Brief answers to queries regarding discovery claims and newly discovered scientific facts:

Through an understanding of the unique properties of light and rays, as well as the invisible states of matter, the Discovery Claimer (Author) has successfully elucidated the true operational mechanism of the solar and planetary systems. This comprehension of the solar system's formation and functioning has also resolved numerous previously unanswered questions in various fields, including but not limited to Astronomy, light and rays, and invisible states of matter.

1. The States of Matter:

World: The world is not aware of the existence of invisible states of matter, which has hindered a correct understanding of the subject of Astronomy.

Discovery Claimer:
The Invisible States of Matter:
In addition to the three well-known states of matter *(Solid, liquid, and gas)*, there exist invisible states of matter with unique properties that allow them to function as energy under specific conditions.

- Light-rays and other types of rays constitute one form of invisible matter.
- Smell/odour particles represent another state of invisible matter.
- Electricity/Electron particles also belong to the realm of invisible matter.
- Magnetic-rays consist of invisible particles. *(By acting as a catalyst, atoms in a magnetic bar split stable white matter in space, say as NS, into two unstable invisible particle rays consisting of particles N and S, which then seek to reunite to recreate stable invisible white matter NS).*
- Contrary to the hypothesized concept of Dark Matter, there is no such thing; rather, it is white matter released by stars and other celestial bodies that occupies space other than the visible matter.
- Everything present in space, whether seen or unseen, is materialistic in nature.

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2. Light-Rays and All Other Types of Rays:

World: The world understands that light possesses dual properties as both a wave and a particle. However, the world does not fully grasp how light rays propagate in the form of particles and how these particles, in their propagation, adhere to the laws of reflection, refraction, and diffraction, among others.

Discovery Claimer:

- **Light as Matter or Energy:** Light is not merely a form of energy; it is an invisible state of matter that acts as energy under specific conditions.
- **Equation: $E=mc^2$:** Albert Einstein introduced the equation to the world as $E=mc^2$, where 'c' represents the velocity of light in meters *(i.e., 300,000 kilometers per second)*. In reality, 'c' should be a constant, regardless of the speed of light. Until scientists establish a connection between 'c' and the velocity of light, they will never truly understand 'Light.' This lack of understanding will hinder their ability to comprehend True Astronomy and the invisible states of matter.
- **Some Prime Discovered Properties of Rays:**
  - The pattern* formed by rays as they emerge from the Sun, as observed in a unique photograph taken during a total solar eclipse, has confirmed a unique property of light: it is materialistic. *(*The pattern formed by the rays confirms the direction of the rotation axis and the equatorial plane of the Sun).*
  - Rays are composed of materialistic spherical particles; therefore, light-rays and all other types of rays do not propagate in a wave-like motion.
  - A ray of light *(or of any other type of ray)* consists of materialistic spherical ultra-micro particles, with each particle closely touching the other, forming a row known as a ray.
  - By correctly understanding how a ray composed of spherical particles propagates, experiments conducted to investigate the properties of light, including the laws of Reflection, Refraction, Diffraction, Polarization, and the Photoelectric effect, confirm that light/rays do not propagate in the form of waves. Instead, a light ray consists of spherical particles.
- **Experiment on the Refraction of Light:** When a spherical particle of a light ray enters a denser medium, it encounters greater resistance on its forward-facing hemisphere than on its rear-facing hemisphere at the interface, causing the ray to bend.
  - The Working Mechanism of the Solar/Planetary System: The working mechanism of the solar/planetary system has unequivocally confirmed that light/rays are not waves but rather rays composed of closely touching materialistic spherical particles.
  - To date, scientists understand that the formation and operation of the solar system *(celestial bodies)* are governed by a single factor, namely gravity. However, this understanding is incorrect. The formation and working mechanism of celestial bodies are based on two factors: (i) forward and backward thrust generated by the materialistic particles within curved rays and (ii) the force of gravity.

- Since materialistic spherical ultra-micro particles closely adhere to each other *(unlike solar wind particles, which are separated)*, they do not travel in a straight line but instead follow a curved/spiral path when emerging from a spinning body.
- Rays, being materialistic and following a curved path, impart a torque force *(spin)* through their thrust to celestial bodies upon emergence *(backward thrust)* and upon impact *(forward thrust)*.
- Rays, being materialistic, act as a repelling force to keep the bodies away, similar to how magnetic rays from the similar poles of two magnets repel each other. This stated repulsion of the bodies is in addition to the centrifugal force that keeps the celestial bodies farther away from the Sun.
- The curved materialistic spherical particle rays emerging from the North and South hemispheres of the spinning Sun form an invisible mirror reflection image pattern across the equatorial plane of the Sun. This pattern of rays serves as a trap-zone for the solar bodies that orbit around the Sun.
- The curved materialistic particle rays, upon emerging from a spinning body *(star)*, also provide a lateral *(side)* push to the trapped bodies, causing them to orbit around their host star.
- More detailed information about the nature of rays has been presented and substantiated in the relevant chapters.

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3. Does Space Have Absolute Nothing Anywhere?

World: Aristotle was correct in asserting that Nature abhors a vacuum. Scientists, by misinterpreting Aristotle's concept of vacuum, disproved his observation. For Aristotle, a vacuum meant absolute nothingness.

Discovery Claimer:

- There is no empty pocket in the Universe where absolute nothingness exists.
- Space, apart from visible objects, is occupied by an invisible state of matter—particles of light rays and other types of rays, referred to as white matter by the Discovery Claimer. White matter constitutes the space medium, possessing mass and offering resistance to celestial bodies.
- There is no such thing as the speculated Dark Matter; the misunderstanding of Dark Matter arises from the absence of accurate knowledge about white matter.

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4. Aristotle's and Galileo's Observations on Free Falling Bodies?

World: Aristotle's and Galileo's observations on free-falling bodies hold significant implications for understanding the true operational mechanism of the solar/planetary system. By neglecting the resistance from white matter in space, the world has failed to fully comprehend the field of Astronomy.

Discovery Claimer:

- There is no pocket of absolute nothingness in the Universe. A medium *(such as air or liquid)* exerts resistance on all free-falling bodies on Earth, and for celestial bodies, the medium in space is white matter.
- A smaller body has a greater surface area relative to its mass compared to a larger body of the same material. Consequently, a smaller body encounters greater resistance *(uplift, thrust, or resistance)* than a larger body. Due to this resistance factor, objects of different sizes cannot free-fall at the same speed. The magnitude of resistance from white matter becomes substantial for larger celestial bodies, a factor often overlooked by scientists.
- Because of the thrust force exerted by white matter, the Moon experiences a greater thrust magnitude *(relative to its mass)* from the Sun's rays than the thrust magnitude *(relative to its mass)* experienced by the Earth. A similar effect is observed with planet Mercury compared to Earth and Venus. Due to this factor, the mean densities of celestial bodies *(other than Earth)*, calculated without considering the thrust and repulsion factors from materialistic particle-curved rays, are inaccurate.

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5. The Universe:

World: The world does not comprehend the Universe as the discovery claimer has observed and understood.

Discovery Claimer:

- **The Mass:** The mass of the Universe remains constant.
- **The Age of the Universe:** The Universe lacks both a beginning and an end; its matter oscillates between forming the visible Universe from invisible white matter and disintegrating visible matter back into white matter, in an eternal cycle. Although there is no specific age for the Universe due to its oscillating nature, the age of the present visible Universe can be considered the same as calculated by scientists, approximately 13.8 billion years.
- **The Prime Fundamental of the Universe:** The four Fundamentals commonly understood by the world are, in fact, sub-Fundamentals of the primary Fundamental: 'The Universe is Materialistic.'
- **The Universe is One:** There may be multiple Universes or a multitude of Universes separated by the distance of a Universe or more. If we consider the existence of more than one Universe, determining the total number becomes a puzzle. Why say 10, and

not 11 or 12 or more Universes? This is because gravity attraction between two or more Universes cannot reach absolute zero, regardless of their separation distance. Therefore, there is only one vast Universe. Furthermore, the unit 1 appeals the most as square root of 1 is 1; the square of 1 is 1; the cube of 1 is 1; 1 raised to power of any number 1^{μ} is 1; any numerical figure raised to power of zero (0) is equal to one (1); how? Proof: $n^0=n^{(a-a)}=n^a x n^{-a}=n^a/n^a=1$.

In addition, based on religious belief that there cannot be more than one God, the author believes that the Universe is God; we *(all living beings)* and other objects exist within the Universe, akin to a mother having multiple fetuses in her womb. Therefore, it is logical to conclude that there is only one vast Universe.

This notion better aligns with and justifies the idea of a singular Universe, as multiple Universes would hinder humans' ability to correctly comprehend the fundamentals of Astronomy *(including the solar system)*.

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6. Evolution of the Visible Universe:

World: Under the Big Bang theory, the world understands that the Universe has evolved from a highly dense matter, initially equivalent in size to a pinhead, through its explosion and subsequent expansion.

Discovery Claimer:

- No form of matter can exist if it is surrounded by absolute nothingness. Thus, the speculation that the visible Universe has evolved from a highly dense mass *(the Big Bang)* of a size equivalent to a pinhead is considered scientifically unfounded.
- The pre-visible Universe, upon disintegration, transformed all its visible matter into invisible matter *(white matter)*. This invisible white matter occupied the entire space of the present Universe.
- The white matter of the pre-Universe formed a dense mass at its center due to gravity, which can be likened to the largest Black hole ever formed, surrounded by the remaining white matter of the Universe. This "biggest black hole ever formed" can be more aptly termed as "Compact Dense Universe Matter" *(CDUM)*. CDUM, upon its explosion and subsequent expansion, gave rise to the present visible Universe.
- What force is responsible for the expansion of the visible Universe? Contrary to the speculation by the world that dark energy is causing the expansion, the Discovery Claimer provides an alternative explanation in the following chapters.

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7. Formation of the Solar/Planetary System:

World: The solar system is believed to have formed from a rotating solar nebula that, upon its collapse, gave rise to the Sun at its center.

Scientists using the Hubble telescope have discovered that planets form from a flat disc of particles surrounding the **protostar***.

***Protostar:** The world does not have a precise understanding of how a protostar transforms the matter in its nebula into a vast, flat disc using its outgoing materialistic particle-curved rays, *(nor how the protosun transforms solar nebula matter into such a flat disc)*.

Discovery Claimer:

To date, academic knowledge remains largely unchanged, grounded in centuries-old hypotheses.

Academic knowledge requires revision to align with recent discoveries; without accurate knowledge, it is impossible to fully comprehend the formation and operational mechanisms of the solar system.

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8. Working Mechanism of the Solar/ Planetary System:

World:

- Planets have formed from segments of the rotating nebula.
- Planets are positioned near the equatorial plane of the Sun because they originated from the flattened nebula, caused by its rapid rotation.
- The planets are in their orbital motion because they formed from the rotating nebula.
- The rotation of the planets results from the angular momentum acquired during their formation from segments of the rotating nebula.
- The tilted axes of the planets are a consequence of past massive impacts or collisions with other celestial bodies.
- The orbits of the planets are elliptical, as dictated by Kepler's laws.
- The planets are at their respective distances from the Sun due to the influence of centrifugal force.
- Gravity is the sole governing factor in the workings of the planets and the solar system.

Discovery Claimer:

- The planets are in their orbital motion due to the lateral (side) push imparted to them by the materialistic particle curved rays emitted from the rotating Sun.
- The closer a planet is to the Sun, the faster its orbital speed, attributed to the stronger push received from the materialistic particle curved rays of the Sun.

- Planetary rotation results from the combined effects of the back thrust generated by their outgoing materialistic particle curved rays and the forward thrust exerted by the Sun's materialistic particle curved rays. Planets like Mercury and Venus rotate slowly due to spin retardation from their molten cores, with the densest elements tending to face the Sun.
- Gas giants generate a greater quantity of materialistic particle curved rays than terrestrial planets, leading to faster rotation, as they experience a more significant back thrust from their outgoing materialistic particle curved rays and lack spin retardation from their molten cores.
- The planets' tilted axes are influenced by the materialistic particle curved rays they generate and radiate, forming visible or invisible flat discs around the planets, in addition to the forward thrust from the Sun's materialistic particle curved rays, along with internal and external planetary features.
- The elliptical orbits of the planets are a result of their tilted axes and the presence of visible or invisible flat discs *(rings)*. When materialistic particle curved rays from the Sun strike the inclined surface of the flat discs (rings), the planet moves away from the Sun compared to a strike on the edge of the flat discs *(rings)*. This phenomenon results in the planets' orbits being elliptical.
- In addition to the centrifugal force, the planets are situated at a greater distance from the Sun due to the repulsion property of the materialistic particle curved rays from both the planet and the Sun.
- Gravity is not the sole factor governing the working mechanism of the planets and the solar system; it operates alongside the forward and backward thrust from the materialistic particle curved rays.

9. About the Sun:

World:

- The Sun's rotation is attributed to the angular momentum it gained during its formation from the rotating solar nebula.
- Prior to 1940, the world was unaware of solar wind.

Discovery Claimer:

- If the Sun had been rotating solely due to angular momentum from its formation, the different circulation speeds of its particles would have caused its rotation to cease due to friction between the particles.
- The Sun does not rotate because of the angular momentum gained at its formation. Instead, the Sun's rotation results from the back thrust acting on every particle of its outgoing materialistic particle-curved rays, along with other solar ejects. Consequently, the Sun rotates faster at its equator than near its poles.
- The world does not understand why the Sun is a perfect sphere. Despite its faster rotation *(the axial rotation is not faster, but due to its larger diameter, the circulation speed of particles is faster)*, it should have a bulge at its equatorial plane. The Sun rotates faster at its equator than near its poles, causing matter to intend to form a bulge at its equator, with back thrust by the outgoing materialistic particles over matter at the Sun's equator being greater than near its poles. These factors maintain the Sun's shape as a perfect sphere.
- The outgoing materialistic particle-curved rays form an invisible mirror reflection image pattern across the equatorial plane of the Sun, creating a trap zone to retain the solar family within it. *(This trap zone, formed by the protosun, transformed solar nebula matter into a flat disc.)*
- The white matter pressure decreases continuously from the center of the Sun to the Corona, and from the Corona to outer space. Due to the pressure difference at every progressive step between the opposite hemispheres of the ejected particle, each independent ejected particle accelerates as it escapes within the Sun, Corona, and from the Sun, as described in the relevant chapter.
- Nuclear reactions that generate light, white matter, and other solar ejects occur over the **shell*** *(inside the Sun)*. As a result, the generation quantum remains steady and not variable. Furthermore, due to mass loss, the pressure over the shell continually decreases. Consequently, after some time, the shell itself allows the escape of particles from the center *(beneath the shell)* of the Sun with a forceful gush. These escaped **particles** from the Sun form Sun storms.

***Shell:** The shell should not be defined as a thin shell but rather as a **thick shell zone** containing very dense and extremely hot particles inside.

10. Planets of the Solar System:

World: The world still does not have a correct understanding of the reasons behind most of the phenomena related to the planets, mainly due to a false understanding of some fundamental principles in Astronomy, light *(rays)*, and the existence of invisible states of matter. The Discovery Claimer has successfully unraveled many secrets and mysteries related to the solar planets, which have remained unsolved until now. Detailed explanations are provided in the relevant chapters.

Discovery Claimer:

(i) Mercury:

- **The Real Mean Density:** While the mean density of Earth has been accurately determined *(which is correct)*, the mean densities of other planets have been calculated using centuries-old planetary laws. The calculated mean density of the planet Mercury is incorrect; in reality, the mean density of Mercury is much greater than that of Earth. This is why Mercury,

despite its smaller size, orbits closer to the Sun than Earth, as otherwise the solar wind would have pushed it into a wider orbit than Earth.

- **Why is the Core of Mercury Still Molten?** *(Read in the Mercury chapter)*.
- **Why Does Mercury Rotate *(Spin)* Very Slowly?** Mercury's proximity to the Sun causes its rotation speed to experience tidal friction from the softer mantle facing the Sun, along with spin retardation from its own molten core. *(The densest elements among the less dense in the molten core always tend to face the Sun)*.
- **The Orbit:** Mercury's eccentric orbit is due to its high density and smaller size compared to Venus and Earth. Venus and Earth, being much larger and composed of denser mass, exert gravitational influence that affects the orbital path of Mercury. *(Detailed explanation is provided in the Mercury chapter)*.
- **The Satellite:** Mercury lacks any natural satellite or visible flat rings due to its close proximity to the Sun, which results in a high blow of solar wind.
- **The Axial Tilt:** Mercury has almost no axial tilt due to the absence of (a) visible flat rings, (b) natural satellites, and (c) its extremely slow rotation. *(Detailed explanation is provided in the Mercury chapter)*.
- **The Iron Contents:** Spectroscopic studies of Mercury's surface conducted by scientists have not detected any traces of iron. *(Mercury has formed from flat rings composed of much denser particles than Earth, resulting in Mercury having very dense atoms, and thus no iron traces are found).*

(ii) Venus:

- **The Real Mean Density:** The calculated mean density of Venus is incorrect; in reality, the mean density of Venus is much greater than that of Earth. This is why Venus, despite its smaller size, orbits closer to the Sun than Earth, as otherwise the solar wind would have pushed it into a wider orbit than Earth.
- **Why is the axial rotation of Venus in retrograde?** Venus has a much denser atmosphere than Earth, and it is closer to the Sun. The materialistic particles curved rays from the Sun, upon entering the denser medium, bend towards normal, thereby imparting a torque force to Venus in the opposite direction compared to other planets.
- **Why does Venus always show the same face to Earth while passing near it?** Venus likely possesses a very dense patch or bulge concealed beneath its thick atmosphere, responsible for this observed phenomenon. In the past, when Venus underwent a reversal in its spin direction, during a temporary halt *(which may have spanned several years)* in its rotation, its denser core could have become eccentric due to the Sun's gravitational influence. This eccentric denser core may account for the observed phenomenon. Further explanation is provided in the relevant chapter.
- **The Water:** Venus had water when it was at a wider orbit, but it evaporated upon its closer approach to the Sun. *(Detailed explanation is provided in the Venus chapter)*.
- **The Flooding of Lava:** Scientists have observed evidence of spreading and flooding of lava on Venus' surface and recent volcanic flows, but there is no evidence of tectonic plates like on Earth. Scientists attribute this to the higher surface temperature. While high temperature has softened Venus's mantle, it's not the sole reason for this phenomenon. Venus's proximity to the Sun and its slow rotation mean that the Sun's high gravity has pulled molten lava from beneath the mantle, similar to volcanic flows observed on the Moon's surface *(as explained in the Moon chapter)*.
- **The Slow Rotation:** Venus rotates very slowly; the reasons behind this are similar to those for Mercury.
- **More details** can be found in the Venus chapter.

(iii) Earth:

- **The Water on Earth:** Water on Earth was formed by semi-live life from atmospheric gases. In the past, Venus also had water, formed in a similar way to Earth when it was in the habitable zone. However, as Venus approached the Sun, it lost its water, which now exists in space, including with comets and some solar bodies, with a significant portion of it around Earth.
- **The Life on Earth:** Life on Earth evolved after Earth captured the Moon to become its satellite. The young Moon was a planet located between Earth and Mars, much closer to Earth. During a close approach, when Earth, Moon, and Sun aligned, the mutual gravitational attraction between Earth and the Moon altered the Moon's solar orbit, causing it to orbit Earth. Once the Moon became a satellite, it tilted Earth's axis due to the materialistic particle-curved rays of the Sun, leading to the creation of seasons. Semi-live life emerged after water formation, followed by the development of micro-life. Life beyond micro-life would not have been possible on Earth without the capture of the Moon, which tilted Earth's axis of rotation. *(In any case, if life existed on Earth before the Moon's capture, it likely got wiped out during the capture due to the lurching status of Earth's orbital track, axial tilt, and rotation speed)*.
- **Answers to the following questions can be found in the relevant chapters and in the Earth chapter:**
  - How was Earth formed?
  - What causes Earth to spin?
  - What keeps Earth at its current distance from the Sun?
  - What maintains Earth's motion in its orbit?
  - Why is Earth's orbit nearly aligned with the Sun's equator?
  - What causes Earth's axial tilt?

(iv) Mars:

Please refer to the relevant chapter and the chapter on Mars for answers to the following questions:

- Why do the satellites of Mars orbit so close to the

Martian surface?
- Is there a possibility of life on Mars?

(v) Jupiter:

Please refer to the relevant chapter and the chapter on Jupiter for answers to the following questions:

- Why is there a gap of objects *(asteroids)* between the Asteroid Belt and Jupiter?
- What is the origin of Trojans?
- Jupiter is larger than Saturn, so why are its rings fainter and smaller than Saturn's?
- What causes Jupiter to rotate faster?
- Why doesn't Jupiter spin in the reverse direction, even though it has a thick atmosphere of gases like Venus?
- Is there any potential danger to Earth from Jupiter in the future?
- In the future, could Jupiter become somewhat similar to hot Jupiter by gaining mass?

(vi) Saturn:

- **Why does Saturn have flat rings?**

The high thrust from the materialistic particle curved rays of Jupiter causes collisions among asteroids in the asteroid belt, resulting in the formation of chips and small objects. Due to the thrust from the materialistic particle curved rays from the Sun, these formed chips and small objects move to wider orbits. The materialistic particle curved rays from Saturn create an invisible mirror reflection image pattern across its equatorial plane, effectively trapping these chips and small objects in the form of flat rings. A similar mechanism is responsible for the flat rings of Uranus and Neptune. Further explanation can be found in the relevant chapter.

- **Please refer to the relevant chapters in the book about Saturn for answers to the following queries:**
  - Why does Saturn rotate faster than Earth, even though it is significantly larger in size compared to Earth?
  - Why are Saturn's rings thin and have a large diameter?
  - Why do Saturn's rings exhibit gaps and different colors?
  - Why do some of Saturn's rings appear as wispy spirals?
  - The explanation for the almost universally elliptical orbital paths of planets can be attributed to Saturn's adoption of an elliptical orbit due to its flat rings.

(vii) Uranus:

- **Why does Uranus spin/rotate with its axis nearly parallel to its ecliptic?**

The solid core of Uranus is a prolate spheroid *(its polar distance is greater than its diameter)*, which prevents it from rotating with its axis vertical to the equator plane of the Sun because of the curved rays of materialistic particles from the Sun, as explained in the chapter on Uranus. The solid core of Uranus was formed by the soft collision of two nearby planets, Ura and Nus; thus, it has a solid core in the shape of a prolate spheroid, as illustrated in the Uranus chapter.

- **Why does Uranus have an elliptical orbit?**

Uranus orbits with its axis almost parallel to its orbital plane. When the flat surface of the rings faces the curved rays of materialistic particles from the Sun, it is pushed into a wider orbit; when the edge of the rings faces the Sun, it comes closer to the Sun. This phenomenon results in the elliptical orbital motion of Uranus.

- **Why does the orbital speed of Uranus vary?**

When the curved rays of materialistic particles from the rotating Sun push Uranus into orbit by striking the flat surface of its rings, it attains a faster speed; when the push from the rays is on the edge of the flat rings, its speed becomes slower.

- **For answers to the following queries, please refer to the relevant chapters and chapter of Uranus:**
  - The rings of Uranus
  - Moons/satellites

(viii) Neptune:

- **The Satellite Triton:** NASA has discovered that Neptune's largest satellite, Triton, orbits in the opposite direction to Neptune's rotation. (The Discovery claimer has uncovered the reasons behind Triton's retrograde orbital motion and how Triton was captured by Neptune. You can find the explanation in the relevant chapter).

- **For answers to the following queries, please refer to the relevant chapters and chapter of Neptune:**
  - Is the calculated density and mass of Neptune correct?
  - Why is the density of Uranus calculated to be less than that of Neptune?
  - Does Neptune have more mass than Uranus?
  - Is the composition of Neptune similar to Uranus?
  - The flat rings of Neptune:

(ix) Pluto:

- **Why is the orbit of Pluto highly eccentric?**

Pluto is significantly distant from the Sun, and it is gravitationally bound to its partner, Charon. Due to Pluto's remote location and much smaller mass, the curved rays of materialistic particles from the Sun push its orbital path to resemble that of comets. In fact, Pluto doesn't follow a traditional elliptical orbit; it moves in a loop, as illustrated in the Pluto chapter.

- **For answers to the following queries, please refer to the relevant chapters of the Pluto:**
  - Is Pluto a misbehaved planet or a misunderstood planet by physicists/astronomers?
  - Why does Pluto rotate with its equator nearly at a right angle to the plane of its orbit?
  - Why is Pluto located so far from the Sun?

11. Comets:

World: The world does not possess a correct understanding of the reasons behind many phenomena related to comets, primarily due to misconceptions about fundamental aspects of astronomy, light *(rays)*, and the invisible states of matter. The discoverer has unraveled most of the secrets and riddles related to comets, and the explanations can be found in the relevant chapters.

Discovery claimer:

- **The Path of a Comet:** Comets do not follow an elliptical orbit, meaning they don't return to the same point from which they began their journey. Instead, they move in a loop-like orbit.

- **The Nucleus of a Comet:** The cores *(nuclei)* of comets were formed during the early stages of the solar system's development from very dense matter particles within the flat rings that existed in close proximity to the Sun. These flat rings occupied the region between the Sun and the flat rings that later gave rise to Mercury. However, due to the powerful influence of solar wind and intense solar storms, the extremely dense particles in this region could not coalesce to form planets. Instead, asteroids formed from this dense mass were pushed farther away and eventually became comets.

- **The cores** *(nuclei)* of comets consist of matter that is extremely dense and originated within the solar system. A small comet grows in size over time due to its repeated orbits around the Sun, accumulating dense mass from the solar-wind particles, which are composed of extremely dense matter.

- **The Journey of a Comet:** A comet, on its return journey from the Oort cloud, does not necessarily rely on the gravitational influence of planets to initiate this return. It commences its journey back due to the addition of mass, such as dust, ice, or other objects. However, the gravitational pull of any nearby star or planet can expedite its return.

  The curved materialistic particle rays emitted by both planets and comets act to prevent collisions due to their repulsive nature. Even from great distances, the outgoing curved materialistic particle rays from comets and planets ensure collision avoidance through this repulsion force. This repulsion factor significantly reduces the likelihood of collisions during the thousands of visits comets make around the Sun. Without these repelling rays, it's possible that nearly every comet would have collided with various planets over a few centuries. Such collisions might have altered the course of planetary development and the existence of life on Earth as we know it today.

  A comet begins its journey from the Oort cloud at a standstill, with the intention of eventually falling into the Sun. However, the solar wind acts to push it away, preventing its plunge into the Sun.

  If comets followed the conventional understanding of orbital mechanics, they might never have traveled in a reverse direction around the Sun. The explanation for this phenomenon is detailed in the Comets chapter.

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12. The Moon and other Satellites:

World: The world has various theories regarding the Moon, but it has not fully embraced any single theory. *(For further information on what is known globally, please refer to the Internet)*.

NASA has discovered that Triton, the largest satellite of Neptune, orbits in the retrograde *(reverse)* direction compared to Neptune's rotational *(spin)* direction, but the world is unaware of the reason behind this phenomenon.

Discovery claimer:

(i) Why does Mercury have no satellite?

Mercury is a small planet that rotates very slowly and is extremely close to the Sun. Because of the strong influence of the solar wind, Mercury was unable to capture any satellites.

(ii) Why does Venus have no satellite?

In the past, when Venus had a wider orbit and resided in the habitable zone, it likely had its own satellite. However, as it moved closer to the Sun, its satellite drew nearer to Venus and, under the influence of the curved rays of materialistic particles from the Sun, its orbital speed decreased, eventually leading to a collision with Venus. Some of Venus's smaller satellites may have been engulfed by the planet due to its proximity to the Sun, while others could have been pushed away by the solar wind.

(iii) The Moon; Satellite of the Earth:

- **Existence and capture of the Moon:** In the past, the young Moon was positioned between the young Earth and young Mars, but much closer to the young Earth. All solar planets grew in size by absorbing asteroids and other small objects, causing them to reduce their orbital distances. Consequently, the young Moon drew closer to the young Earth until it reached a critical gravitational attraction distance when the young Moon, young Earth, and the Sun aligned. Upon gaining further mass, the young Moon was captured by the young Earth, becoming its satellite. At that moment, the young Moon deviated from its solar orbit to revolve around the Earth, losing its status as a planet and assuming the role of Earth's satellite. You can find a more detailed explanation in the Moon chapter.

  The presence of the Moon was crucial for the evolution of life on Earth. It caused Earth's axis to tilt due to the curved rays of materialistic particles from the Sun, leading to the creation of seasons. This tilt facilitated the development of life, starting with microorganisms. *(Beyond microorganisms, the existence of complex life on Earth would have been unlikely without the Moon's influence on Earth's axis of rotation.)*

- **Why are volcanic eruptions and maria on the Moon concentrated on the side closer to Earth *(or facing Earth)*?**
  Volcanic activities and eruptions on the near side of the Moon in the past were caused by the continuous gravitational pull of Earth *(due to tidal locking)* on a specific region of the Moon. An explanation of this phenomenon, along with the resolution of several other mysteries and riddles related to the Moon, can be found in the Moon chapter.

- **Why does the Moon always show the same face to Earth?**
  When the Moon was a planet prior to being captured,

it rotated like other planets. However, being a smaller planet, it generated weaker materialistic particle curved rays, resulting in a weaker rotational torque force. Consequently, it couldn't maintain its rotation for long due to the high gravitational pull *(tidal friction)* from Earth. Additionally, the denser elements in the less dense molten core of the Moon always tended to face Earth, which further slowed the Moon's rotation. This phenomenon eventually halted the Moon's rotation, and over time, the denser core became eccentric due to Earth's gravity, permanently locking the Moon's spin.

- **For answers to the following queries, please refer to the relevant chapters in the Moon book:**
  - Why doesn't the orbital plane of the Moon coincide with the equatorial plane of Earth?
  - Is there a pattern in the meteors that struck the Moon based on their sizes?
  - What causes the mysterious quakes that resonate through the lunar rocks on the far side of the Moon?
  - Does the Moon contain water?
  - Why does the Moon appear closer to Earth when it is closer to the Sun and farther away when it is farther from the Sun?
  - Is the Moon moving away from Earth?
  - What is the forecasted fate of the Moon, and how and when will Earth engulf the Moon?
  - Many more newly understood facts are illustrated in the Moon chapter.

(iv) The Satellites of Mars:

Please refer to the relevant chapter for more information.

(v) The Satellites of Jupiter:

Please consult the relevant chapter for further details.

(vi) The Satellites and Flat Rings of Saturn:

The Flat Rings: The powerful thrust generated by the curved materialistic particle rays emitted by Jupiter leads to collisions among asteroids within the asteroid belt, resulting in the creation of chips and smaller objects. These chips and small objects, under the influence of the thrust from the curved materialistic particle rays from the Sun, gradually move into wider orbits. Saturn's curved materialistic particle rays form an invisible mirror-like pattern across its equatorial plane, trapping these chips and small objects in the form of flat rings. Similar processes account for the flat rings of Uranus and Neptune. You can find a more detailed explanation in the relevant chapter.

(vii) The Satellites and Flat Rings of Uranus:

Please refer to the relevant chapter for additional information.

(viii) The Satellites and Flat Rings of Neptune:

The Satellite Triton: NASA has discovered that Neptune's largest satellite, Triton, orbits in a retrograde *(reverse)* direction compared to Neptune's rotational *(spin)* direction. Scientists have not yet determined the reason for this phenomenon. However, the Discovery claimer has uncovered the reason behind this and has also elucidated how Triton was captured. You can find a detailed explanation in the Neptune chapter.

★

13. Galaxies:

World: The world lacks an understanding of most galactic phenomena due to misconceptions about fundamental principles of astronomy, the materialistic properties of light, and the invisible states of matter.

The World generally believes that galaxies spin due to the angular momentum they acquired during their formation from the Nebula from which they originated.

Discovery claimer:

- **What Causes Galaxies to Spin?**
  Galaxies do not spin solely due to angular momentum, as commonly believed. Instead, the curved materialistic particle rays emitted by clusters of stars forming the galactic bar are responsible for spinning the galaxy. You can find a detailed explanation in the Galaxies chapter.

- **The Massive Black Hole at the Center of the Galaxy:**
  A black hole can form anywhere within a galaxy, but the massive black hole that emerges at the galaxy's center is not precisely a typical black hole. It exhibits similar physical features but differs in its formation. While a black hole is created by the gravitational pull of surrounding matter toward a central dense mass, at the galaxy's center, we have what's called a Pumping hole. A Pumping hole forms as a result of the materialistic particle curved rays from the cluster of stars pumping white matter toward the center of the cluster. More information can be found in the Black Hole and Pumping Hole chapter.

- **For answers to the following queries, please refer to the relevant chapters of the Galaxies:**
  - Why do most galaxies have a spiral formation?
  - Why are most galaxies arranged in a thin disc?
  - Why do some galaxies form galactic bars?
  - Why do dust and gases surround the Galactic bar?
  - What forms the spiral arm/tail?
  - What do galaxies contain, apart from visible matter, which has been misunderstood by physicists/ astronomers as Dark Matter?

★

14. Black Hole and Pumping Hole:

Please consult the relevant chapter for more information.

★

15. Gravity:

World: The world has not yet been able to fully understand gravity. It may take a long time to comprehend it, and humans might even go extinct without achieving a complete understanding of gravity.

Discovery claimer:

- **The Space Matter:** Nature dislikes the existence of absolute emptiness in space. Author understands this natural law as the 'gravity force.' To learn how gravity functions, please read the Gravity chapter.
- **The Prime Fundamental of the Universe:** The world acknowledges four universal fundamental forces, with gravity being one of them. Nature's principles suggest that there cannot be too many fundamentals. Similar to the concept of one God, the universe has one prime fundamental force, and that is the **Materialistic Universe**. Even energy, often thought of as pure, is a state of invisible matter that, under specific conditions, behaves as energy.
- **Gravitational Waves:** The collision of two black holes does not produce gravitational waves; rather, the observed phenomenon results from the compression and rarefaction created in the white matter medium of space.
- **More insights have been gained,** and you can find explanations for them in the Gravity chapter.

★

16. Magnetism:

World: The world generally understands that magnetism is one of the fundamentals, but it is, in fact, a sub-fundamental of the prime fundamental, the **Materialistic Universe**.

Discovery Claimer:

- **Magnetic Rays are Materialistic:** The matter of the magnetic bar acts as a catalyst, causing a certain type of stable white matter particles, let's call them NS particles, to split into two unstable white matter particle rays, N and S. These rays have an inclination to reunite, forming the stable white matter NS once again.
- **The Pattern Formed by Magnetic Rays:** When magnetic particle rays N and S emerge from their respective poles of a magnetic bar, they create an invisible mirror reflection pattern across the plane perpendicular to the center of the magnetic bar, as further explained ahead.

★

17. Dark Matter, Dark Energy, and Subatomic Particles:

World: The world generally believes that space consists of over 90% invisible matter, known as dark matter, while visible matter accounts for only 10%. Additionally, the world thinks that dark energy is responsible for pulling the Universe outward, leading to its expansion. Subatomic particles remain incompletely understood.

Discovery Claimer:

- **The Space Matter:** The world's understanding that space contains 90% invisible matter is accurate, but this matter is not dark matter. Invisible space is filled with white matter, which is released by stars and other celestial bodies as they lose mass.
- **The Expansion of the Universe:** While the Universe is indeed expanding, it is not due to dark energy. Instead, the expansion results from pressure differences within the white matter in space and the forward thrust from white matter generated by visible matter.
- **The Subatomic Particles:** Subatomic particles include materialistic particles of light and various other types of rays. Magnetic rays, too, consist of invisible particles that are subatomic in nature.
- **Much more has been observed regarding subatomic particles, and you can find explanations in the relevant chapter.**

★

18. What Caused the Ice Age?

World: The world does not know the correct reason behind the Ice Age, even though it has several theories.

Discovery Claimer:

The Ice Age on Earth was caused by the existence of life, including vegetation and moving-life. Without life, there would have been no Ice Age.

★

19. Extinction of Dinosaurs:

World: The world believes that the extinction of dinosaurs and other large animals resulted from a significant impact on Earth by a large asteroid or planet.

Discovery Claimer:

Dinosaurs went extinct due to the principle of nature outlined below. Every species selects a different path *(mode)* for development and existence. Dinosaurs could not keep up with the chosen pace of physical and reproductive fitness, as explained in the relevant chapter.

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20. Much more has been observed, discovered, and discussed in the book. Please refer to the relevant chapters for further information.