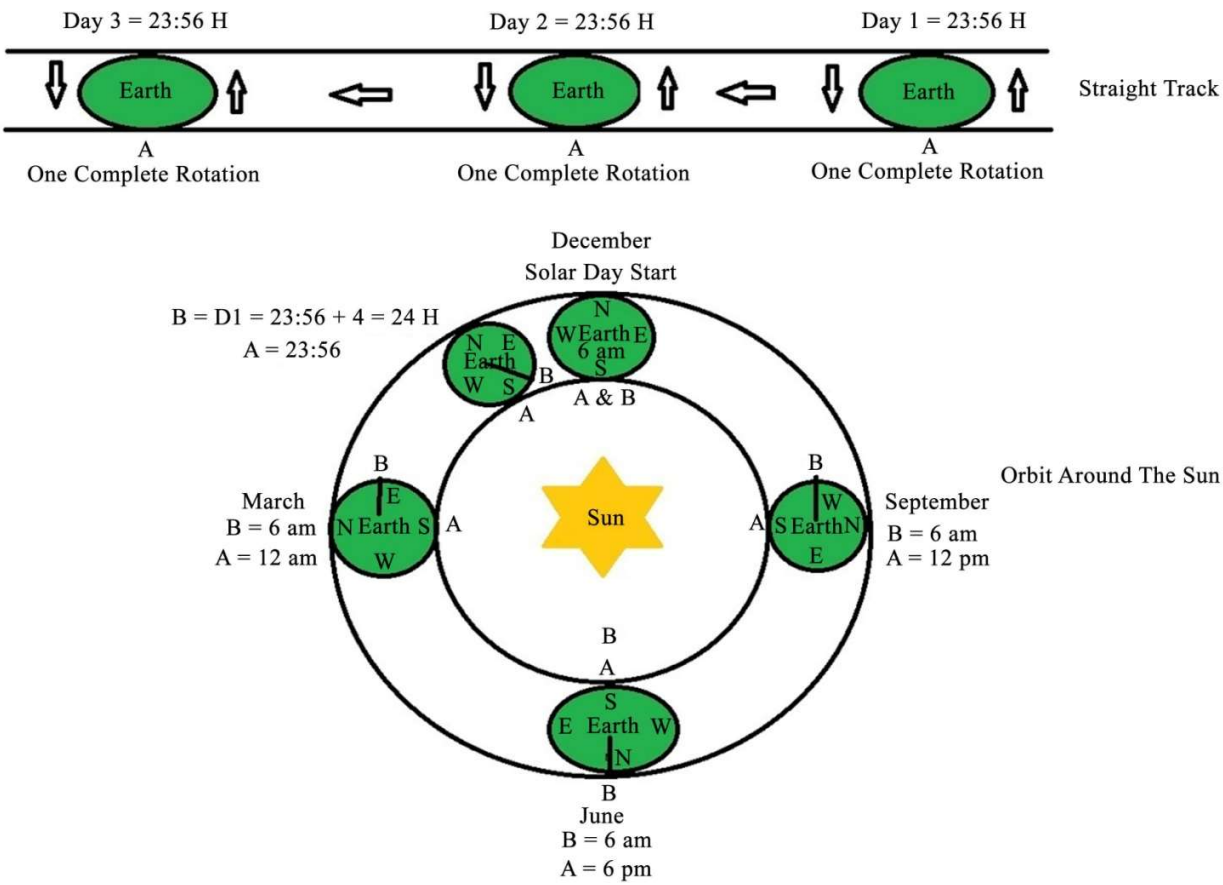


Figure 8. The heliocentric model.

If we consider the current solar system methodology that the earth orbiting the sun, we will end up with that at same location of the above example, the sun will rise some time at 12 am and some time will set at 12 pm, or some time will rise at 4 pm and will set at 4 am, Likewise onwards all the year, and this is never happened at the history of the human been or at the time of the earth creation.

So the Heliocentric model is not applicable with the above data, as the earth speed not matching the day length (Solar Day), which is aligned with the sun rising and set, and led to 24 Hours duration as per to the time invention.

Geocentric is the only model can match the above data and keep the balance for the day time (24 Hours), with + or − 2 to 3 Hours between the winter and summer in the average of the earth locations (Equatorial line for example). By applying the above data, the Sun will orbit the earth at the same circumference of 940 Millions/km at the same speed of 107,280 km/h which was considered for the earth.

The earth rotate around its axis once every 23.9 Hours at speed of 1041 mph (1676.56 km/h), and the circumference of the earth is 40,074.16 km.

To maintain the −4 minutes different of the rotation speed with the day length (24 Hours) the sun will move over its orbit: ((107,280 km/h) × 23.9 h) = 2,563,992 km.

So the earth rotation speed must be aligned with the sun orbit speed per day, and by applying the below equation:

Earth circumference × Sun orbit speed = Sun Daily movement distance × Earth Rotation Speed.

Applying the data to the equation:

Earth Rotation Speed = 1676.74 km/h.

And this is the recent record of the earth rotation speed.

Figure 9 will explain the applied data.

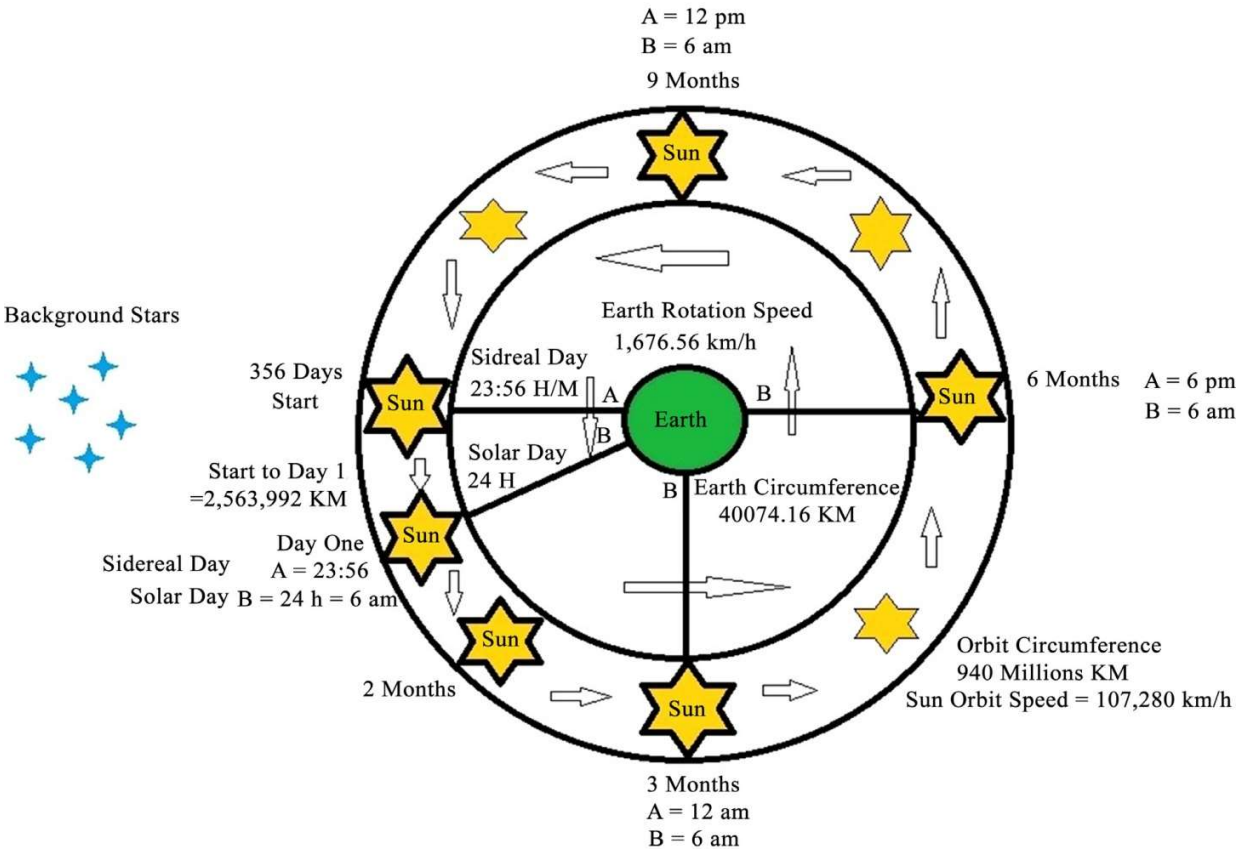


Figure 9. The geocentric model.

3.3 A Potential Energy Generated by the Earth from the Rotation around Its Axis

Based on the above Conclusion 3.1 & 3.2, the gravity can be assessed as below:

This Energy generated by the Earth from the rotation around its axis is granted to all objects on the earth including humans and other masses, it grab the objects to the earth surface, as well to the other matters in the atmosphere (7 layers) and the earth (5 layers).

This energy is generated by the rotation speed regardless to the other factors such as the mass, density or diameter of the earth, as this rotation is the direct impact on the object itself.

With the observation to this rotation we come out that the earth form elliptic- al shape with (Equatorial diameter: 12,756 km) and (Polar diameter: 12,714 km) with almost 42 km different. As this shape is formed from this rotation were the energy generated bend the earth on the poles and stretch it on the equator (these details can be simulated by any rotation experiment: e.g., rubber ball).

As an example, when we drive the car at high acceleration, our body will resist the force of this acceleration until the car reduce its acceleration or move at constant speed, then the objects inside the car will have the same speed of the car it- self with no resistance to the car speed, and we can move freely

within the car it- self as long it moves in the same direction at the same speed with no other external forces (rough roads, winds, or any). Same thing for the train and airplane, when the plane at fixed altitude, speed and direction, we can move freely to anywhere in the plane as we are on the ground.

Since the earth has constant speed and there are no tangible forces of other object from the outer space effecting directly on the earth objects, so far any masses on the earth can move to any four direction (E.W.N.S) freely with consideration to the environmental resistance such as wind, wave, surface type and any other factors, which mean the object will not get sudden impact or forces generated from the earth as this force is stored in the object itself.

Based on the above, the earth grabs the objects with direction to its core and grant speed to them by the force from its rotation, as the core represent the center of the earth rotation, the force is gradually reduced by the distance of the object away from the earth core.
If this rotation is not exists, we will not granted any forces to our bodies. So far the correct formula of the gravity shall be obtained as below:

$g2 = g1 * W2 \ W1$

where g_1 = 9.8 (m/s^2) earth gravity, W_1 = the object weight on the earth surface without any external forces, W_2 = the object weight at other planet or at other environmental effects (wind, wave, altitude or any), g_2 = the gravity at other planet or at other environmental effects (wind, wave, altitude or any)

4 Chapter Four: Observations

Based on the above information, there are many clarifications that require us to rethink again on the current discoveries and how the Universe is formed, as well there are many theories over history rise controversy on the way how they are extracted.

We always need to look to the root of the cause and analyze the available data to come out with significant results which lead to the practical theories, which make sense and can provide valuable benefits that are reflected on the human being.

In this chapter, I'll explain each point of the above Current State of Art in Astrophysics from a logical and scientific point of view, which will end up with a concept that requires us to reshape the road map in the Astronomy world.

4.1 Universe Creation for Purpose VS The Big Bang

As explained earlier about the Big Bang Theory, Astronomer look to the beginning of the universe as a single point, then expanded and stretched to grow as it is right now, and formed galaxies, Planets, stars, asteroids, and other matters.

If we accept this theory, many questions pop up:
If the Universe created from a single point, why the content of the Universe is not identical? each object in the universe has its dimensions and characteristics.

What is the system of the Big Bang at each stage? As each stage has its own shaping and forming, so what are the physics laws for that phenomenon?

What is the type of energy engaged at the first point, and what is the source of it? the first point of the creation is the moment of the explosion.

What is the order in sequence the creation of the planets in the solar system, especially the earth? And what is the scientific conclusion that the earth is the only place for human life?

If the dark energy is the force, that causes the expansion of the Universe, So why this force is mysterious, and not measurable? And why its conflict with the theory of general relativity, which describes that gravity, is not a force?

Many questions and questions need explanations and answers, which takes ages and tons of research and exploration to provide these answers, and most of the time might the answers will still be unknown, under study ,or assumptions.

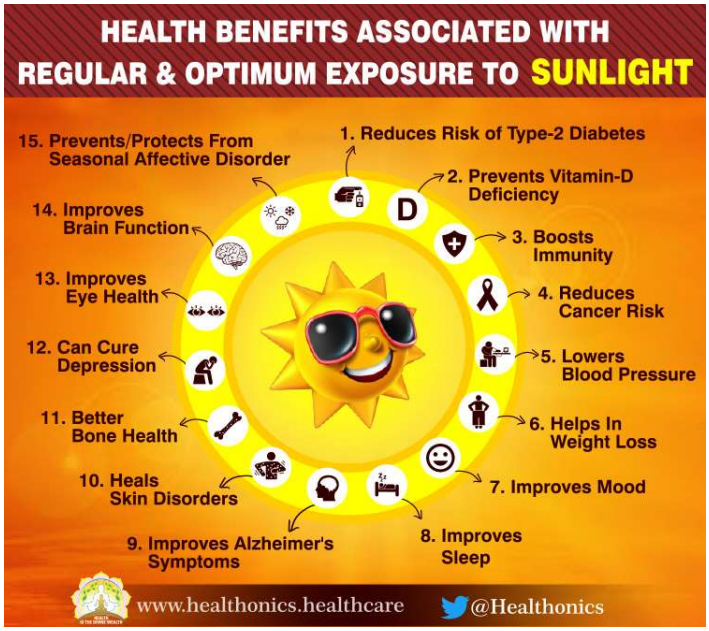
We need to re-evaluate the concept from a logical point of view as if we take each question from the above will end up with no sensible answer.
The way how the Universe is designed and created is much more advanced than an explosion at the first point, as explained in the Big Bang Theory, or the nature behind all these events and activities in the Universe.
So what is behind this Phenomenon?

If we look closely, we will recognize that in this massive space, including the galaxies, planets, stars, and other objects, the earth is formed as a tiny entity in this big place, and we will also recognize that the earth is the only life and rich of resources in this massive place.

The Giant Sun is occupied with serving the earth and for human specifically, as the health benefits from the sunlight is unlimited such:

1. initiating the process of producing vitamin D in the body
2. supporting healthy bones
3. managing calcium levels
4. reducing inflammation
5. supporting the immune system and glucose metabolism
6. Lower blood pressure levels
7. release stores of nitrogen oxides

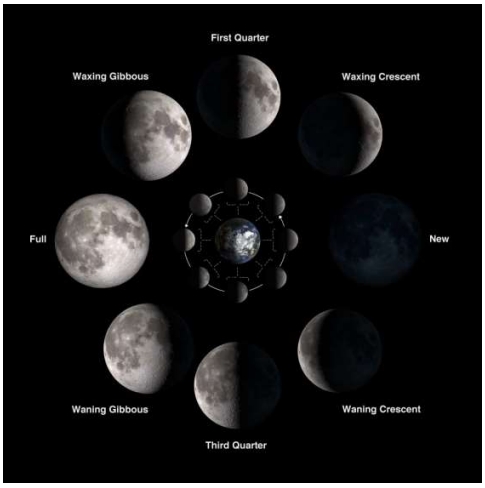
And massive other benefits of the sun.



The Benefits of the Sun

Besides the four seasons in twelve months (365 Days), these seasons and the temperature is fit for a life, not as on the other planets, as it is not fit for human, either too cold (Freeze level) or too hot (Burn Level).

If we look at the moon, it orbits the earth and rotates around its Axis once every month for almost 27 days. From the faces of the moon, we recognize the start and the end of each month, which allows counting the number of years, and this is the primary purpose of the moon's Creation.



The Moon Phases

The Stars and the Planets can explain to us how each one of them has its location, Diminutions, elements, and behavior where we cannot get two objects identical or similar, and this is the beauty of this creation which allow us to think for a moment of this fantastic design and creativity, the Stars shine because they are extremely hot.

The source of their energy is nuclear reactions going on deep inside the star, planets do not have nuclear fusion, and they do not produce their light. Instead, they shine with light reflected from the sun. When we look at the planets in the night sky, such as Venus, that called "Evening Star" we see reflected sunlight.

Considering the Big Dipper (Group of Stars) and the Polaris, which give us the directions as they are always located in the north and never changed their location since the Universe creation or one of the stars disappeared or died (The supernova), compared to the death of the other stars.

Many other events, behaviors, and activities in the Universe, some of them observed and some still under exploration give us a clear picture that the universe does not begin in a single point or explosion, its much beyond that as it requires so advanced designing, planning, connecting & locating, stability, continuity, execution processing, recycling and other elements which makes the Universe sustainable.

So the Big Bang theory simplifies the Universe creation Process and keeps it to the nature, and the nature is managed by itself, and this is not a proper Validations and Analysis of these input data, as this Theory ignores all the required elements as mentioned above for the Universe Sustainability.

4.2 The Potential Energy vs. the Theory of General Relativity

General Relativity is the current description of gravitation in modern physics as it is not as a force, but as a consequence of the curvature of space time caused by the uneven distribution of mass. The curvature of space time is directly related to the energy and momentum of whatever matter and radiation are present. So in short, Einstein's Theory explained that each event and activity is related to each other, and this is fundamental to classic physics, especially Astrophysics.

In conclusion, in chapter 3.2, it's explained that the Geocentric Model is the accurate model and description of the mechanism of our solar system where

the sun is orbiting the earth, not the opposite, the earth has a much smaller mass than the sun, so the curvature of space time is not the cause of the gravity which makes the earth orbit the sun and likewise for the other planets.

And this led us to conclusion 4.1 that the creation stages of the universe as explained in the Big Bang Theory are not a consequence of related events and activities in sequence ages, Therefore, the cause of this creation is more advance than it began from a single point of explosion.

5 Chapter Five: Results and outputs

By connecting all the inputs above there are TWO Facts related to the gravity and solar system:

5.1 Based on Conclusion 3.1 & 3.2, the Earth is not orbiting the sun as it has a fixed position in the universe with the rotation around its axis. Due to the events accruing on the earth such as the four seasons, the Sun and the Moon are orbiting the earth at the same duration, degree and direction as provided by the re- cent science. So far with these facts, the gravitational theory of a consequence of the curvature of space time caused by the uneven distribution of mass and the theory that any particle of matter in the universe attracts any other with a force varying directly as the product of the masses are not valid. The planets including the earth will generate their own gravity from the rotation around their axis with the consideration to the other physics factors on other planets, as this fact only applicable on the earth and just a theory for the other planets as well for the records collected earlier by Astronomer's and space agencies.

5.2 The Earth generates direct Energy from the rotation around its axis to its objects in form of gravity, which gives these objects the weights to sustain on the earth with the direction to its core. This force shall be measured by weight not by Mass, as the mass is fixed and the weight is variable depend on the gravity.

The unit measure shall be standard at the earth surface and take it as a reference for other measures in different locations using the below formula:

$g2 = g1 * W2 \ W1$

where g_1 = 9.8 (m/s^2) earth gravity, W_1 = the object weight on the earth surface without any external forces, W_2 = the object weight at other planet or at other environmental effects (wind, wave, altitude or any), g_2 = the gravity at other planet or at other environmental effects (wind, wave, altitude or any).

6 Chapter Six: The Role of Quran in Astronomy

Religion is the foundation of the Humans lives, as it is a comprehensive manual on how our life is made and the way how to live it.
Simply for any Item production process, the manufacture deliver a manual along with the product for the best practice to use it safely and efficiently, and asked always to refer to the manual for any certain use or issue that faced by the user.

So the religion is the key of how to use our life in the best practices that the creator of this universe asked for, and refer to the above example, there is also a manual in form of heavenly books delivered to the humans, including information about our Universe and how to live based on rules and procedures.

I explained in the other sections that with the analyses of the available and discovered data, we can proof scientifically that our solar system supporting the geocentric model based on several theories that can be referred to them in these sections. And more than this lets view and look closely to the critical facts on how the Creator (God) of this Universe explained and viewed how it designed and work.

I'll refer in this section to the book of Quran on how it explain the mechanism of the Universe, view specific verses in this regard, and explain each individual to simplify the concept and how it is related to what been discussed.

As Quran is delivered in Arabic, I'll translate and explain each verse to English.
Quran is one and last of the Heavenly Books delivered to the Prophet Mohammed, and explained clearly how the Universe created, it's characteristics and how it work. It resolves many points of controversy in Astronomy and clarifies how we should deal with any research and discovery. Since Quran is delivered by the Creator of the Universe (God), there should be no doubts or debate on any statements.

As the knowledge granted to the Human is limited and un-comparable with the source of these information who grant that limit and deliver specific amount of knowledge in this domain, so any research, study, exploration and analyses should be based on that concept and refer to the creator and his book (Quran) in any activity, to be the foundation and the direction for any researches or studies, to come out with accurate results and practical analyses.

As by taking another direction than the creator and his book will end up to incorrect results and extreme efforts in the wrong path, and the outcomes will not reflect any benefits to stakeholders over decades.
Following we will introduce each verse individually, translate it and explain it, then link it to the data to clarify the concept and the outcome:

6.1 The begin of the Universe

سورة فصلت:

قُلْ أَئِنَّكُمْ لَتَكْفُرُونَ بِالَّذِي خَلَقَ الأَرْضَ فِي يَوْمَيْنِ وَتَجْعَلُونَ لَهُ أَندَادًا ذَلِكَ رَبُّ الْعَالَمِينَ(9)

Do you indeed disbelieve in Him and assign compeers to Him who created the earth in two days? He is the Lord of all beings of the Universe

وَجَعَلَ فِيهَا رَوَاسِيَ مِن فَوْقِهَا وَبَارَكَ فِيهَا وَقَدَّرَ فِيهَا أَقْوَاتَهَا فِي أَرْبَعَةِ أَيَّامٍ سَوَاء لِّلسَّائِلِينَ(10)

(After creating the earth) He set up firm mountains on it, blessed it, and provided it with sustenance in proportion to the needs of all who seek (sustenance). All this was done in four days.

ثُمَّ اسْتَوَى إِلَى السَّمَاء وَهِيَ دُخَانٌ فَقَالَ لَهَا وَلِلْأَرْضِ ائْتِيَا طَوْعًا أَوْ كَرْهًا قَالَتَا أَتَيْنَا طَائِعِينَ(11)

Then He turned to the heaven while it was all smoke. He said to the heaven and the earth: 'Come (into being), willingly or unwillingly.' They said: 'Here we come (into being) in willing obeisance.

فَقَضَاهُنَّ سَبْعَ سَمَاوَاتٍ فِي يَوْمَيْنِ وَأَوْحَى فِي كُلِّ سَمَاء أَمْرَهَا وَزَيَّنَّا السَّمَاء الدُّنْيَا بِمَصَابِيحَ وَحِفْظًا ذَلِكَ تَقْدِيرُ الْعَزِيزِ الْعَلِيمِ(12)

Then He made them seven heavens in two days and revealed to each heaven its law. And We adorned the lower heaven with lamps (Stars, Planets, Others), and firmly secured it. All this is the firm plan of the All-Mighty, the All-Knowing.

سورة البقرة:

هُوَ الَّذِي خَلَقَ لَكُم مَّا فِي الأَرْضِ جَمِيعًا ثُمَّ اسْتَوَى إِلَى السَّمَاء فَسَوَّاهُنَّ سَبْعَ سَمَاوَاتٍ وَهُوَ بِكُلِّ شَيْءٍ عَلِيمٌ(29)

He it is Who created for you all that there is on the Earth; then he turned to the sky and ordered it into seven heavens, and He has full knowledge of everything.

These verses explained that the Creator (God) created the Earth as a planet in two days followed by establishing the sources of life such as plants, water, animals and others in another two days to be total of four days.

Then after he built the earth in 4 days, he rose to the sky and it was smock, so he made it seven Heavens in 2 days, each has its own order and features, and the first heaven which is our that is observed and reached by humans is the one which contain Planets, stars, Galaxies and others where today is the place we do all our space missions and explorations.

So these verses are clearly denied the Big Bang theory, that the Universe established from a single point of explosion and took almost 13 Billions of years to the form we have today, and that our Galaxy (the milky way) including the solar system came last, as the verses clearly identified that the earth is the first creation and followed by other objects in total 6 Days for the whole Universe Creation.

Also they disagree with the theory of General relativity for Albert Einstein who simplify the Universe creation and produced the gravitational theory as

an explanation of the events accrued in the Universe since it started and how the planets orbiting due to a distortion in space time which causing the gravity, and that will be explained in details in other verses. Since the earth as the first created object, so this theory is not valid.

6.2 The Orbiting Characteristics

سورة الرعد:

اللَّهُ الَّذِي رَفَعَ السَّمَاوَاتِ بِغَيْرِ عَمَدٍ تَرَوْنَهَا ثُمَّ اسْتَوَى عَلَى الْعَرْشِ وَسَخَّرَ الشَّمْسَ وَالْقَمَرَ كُلٌّ يَجْرِي لأَجَلٍ مُّسَمًّى يُدَبِّرُ الأَمْرَ يُفَصِّلُ الآيَاتِ لَعَلَّكُم بِلِقَاء رَبِّكُمْ تُوقِنُونَ(2)

It is Allah who rose up the heavens without such pillars as you could see: then He sat Himself upon the Throne of His Kingdom: He subjected the sun and the moon to a law. Everything in the universe is running its course to its fixed term. And Allah alone is directing the whole affair. He makes His signs plain: perhaps you may be convinced of meeting your Lord.

سورة الكهف:

وَهُوَ الَّذِي خَلَقَ اللَّيْلَ وَالنَّهَارَ وَالشَّمْسَ وَالْقَمَرَ كُلٌّ فِي فَلَكٍ يَسْبَحُونَ(33)

And it is Allah, Who has made the night and the day and created the sun and the moon; all of them are floating, each in its own orbit.

سورة لقمان:

أَلَمْ تَرَ أَنَّ اللَّهَ يُولِجُ اللَّيْلَ فِي النَّهَارِ وَيُولِجُ النَّهَارَ فِي اللَّيْلِ وَسَخَّرَ الشَّمْسَ وَالْقَمَرَ كُلٌّ يَجْرِي إِلَى أَجَلٍ مُّسَمًّى وَأَنَّ اللَّهَ بِمَا تَعْمَلُونَ خَبِيرٌ(29)

Do you not see that Allah makes the night phase into the day and makes the day phase into the night and has subjected the sun and the moon to His well so that each of them is pursuing its course till an appointed time? Do you not know that Allah is well aware of all that you do?

سورة يس:

لا الشَّمْسُ يَنبَغِي لَهَا أَن تُدْرِكَ الْقَمَرَ وَلا اللَّيْلُ سَابِقُ النَّهَارِ وَكُلٌّ فِي فَلَكٍ يَسْبَحُونَ

Neither does it lie in the sun's power to overtake the moon nor can the night outstrip the day. All glide along, each in its own orbit.

سورة يونس:

هُوَ الَّذِي جَعَلَ الشَّمْسَ ضِيَاء وَالْقَمَرَ نُورًا وَقَدَّرَهُ مَنَازِلَ لِتَعْلَمُواْ عَدَدَ السِّنِينَ وَالْحِسَابَ مَا خَلَقَ اللَّهُ ذَلِكَ إِلاَّ بِالْحَقِّ يُفَصِّلُ الآيَاتِ لِقَوْمٍ يَعْلَمُونَ(5)

He is the one who gave the sun radiance and the moon light, and determined the stages (for the waxing and waning of the moon) that you may learn the calculation of years and the reckoning of time. Allah has created all this with a rightful purpose. He expounds His signs for the people who know.

These verses addressed that the Sun and The moon are in continues movement and within an orbit, not only this but clarify that each should not reach or clash the other while they are moving as each has its orbit and this is will not be

mentioned, only if both of them are orbiting the earth as mentioned in every verse.

The creator (God) always combine the Sun and the moon together as they have the similar movement feature within an orbit, which is clearly identified that the moon is orbiting the earth and if the sun has opposite or different direction, then the creator will not link or connect the sun with the moon in most of the verses that talked about the orbiting which is the common point between them.

Or at least in any verse he didn't mention the earth is also moving in an orbit. But the Creator clearly explained that both the Sun and moon are assigned to the earth to serve for certain tasks, mainly the sun for the four seasons and the moon to calculate the months and years, and that will only happen if they are moving within an orbit, as the four seasons cannot be accrued, only if the sun or the earth are orbiting the other, and in the whole Quran Book, the creator didn't address in any verse, show that the earth is orbiting or moving as for the sun and moon, and this is another supported point for the Geocentric model.

In addition there is no relation, connection or law between the Sun and Moon for their movement while they are orbiting, as they are assigned by the Creator (God) to move in their orbits without any external forces or effects in form of gravity as explained in the theory of General relativity by Albert Einstein, and the Universe Creator clearly addressed that the sun is orbiting which the theory will has conflict with this statement where there is no other option than

the sun is orbiting the earth. Especially they are assigned for purpose with calculated movement which cannot be as consequences of nature events.

And since the earth is the first creation in the Universe as explained in the previous verses, the Big Bang and the General relativity theories are not doable since the distortion in form of curve in space time cannot be accrued after or by the sun which is created after the earth.

6.3 The Invisible Energy

سورة الرعد:

اللَّهُ الَّذِي رَفَعَ السَّمَاوَاتِ بِغَيْرِ عَمَدٍ تَرَوْنَهَا ثُمَّ اسْتَوَى عَلَى الْعَرْشِ وَسَخَّرَ الشَّمْسَ وَالْقَمَرَ كُلٌّ يَجْرِي لأَجَلٍ مُّسَمًّى يُدَبِّرُ الأَمْرَ يُفَصِّلُ الآيَاتِ لَعَلَّكُم بِلِقَاء رَبِّكُمْ تُوقِنُونَ(2)

It is Allah Who raised up the heavens without such pillars as you could see, then He sat Himself upon the Throne of His Kingdom, He subjected the sun and the moon to a law, Everything in the universe is running its course to its fixed term, And Allah alone is directing the whole affair.

سورة الحج:

أَلَمْ تَرَ أَنَّ اللَّهَ سَخَّرَ لَكُم مَّا فِي الأَرْضِ وَالْفُلْكَ تَجْرِي فِي الْبَحْرِ بِأَمْرِهِ وَيُمْسِكُ السَّمَاء أَن تَقَعَ عَلَى الأَرْضِ إِلاَّ بِإِذْنِهِ إِنَّ اللَّهَ بِالنَّاسِ لَرَؤُوفٌ رَّحِيمٌ(65)

Do you not see that He has subdued to you all that is in the earth and that He has subjected the boat to the law that she floats over the sea at His

bidding, and He is supporting the sky in a way that it cannot fall down without His permission, The fact of the matter is that Allah is very Kind and Merciful to the people.

سورة لقمان:

خَلَقَ السَّمَاوَاتِ بِغَيْرِ عَمَدٍ تَرَوْنَهَا وَأَلْقَى فِي الأَرْضِ رَوَاسِيَ أَن تَمِيدَ بِكُمْ وَبَثَّ فِيهَا مِن كُلِّ دَابَّةٍ وَأَنزَلْنَا مِنَ السَّمَاء مَاء فَأَنبَتْنَا فِيهَا مِن كُلِّ زَوْجٍ كَرِيمٍ(10)

He created the heavens without any pillars visible to you and He placed mountains in the earth as pegs lest it should turn topsy turvy with you, and He dispersed all kinds of animals over the earth, and sent down water from the sky causing all kinds of plants to grow on it.

سورة الذاريات:

وَالسَّمَاء بَنَيْنَاهَا بِأَيْدٍ وَإِنَّا لَمُوسِعُونَ(47)

And the heaven we constructed with strength and indeed we are its expander

From the above verses, the creator identify the space by heaven and its consist of seven heavens which constructed and built by him in sequence 1-7, each heaven has its order and what is visible and reached by the human is only the first heaven.

These constructed Heavens are an objects has their own dimensions, thickness, and energy, and as explained, its act like a roof held by force without pillars or any physical matters to avoid from fall on earth, this visual

description indicate that the whole universe is managed, Sustained, and operate with a force or energy that is defined by the Creator only.

This energy cannot be measured or analyzed nowadays as it's called by the Dark Energy as well for the constructed Heavens which called by the Dark Matter, in addition, this creation is expandable with force that only under the creator's law not defined by any other Astrophysics law's.

6.4 Findings

سورة الكهف:

مَا أَشْهَدتُّهُمْ خَلْقَ السَّمَاوَاتِ وَالأَرْضِ وَلا خَلْقَ أَنفُسِهِمْ وَمَا كُنتُ مُتَّخِذَ الْمُضِلِّينَ عَضُدًا(51)

I did not make them witness to the creation of the heavens and the earth or to the creation of themselves and I would not have taken the misguiders as assistants

As all of this discussion and explanations of the all above verses, the Creator(God) don't put room for discussions, debits, or arguments about his creations, or the laws that produced by the humans to be applied on them, as he clarify in this verse that no one was present in the process of his creations to assign rules to them , nor the creator(God) informed the human about the laws or formulas that been used, as it fall under one law of God which is " His will when he ask for something to be, it's done".

And what humans learn, invent, or produce from technology, science, and laws are gift from the creator and cannot be applied on the creator himself, and he give us this ability to ease our life on the earth with continuous development and modernization, for peace and forgiveness under the creator mercy and on the way that he wanted us to live using his book as a Manual to refer to it, and anything out of this systems and frame work will lead to a mess and destroying of this Life.

7 Chapter Seven: Research Conclusion

After the analysis of the above data, and the study conducted on the current state of Art in Astronomy and Astrophysics, we will list in this chapter the output of this analysis, which will lead us to an amended model of the Universe:

1. The figure of Big Bang theory is not Valid as the creation of the Universe is more advanced and requires elements to get the results of what we have today, these elements include but are not limited to advanced designing, planning, connecting & locating, stability, continuity, execution processing, recycling and other factors which makes the Universe sustainable.

2. Connecting Multiple data and the relations of several events led us to that the Universe is adopting the Geocentric Model, and this applies to the entire universe, not limited to the Solar system and deep analytics study accrued in the other paper explained in detail how we got this result.

3. The Theory of General relativity is not applicable in space time as with the above results, all the events and the activities in the Universe are independent.

4. Each object in the Universe, such as Planets, Stars, Asteroid and others, have it's Characteristics and Physics as the laws applied to a particular

object is not applicable to other unless physical experiments are conducted on that object, for example, if we need to apply the physics laws of the Earth on Mars, we need to do the same Physics experiments on Mars Physically.

5. Water is the primary source of life for Human and other creatures such as Plants, Animals, and others. 70% of The Human bodies consist of water as well in high percentage for the others. And about 71% of the earth's surface is water, and this percentage keeps the balance of life. So the earth is significant because it contains water which is not available on the other planets along with the additional resources of life such as Air.

6. The first object built in the Universe is the Earth and it was entirely created in 4 Days, including all the Layers, Seas, Oceans, Mountains, Elements, Sands, Rocks, and other objects, and is well prepared to receive the Humankind as it includes all the necessary resources for Life.

7. After the creation of the Earth, Its followed by 7 Skies which built in 2 Days, the first Sky is the one surrounded the earth, and it includes the Sun, Moon, Planets, Stars, Galaxies, and other discovered Objects. The second sky and onward are out of human beings reach and exploration.

8 Chapter Eight: Research Recommendations

As a result of all these analyses and the study conducted on the available data, the conclusion we got and the Universe model we explained. We acknowledge that the earth is significant and the only source and place for human life as it has the all required resources to survive, addition, the other objects in space such as the sun and moon, are assigned for humans as the only ones who take the benefits of them, as well for the stars which gave us the directions from their fixed locations.

So all the events and the activities happened and are happening in the Universe have a direct impact on the Earth. especially on the human where we formed as a central influencers of this Universe, so we need at the end to come out with recommendations on how should be the engagement of the future researches and exploration in Astronomy and Astrophysics, what should be the priority in Science that reflect direct benefit on the human, so below I'll mention some of these recommendations which considered as a top Trends:

1. As a priority, the exploration and Researches projects shall be under one objective and goal, what will be the outcome and the benefits of these projects and how they will have a direct impact on the human, and if they will return improvement on life as it is the primary concerning matter for the existence of Human.

2. Exploring the space is so dangerous and costly, whatever if the Science and Technology are advanced, the resources and budget are available, it will be still a high risk as the exploration will be in an environment not designed for humans, which will harm these explorations as we need to adapt with this environment which has different nature as what we have and used to live with on the earth, so most of these missions are subject for failure.

3. We need to Identify what is subject for learning, exploration, and research, and what is or not worth carrying the efforts and costs of these missions, as a priority is what will reflect benefit on Humans as a primary objective, so to list these projects based on the priority and to try always to minimize the expenditures which are not necessarily.

4. All the researches shall consider the Geocentric model as the base for Astronomy, which create the road map of the exploration and studies projects for collecting Information about our Universe, as this model will shortcut much analyses, answer any questions and correct many principals.

5. The Universe Creation details are not available to the human as all has been collected about how the universe is created are just assumptions or based on theories most of them are not correct or accurate such as the Big Bang and all the studies followed, so if the foundation is not correct, all the results of the researches, the extracted laws, and the exploration missions will be not correct or accurate also.

we can judge what we discovered on earth as the human present the events happened or still happening, all the Earth activities are recognized, measured, figured, explainable and tangible because they are reached and lived by the human, they are designed to be understandable and usable, fit for purpose they created for and sustain the environment, so the nature of earth is the only place where we complete each other.

6. So, as an objective, the focus shall be on what can develop the earth from the environment prospective in terms of the natural elements such as the water, air, geographic components, the atmosphere layers, earth layers, plants, animals, and other creatures.

   So instead of spending billions, sacrificing Humans, wasting significant knowledge, talents, and resources, it would be grateful if utilizing and optimizing these elements on what is beneficial to humans directly, the knowledge about space and the universe we belong to it, is important and will affect on us as human to know how the things work and connected.

   Still this extreme un-required efforts and costs make the things complicated and led to more mysteries events and endless discoveries for limited stakeholders of these missions. To focus more on human relations and connections, improve social life and economy, and make the Earth peaceful for humans. And this is the how we utilize these resources.

9 Chapter Nine: Summary

As a result, Space is so vast, Every planet, star, or any other object has its own rules, physics, chemistry, and other sciences, as we cannot apply what we learned and practiced on earth to another planet, star or space unless if the humans can live there and do the same learning path as what they did on the earth and come out with different sciences than what they produced on the earth. But human capabilities only allow them to learn from the place were born and the events around them.

Gravity is what we feel it and what gives us the weight to live and move on the earth, so only the earth can produce that force to be stored in our bodies and make the balance of live on its surface and other atmosphere and inner layers. We can only apply the rules and physics what we discovered, tested and simulated, and that what I explained it on the above about the reality of the Earth Gravity in Conclusion 3.3. Then, we can practice on the other planets and compare the results if there are any matches with our results by practice not by assumptions.

As well for the SUN, it's orbiting the earth to provide us the four seasons and other events, as it's fit for that purpose. The sidereal Day and Solar Day in the Heliocentric model will not be fit, as the earth will complete one full rotation around its axis every day to the same point facing the sun as explained in Conclusion 3.1 & 3.2.

Finally, humans must be concentrated on the environment where do they live and the events happening around them, build the results by logic and by what we do practice, connect the outputs together and get out with tangible facts where human being can understand and learn from them.

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