THE SCIENTIST-MYSTIC

The Mystical Marriage of Science and Spirituality

By

Robert Ludwick-Forster

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This thesis has been accepted by

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Thesis Advisor

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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I would like to express my gratitude to <<type names in here>>, without whom this thesis would not have been possible. Test.

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**Introduction**

We see ourselves living in primarily a physical world. We earn physical money so that we nourish our physical bodies with physical sustenance and protect us from the physical environment. Even reading this paper requires the physical sense of sight, which depends on the detecting of photons vibrating at the frequencies necessary to emit visible light that enters the physical eye. However, I have learned there is more to The Universe than what meets the eye. Likewise, I have learned there is more to us than our physical “selves”.

I often wonder if it is unusual for a person with a vocation in science and engineering to understand there is a non-material and spiritual characteristic in our environment around us that is worth investigating. This is where I am. I got here despite being convinced of the possibility that I am an atheist.

You may ask how I got here. Well, I grew up reading books by renowned science writers such as Dr. Carl Sagan. I learned the scientific method as a tool to help us understand the physical world. In fact, this upbringing was a significant influence for my career span of 34 years. Then, a handful of years ago, I suddenly realized that science seems to peek into the non-material, metaphysical world. While reading physicists and cosmologists such as Max Tegmark, Brian Greene and Sean Carroll, I felt like they were talking to me in metaphysical terms.

To be clear, I am not suggesting that these science writers unequivocally claim to be writing about the metaphysical world. However, when they discuss the implications of the Many Worlds Interpretation (MWI), quantum superposition, Wave-Particle Duality, the “Arrow of Time” as it relates to the 2nd Law of Thermodynamics, and the claim that the wave function never collapses, (to name a few topics) it is hard to ignore the metaphysical significance. And these are relatively recent scientific breakthroughs; well within the last 100 years.

What I have recognized is that we have been practicing the discipline of science, as we know it today, for well over 1,000 years. Before that, we can retroactively apply the scientific method against evidence collected since the period of recorded history of some 5,000 years. The apparent ability for science to reveal evidence of non-material, or metaphysical, aspect to our environment appears to be a recent phenomenon.

With this newly found insight, I re-read all of Dr. Sagan’s books to make sure I remained scientifically grounded and have not gone down a rabbit hole of irrationality. To my surprise, Dr. Sagan, read with this fresh perspective, revealed to me how much he acknowledged and valued the spiritual aspect of humanity. So, I guess he was my first teacher of science and spirituality. I could now conclude that I was still on a sound path for both science and spirituality.

What is causing this shift? Why does it seem like we are entering a fundamental change where our knowledge of the physical and metaphysical seems to overlap? This was my cue to look for answers.

Since I have had this discovery, I have lived a more spiritual life. I found a spiritual teacher (actually; he found me) and have become involved in a spiritual congregation. I don’t know if it is synchronicity, law of attraction, grace, karma, or a combination of these factors, but the people in my circle introduced me to enough esoteric astrology to learn about the astrological ages. Immediately, I started my research into the “Great Year” as well as understanding the implication of the “Age of Aquarius”.

As part of my studies as a student of the spiritual aspect of life, I have also learned that balance is important. Many spiritual teachers recognize that our society puts too much emphasis on rational left-brain thought. Right-brain intuitive thinking is just as important, if not more so, for one to be a spiritually whole person. As a result, I have recognized that it is ideal for me to have the one science teacher in Dr. Sagan, along with the many teachings that I get from my spiritual community, the sacred writings and the teachings of Dr. Paul Leon Masters. Doing so has taught me much joy in maintaining a balance between intellect and spirituality; a balance that I have only begun to practice within the last five years or so of my life.

With my observation of the apparent recent convergence of science with spirituality (or the convergence of the physical with the metaphysical), along with my recent discovery into what the “New Age” really means astronomically and astrologically, I intend to present evidence showing the relation of these events. Additionally, I intend to show evidence of why this shift is happening. Therefore, before we complete this journey, I intend to show how scientific thought is experiencing a new period of enlightenment as we enter the astrological Age of Aquarius, resulting in a societal transformation through increased cooperation between practitioners of science and spirituality. This increased cooperation will result in a more harmonious existence for Mankind and increased support for life on Earth.

**Review of Literature**

Throughout the accounts of western science ranging from a period of classical antiquity to the present, a period of some 2,600 years, scientific thought has gone through many changes in philosophy, approaches and names (Cosmos, TBD). When Thales (623-545 BCE) described his observations of his natural environment, science was a branch of philosophy that went by many names including natural philosophy and scientific philosophy (Origins, TBD). There was no scientific method or established research protocols in his day. Science started out as a purely philosophical enterprise, and it wasn’t until the late 17th century that the term “science” began to take hold as a term for what it means today. Also, it was about this period when a scientific method took form somewhat as we know it today. (The Beginnings, TBD). It was during this time, with Isaac Newton’s (1642-1727) mathematical description of celestial mechanics, that the idea of a mechanical paradigm to describe natural events began to take shape. This was a scientific philosophy that served well alongside with the theologically supported watchmaker analogy during the same period (Cosmos, TBD).

This paradigm of a “mechanical universe” was an apparent conclusion made from throughout history by western thinkers generally starting around the time of Thales to the early 20th century; a period of some 2,500 years. Then, in the early 20th century, there was a significant paradigm shift in this scientific view of the world when a new theory called quantum mechanics (Mindful Universe, TBD). This theory switched the perspective from a mechanical causality to effects influenced through conscious causality (Mindful Universe, TBD).

Causality through consciousness can be demonstrated through an experiment known as “the double-slit experiment. In this experiment, we can shine a beam of light through an opaque barrier with two slits cut out. Behind the double-slit barrier, a light detection screen (such as a photographic plate) is placed to detect the light passing through the two slits. When deducing what we know about classical physics and behavior of light, we expect such an experiment to detect two stripes, one behind each slit. However, a third stripe, known as an interference pattern, emerges as if the photons traveling from the light source are capable of being in two places at once (known as the wave aspect). However, if a detector is placed to observe which slit each photon travels, the interference pattern is no longer manifested and is thereby exhibiting a particle aspect of wave-particle duality. So, when photons are not observed, they act as a wave. When they are observed, they act as a particle. It is almost as if the particles are aware whether they are observed or not (Quantum Revelation, 9-11). Levy’s conclusion is “This suggests that the quantum world is truly sentient, as well as holistic; each of its parts are in touch with the whole” (Quantum Revelation, 11). This conclusion, as demonstrated by the science of quantum mechanics, is that there is evidence that everything in the universe is connected through a Universal Intelligence (as described in Masters, TBD) and the observable physical world seems to be showing evidence of what is understood to be metaphysical.

A psychological theory, also born in the early 20th century by the prominent psychiatrist C. G. Jung (1875-1961), was the concept of a collective unconscious, or objective psyche (Quantum Revelation, 226). In this theory, it is believed that humans from isolated cultures worldwide and throughout history share similar memories as they relate to art, mythology and religious practices, to name a few examples. Although Jung’s proposed theory constrains the sharing of this psyche to human beings, it is reasonable to consider that such a constraint is not required (in other words, if a consciousness can be shared among humans, there is no reason to consider the possibility that it can be shared among non-humans as well) (Cosmos and Psyche, 57). What can be concluded is that what the spiritual teachings call the “spiritual consciousness” is now being described, with supporting evidence, in terms of a language understood by several scientific disciplines (Masters, 21).

We now direct our attention to one of this author’s favorite Carl Sagan quotes since it relates to the subject of this paper:

The Hindu religion is the only one of the world’s great faiths dedicated to the idea that the Cosmos itself undergoes an immense, indeed an infinite, number of deaths and rebirths. It is the only religion in which the time scales correspond to those of modern scientific cosmology. Its cycles run from our ordinary day and night to a day and night of Brahma, 8.64 billion years long. Longer than the age of the Earth or the Sun and about half the time since the Big Bang. (Cosmos, 273).

An example of Hindu scripture that describes such a cosmology can be found in the Mahabharata where these cycles known as “Brahma’s Day”; a period of millions of years (Mahabharata, 307). In each day of Brahma, it is stated, et the end of each day of Brahma the universe is destroyed and at the beginning of each day the universe is re-created (Mahabharata, TBD). In a related anecdote from science, there is cosmological theory proposed by Thomas Gold (1920-2004) that describes the possibility of an expanding universe with the “arrow of time” pointing to the direction of the expansion until the universe reaches a state of equilibrium when the arrow reverses direction (Eternity to Here, 184). The implication is that, according to the Second Law of Thermodynamics, “The entropy of an isolated system either remains constant or increases with time” (Eternity to Here, 31), the change in the direction of the “Arrow of Time” is due to the reversible process of the Second Law (i.e., The time of an isolated system either remains constant or advances with entropy) (Eternity to Here, 184) and thereby gives evidence, just as Sagan described, that the cosmology described in the Mahabharata and science, at least in this matter, agree.

In quantum mechanics, there is a concept formulated by Niels Bohr (1885-1962) and Werner Heisenberg (1901-1976) known as the “Copenhagen Interpretation” (Mathematical Universe, 177). Details for the reason why this interpretation was developed is beyond the scope of this paper (background information can be found in Mathematical Universe). The short explanation is that the early pioneers needed a way to explain what is observed at the quantum level that can be explained in classical Newtonian physics. It is with this proposed interpretation where Albert Einstein (1879-1955) famously proclaimed “I can’t believe that God plays dice” (Mathematical Universe, 178). The reason for the disagreement between Einstein and Bohr-Heisenberg is that, according to the Copenhagen Interpretation, observable outcomes at the quantum level seem to be random events (a concept known as “wavefunction collapse”) (Mathematical Universe, 178). Agreeing with Einstein, Hugh Everett III (1930-1982) proposed a theory, known as the “Many-Worlds Interpretation”, that could explain quantum reality without wavefunction collapse (Mathematical Universe, 186).

In this interpretation, Everett hypothesizes the reason why wavefunction will never collapse is because, when an event that appears to result from random behavior (let’s use flipping a coin and getting a result of “heads” as an example), all possible results occur. The reason why the observer witnesses a seemingly random result (in this case, call it “heads”) is because, from the perspective of the observer’s universe, the result was pre-determined and other (or parallel) universes are proposed to exist that produce alternate outcomes (Mathematical Universe, 186-197). In other words, this interpretation proposed that randomness is an illusion (Mathematical Universe, 191-197).

Some conclusions that may be made from the Many-Worlds Interpretation include supported evidence that free will is an illusion and everything that a participant of The Universe experiences is pre-determined by The Universal (or, shall we say, “Multiversal”) Intelligence as supported in scripture (e.g., “And even the very hairs of your head are all numbered” (Zondervan: Matthew 10:30).).

Thus far, the reader has been presented with 4 cases where recent breakthroughs in scientific thought seem to align with spiritual teachings. There are likely many more examples. However, it is hoped that this author has adequately demonstrated that there seems to be a recent trend, within the last century or so, of convergence of scientific thought and spiritual teachings. We can now examine why this shift in science seems to be transpiring.

Ultimately, despite differences in cultural, religious and racial heritage, humans remain a united species. As we enter the Age Of Aquarius, we will begin to recognize the individual with the collective and then the collective and the cosmos (Howell, 24).

As previously described, a period of 25,800 Earth Years represents the approximate length of a Great Year. The precession marked by the Great Year moves along the night sky at a rate of approximately every 72 years and, therefore, each Astrological age is a period of approximately 2,000 years (Lost Star, 114). In the 2,000-year astrological age from approximately the period leading up to Jesus’ birth was known as the Piscean Age and is characterized by dichotomy in faith and marked struggle between religion and science (Heavens Declare, 221). The following Age of Aquarius is described by Thomas Burgoyne as “…intellectual in character, scientific, philosophic, artistic, intuitive and metaphysical” (Light of Egypt, 9). With these brief descriptions of society’s character during the Piscean and Aquarian ages, it is hopeful that the reader agrees that these descriptions correlate to what is observed in the Piscean age and the shift in science as described in this paper thus far.

A prevalent theory, known as the lunisolar theory, describes how the earth’s axial orientation is affected by gravitational forces from the Sun and Moon tugging on the Earth’s slight bulge at the equator. However, there is a reasonable argument that the Earth’s precessional period of some 25,800 years doesn’t match known cycles for celestial bodies found within the solar system. In other words, opponents of this theory suggest that it is more likely caused from influences by celestial bodies that interact with the Earth over much longer times and distances (Lost Star, 143). Additionally, the International Astronomical Union, in a decision made in 2003, declared that methods used to calculate precession using the lunisolar model are inconsistent with what we know about how orbital mechanics work (Lost Star, 147).

A competing idea to the lunisolar theory, known as the Binary Hypothesis, suggests that the precessional wobble of the Earth’s axis, as well as the similar effects to other planets within the solar system, occurs because the Sun is part of a star system and therefore in an orbital pattern with its potential companion(s) (Lost Star, 148). Some reasons why this hypothesis gained acceptance include the ITU’s decision in 2003 and due to the recent empirical evidence, that stars not being part of a star system is the exception rather than the rule (Lost Star, 150). A massive body such as a companion star or black hole in a long-period orbit with our Sun could explain the long precessional period of the Earth (235).

Additional evidence that supports the Binary Hypothesis is that our solar system seems to be traveling in a helical pattern, just as a star would if it were in an orbit with a companion. This helical movement through the Milky Way could not be caused by Lunisolar forces (Melchizedek, 135). It appears that the lunisolar theory is losing support as mainstream astronomers in the United States are engaged in the search for the sun’s companion (Lost Star, 312).

Just as one can experience the rise (shorter wavelength) and fall (longer wavelength) of a passing car’s horn, a similar phenomenon can be observed with light. If an object such as a star is approaching the observer, it will appear as a shorter wavelength color (blue-shifted) in the light spectrum. If a star is moving away from the observer, it will appear as a longer wavelength color (red-shifted). The amount of shift experienced depends on the radial velocity (velocity component along the line of sight of a star) of the object being observed (Sirius, n.p.). Also, the shift can be measured based on known makeup of a star. So, for example, if the star isa certain class of young stars burning mostly hydrogen, we can use known spectral lines for hydrogen at known light wavelengths to measure the shift from reference (Sirius, n.p.).

Sirius-A, the brightest of the two stars in the Sirius system, is also the brightest star in our night sky. Because of its historical significance, it is a star with a well recorded past. As a result of the close monitoring of Sirius, we now have evidence that the star appeared prominently as a red star some 1,500 years ago. Also ,we now have evidence that Sirius is approaching the Earth at a brisk radial velocity of approximately 15 kilometers per second (km/s) and is a star bluish in color (Sirius, n.p.). Since we have evidence that Sirius was once seen as a red star and is now a blue star (and measured to be approaching us at a high velocity), it can be concluded that it is possible that the color inconsistencies could be because Sirius was moving away from us 1,500 years ago (Lost Star, 206).

Astronomers have studied many binary systems (they are easy to find because there are so many) and have observed consistent behavior in the orbits of these systems. For example, the stars seem to do a sort of dance where they line up along a center point known as the “center of mass” (Figure 1). Note the arrows next to the representations of the stars that indicate orbit direction. An animated representation of Figure 1 can also be found at <https://sites.ualberta.ca/~pogosyan/teaching/ASTRO_122/lect13/Orbit5.gif>. This animation will help support understanding of explanations that follow regarding the possibility that Sirius is a companion of our sun.

Figure 1depicts a binary system where the two stars recently left a point known as “apoapsis” (The point at which the stars are farthest from each other) (Lost Star, 143). This is also the point where the velocity of the two stars relative to each other approach 0 km/s. Figure 2 Describes the configuration of a binary system at “periapsis” (the stars are closest in their orbit) (Lost Star, 143).

When binary bodies leave apoapsis and continue their orbit towards periapsis, they will approach each other at an increasing velocity (i.e., no longer appear red-shifted). Consequently, the two bodies will appear (increasingly) more blue-shifted until they reach periapsis. Figure 3 approximates the proposed configuration of our sun and Sirius at approximately 1500 years ago when Sirius no longer appeared red. In other words, if Sirius is the binary companion of our sun, the approximate current configuration resembles Figure 1. With approximately 8.6 Light Years (LY) between Earth and Sirius (Sirius, n.p.) and a period of approximately 12,900 years for these bodies to go from apoapsis to periapsis (1/2 of a Great Year), the combined average angular velocity of both bodies would need to be approximately 200 km/s (according to this author’s calculations) which is within thresholds based on the velocity of the Sun currently estimated at 370 km/s (Five-Year Wilkinson, n.p.).

Figure 4 demonstrates the velocity of Sirius from the perspective of our Sun/Solar System/Sol. It also demonstrates how the Sirius red shift/blue shift transition that was observed circa 500 CE when the direction of Sirius changed from moving away from Sol to moving towards Sol. Since Figure 4 depicts direction and not absolute velocity, the red/blue shift transitions may be counterintuitive. Figure 5 depicts the same curve with absolute velocity. This figure should provide a clearer explanation of the causes of the red shift/blue shift transitions.

The study of astrology is borne out of an ancient discipline when science and spirituality was one. When these concepts of observation and awe split, spirituality lost its ability to bring evidence through observation. Likewise, science lost the ability to bring mysticism to the world. However, there may be a reason for this polarization of the two disciplines: a better understanding of how exploring astrology could bring awareness of the similarities of these disciples. When spirituality and science are reunited, there is a chance for us to bring peace and harmony to Earth (Howell, 28). In the introduction of his book “The Holy Science”, Sri Yukteswar Giri writes “When the sun in its revolution around its dual comes to the place nearest to this grand center, the seat of Brahma (an event which takes place when the Autumnal Equinox comes to the first point of Aries), dharma, the mental virtue, becomes so much developed that man can easily comprehend all, even the mysteries of Spirit (The Holy Science, 4)”. To understand what this means in relation to the western zodiacal system we have explored thus far, one must first understand that this passage is describing the autumn equinox as it relates to the ages. In other words, Swami Sri Yukteswar Is referring to the opposite sign of Aries (Libra) in that passage. He is essentially describing the point of periapsis coincides with the Libra sign, and, therefore, we can assume that the point of apoapsis coincides with the end of Aries, or beginning of Pisces (Recall that the Great Year moves in retrograde of the zodiacal constellations). The Swami seems to be indicating that we arrive closest to the seat of Brahma (or creative energy of the Universe) during the age of Libra when we are closer to the center of the galaxy (the Vedic tradition teaches that the Seat of Brahma is at the center of our galaxy) and our spiritual knowledge will increase as we move closer to this point (The Yugas, 32).

Dr. Richard Tarnas, in his book, Cosmos and Psyche: Intimations of a New World View, describes a similar explanation:

I believe that a more plausible and comprehensive explanation of the available evidence would rest on a conception of the universe as a fundamentally and irreducibly interconnected whole, informed by creative intelligence and pervaded by patterns of meaning and order that extend through every level, and that are expressed through a constant correspondence between astronomical events and human events. (77)

The evidence appears to be pointing at the idea that events that occur within our environment, or outer world, affect us within ourselves, or inner world. Examples of this correspondence include the comparison of celestial motion and the shape of DNA (Schmidt, np). Therefore, based on the evidence described in “The Holy Science” and the evidence in “Lost Star of Myth and Time” that puts Sirius at approximately 8.6 Light Years away from us (Cruttenden, 201) along with the evidence that the mass of the Sirius system is approximately 3 times the mass of our solar system (Sol), the estimation of orbital orientation distances described in Figure 4 have been calculated by this author.

Based on the calculations that produced the distances in Figure 4, Figure 5 provides the estimated distance that Sol would travel over a period of The Great Year with the closest distance to the Seat of Brahma being 5.7 Light Years closer than we are now.

As described earlier, the 23.5-degree tilt of the earth (depicted in Figure 8) completes a rotation over a period of the Great Year. As depicted in the figure, both the north pole and south pole are 23.5 degrees from rotational center. Figure 9 demonstrates this wobble over time (as well as the movement of the solar system through the galaxy) which yields a double helix. This pattern was also demonstrated in Figure 6. This double helix pattern is seen everywhere in nature. We find it in orbits of the Earth and the Moon, shapes of DNA molecules (Melchizedek, 138). This can also be experienced in radio waves, sound waves, as well as biological processes such as breathing patterns. Figure 10 demonstrates the wave pattern in Figure 9 again in two dimensions (Schmidt)

Figure 10 is included since it is more common to describe waves in 2 dimensions even though they really occur in at least 3 dimensions. This allows us to do things easier such as demonstrate wave propagation, amplitude and frequency since two dimensional graphs are easier to read on paper. It also makes things clearer when talking about breathing patterns.

Alistair Conwell, describes in his book, “The Audible Life Stream”, The concept of Audible Life Streams. According to his description, these are sound currents that souls use to return to The Source. It is vibratory energy that resonates with one’s soul (Conwell, 53). He continues to make a connection with the law of correspondence through the comparison of the vibrational repetitive movement of celestial bodies (including The Earth) with the vibrational frequency observed at the subatomic level (Conwell, 64). Additionally, the first verse of the Gospel According to John declares “In the beginning was the Word, and the Word was with God, and the Word was God (Zondervan: John 1:1) and Conwell also describes Vedic makes mention of the *anahata,* or the spiritual cosmic sound (Conwell, 77). It is easy to associate these descriptions of sound and vibratory energy from the celestial to the subatomic level as more evidence of presence of The Source.

With the law of correspondence, the ancient knowledge of the recession of the equinoxes and the recent discoveries in quantum mechanics as it relates to the observer’s paradox and the embracing by mainstream science the possibility that we are in a pansychic universe is very strong evidence that there continues to be a congruence of scientific ideas with spiritual concepts (News”, n.p.).

If one were to want to look for evidence of a pattern of convergence of science with spirituality, another approach would be to look at the historical evidence. Figure 11 is presented to provide approximate time periods for the previous cycle of The Great Year. The previous period of ascension that spans from the Age of Pisces (Circa 25,000 BCE) to the Age of Virgo (Circa 13,000-10,000 BCE) with the Age of Virgo being the previous peak to the Golden Age (the point at which The Earth was closes to The Seat of Brahma) (Yukteswar, 5). The evidence of human development during this period of ascension is very slim and certainly not anything of significance to demonstrate a trend of science and spirituality convergence. However, as we look at the start of the descension period (Circa 11,825 – 2500 BCE), the following evidence has been discovered:

Göbekli Tepe was constructed in approximately 9,500 BCE (Age of Leo). Mainstream archeologists agree that the evidence shows that the complex was use for spiritual and worship purposes. This site was designed and built with impressive engineering even by today’s standards (Selbie, 223).

The Piri Re’is Map is a cartographic artifact and features the coastline of Antarctica with accuracy that has been confirmed to have coastline detail consistent with modern capabilities of seeing through ice. The interesting points of this map include the fact that it is alleged to have been created in 1513 (before the discovery of Iceland) and includes evidence that the map must have been made at a time when Antarctica’s coastline was without ice; a time period estimated at between 5,000-3,000 BCE (Ages of Gemini or Taurus) (Selbie, 292).

The Great Pyramid, even by today’s standards, was built with exquisite design and precision. It’s orientation with true north and measurements that are seemingly in scale with that of the Earth’s dimensions along with the ratios that reveal measurements of π (3.141) and ф (1.618, or The Golden Ratio) are mysteries since there is otherwise no evidence that the designers of the time of construction (between 3,400 and 2,900 BCE, or The Age of Taurus) knew how to calculate these ratios. Furthermore, it is a mystery as to how the designers knew the circumference of earth some 5,000 years ago (Selbie, 311).

The design and construction of Stonehenge is as mysterious as The Great Pyramid. The tremendous weight of the stones (50 tons) along with the evidence that transportation of the center stones came from a quarry approximately 200 miles away marks Stonehenge as an amazing feat in construction (Selbie, 340). Additionally, the measurements of the site, as it relates exactly to ratio measurements of The Great Pyramid, is astounding (Michell, xxxi).

The double-helix waveform in Figure 9 has significant symbolic meaning. For example, compare the figure to the Caduceus symbol in Figure 12. The Caduceus represents the ascent and descent of man and return to The Source (Carey ,97). It represents the balance of two opposing forces (depicted by the two serpents) along with the representation of the red, representing the spinal column, and the top of the rod and wings which represent the pineal gland and brain (Hogan, 60) (Hall, 325). These serpents represent the Ida and Pingala (Hall, 325). The Pingala refers to the masculine “Sun Channel” associated with the right brain. The Ida refers to the feminine “Moon Channel” associated with the left brain (Schmidt, n.p.). Since the Sun (as well as the masculine) represents positive energy, we can associate the south pole to the gold line in Figure 9 (because the south pole is the positive magnetic pole). Likewise, the north pole is associated with the silver line in Figure 9 (NASA, n.p.). Based on this correlation, the current location of the Pingala and Ida are represented in Figure 13.

The diagram in Figure 13 describes the orientation of the Pingala (Gold) and Ida (Silver) serpents represented in the caduceus based on the corresponding orientation in Figure 10. As the figure describes, the Pingala of the brain’s left hemisphere has just left the maxima point from center and is returning towards the Ajna, Third Eye or pineal gland as it moves in a clockwise motion. The same is true for the Ida in the Right hemisphere (Hall, 325). The arrangement of the serpents are symbolic the movement of the oppositional forces cooperating in resulting in the higher “self” (Nuit, 39). (Hall2, ).

Functions of the right hemisphere of the brain include creativity, intuition and pattern recognition (spiritual). The left hemisphere is responsible for functions such as critical, analytical and rational thinking (material) (Sagan, n.p.). This process is known in mystery school traditions under names such as the alchemical marriage, chemical marriage or mystical marriage (among others) and involves the triune constitution of mand consisting of the sprit/spirituality (Ida), mind (Ajna) and physical body/science (Pingala) resulting in the spiritual transmutation of the self, resulting in reunification with the Divine Source (Hall2, n.p.). Therefore, as mankind ascends towards the golden age of Virgo where the Pingala and Ida of humanity will be united with Ajna. This unification is demonstrated in Figure 14. The result of this mystical marriage as we proceed though the ascension of the Great Year will result in a society where science and spirituality will once again be in full cooperation and a mutual interest in unification with The Source.

**Discussion**

## Sirius

Since periapsis is the point at which the stars are closest, then it follows that there would be a negative velocity (the stars are moving away from each other) from periapsis to apoapsis. This is also the point where they are at highest velocity from the perspective of the center of mass. The stars would be red-shifted and may appear red-shifted (exhibit colors towards the red end of the spectrum) depending on the combined velocity of the two bodies. Figure 3 illustrates a system at apoapsis when the two bodies are at the lowest velocity relative to the center of mass.

When these bodies leave apoapsis and continue their orbit towards periapsis, they will approach each other at an increasing velocity (i.e., no longer appear red-shifted). Consequently, the two bodies will appear (increasingly) more blue-shifted until they reach periapsis. Figure 3 approximates the proposed configuration of our sun and Sirius at approximately 500 years ago when Sirius no longer appeared red. In other words, if Sirius is the binary companion of our sun, the approximate current configuration resembles Figure 1. With approximately 8.6 Light Years (LY) between Earth and Sirius (Sirius, n.p.) and a period of approximately 12,900 years for these bodies to go from apoapsis to periapsis (1/2 of a Great Year), the combined average angular velocity of both bodies would need to be approximately 200 km/s (according to this author’s calculations) which is within thresholds based on the velocity of the Sun currently estimated at 370 km/s (Five-Year Wilkinson, n.p.).

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## Why Astrology?

The study of astrology is borne out of an ancient discipline when science and spirituality was one. When these concepts of observation and awe split, spirituality lost its ability to bring evidence through observation. Likewise, science lost the ability to bring mysticism to the world. However, there may be a reason for this polarization of the two disciplines: a better understanding of how exploring astrology could bring awareness of the similarities of these disciples. When spirituality and science are reunited, there is a chance for us to bring peace and harmony to Earth (Howell, 28).

## Why Does the Cycle of the Great Year Affect Us?

### Seat of Brahma

In the introduction of his book “The Holy Science”, Sri Yukteswar Giri writes “When the sun in its revolution around its dual comes to the place nearest to this grand center, the seat of Brahma (an event which takes place when the Autumnal Equinox comes to the first point of Aries), dharma, the mental virtue, becomes so much developed that man can easily comprehend all, even the mysteries of Spirit (The Holy Science, 4)”. To understand what this means in relation to the western zodiacal system we have explored thus far, one must first understand that this passage is describing the autumn equinox as it relates to the ages. In other words, Swami Sri Yukteswar Is referring to the opposite sign of Aries (Libra) in that passage. He is essentially describing the point of periapsis coincides with the Libra sign, and, therefore, we can assume that the point of apoapsis coincides with the end of Aries, or beginning of Pisces (Recall that the Great Year moves in retrograde of the zodiacal constellations). The Swami seems to be indicating that we arrive closest to the seat of Brahma (or creative energy of the Universe) during the age of Libra when we are closer to the center of the galaxy (the Vedic tradition teaches that the Seat of Brahma is at the center of our galaxy) and our spiritual knowledge will increase as we move closer to this point (The Yugas, 32).

Dr. Richard Tarnas, in his book, Cosmos and Psyche: Intimations of a New World View, describes a similar explanation:

I believe that a more plausible and comprehensive explanation of the available evidence would rest on a conception of the universe as a fundamentally and irreducibly interconnected whole, informed by creative intelligence and pervaded by patterns of meaning and order that extend through every level, and that are expressed through a constant correspondence between astronomical events and human events. (77)

The evidence appears to be pointing at the idea that events that occur within our environment, or outer world, affect us within ourselves, or inner world. Examples of this correspondence include the comparison of celestial motion and the shape of DNA (Schmidt, np). Therefore, based on the evidence described in “The Holy Science” and the evidence in “Lost Star of Myth and Time” that puts Sirius at approximately 8.6 Light Years away from us (Cruttenden, 201) along with the evidence that the mass of the Sirius system is approximately 3 times the mass of our solar system (Sol), the estimation of orbital orientation distances described in Figure 4 have been calculated by this author.

Based on the calculations that produced the distances in Figure 4, Figure 5 provides the estimated distance that Sol would travel over a period of The Great Year with the closest distance to the Seat of Brahma being 5.7 Light Years closer than we are now.

### Breath of Brahma

As described earlier, the 23.5-degree tilt of the earth (depicted in Figure 8) completes a rotation over a period of the Great Year. As depicted in the figure, both the north pole and south pole are 23.5 degrees from rotational center. Figure 9 demonstrates this wobble over time (as well as the movement of the solar system through the galaxy) which yields a double helix. This pattern was also demonstrated in Figure 6. This double helix pattern is seen everywhere in nature. We find it in orbits of the Earth and the Moon, shapes of DNA molecules (Melchizedek, 138). This can also be experienced in radio waves, sound waves, as well as biological processes such as breathing patterns. Figure 10 demonstrates the wave pattern in Figure 9 again in two dimensions.

Figure 10 is included since it is more common to describe waves in 2 dimensions even though they really occur in at least 3 dimensions. This allows us to do things easier such as demonstrate wave propagation, amplitude and frequency since two dimensional graphs are easier to read on paper. It also makes things clearer when talking about breathing patterns.

Alistair Conwell, describes in his book, “The Audible Life Stream”, The concept of Audible Life Streams. According to his description, these are sound currents that souls use to return to The Source. It is vibratory energy that resonates with one’s soul (Conwell, 53). He continues to make a connection with the law of correspondence through the comparison of the vibrational repetitive movement of celestial bodies (including The Earth) with the vibrational frequency observed at the subatomic level (Conwell, 64). Additionally, the first verse of the Gospel According to John declares “In the beginning was the Word, and the Word was with God, and the Word was God (Zondervan: John 1:1) and Conwell also describes Vedic makes mention of the *anahata,* or the spiritual comic sound (Conwell, 77). It is easy to associate these descriptions of sound and vibratory energy from the celestial to the subatomic level as more evidence of presence of The Source.

With the law of correspondence, the ancient knowledge of the recession of the equinoxes and the recent discoveries in quantum mechanics as it relates to the observer’s paradox and the embracing by mainstream science the possibility that we are in a pansychic universe is very strong evidence that there continues to be a congruence of scientific ideas with spiritual concepts (News”, n.p.).

## The Evidence: Looking Back

If one were to want to look for evidence of a pattern of convergence of science with spirituality, another approach would be to look at the historical evidence. Figure 11 is presented to provide approximate time periods for the previous cycle of The Great Year.

If one were to want to look for evidence of a pattern of convergence of science with spirituality, another approach would be to look at the historical evidence. The previous period of ascension that spans from the Age of Pisces (Circa 25,000 BCE) to the Age of Virgo (Circa 13,000-10,000 BCE) with the Age of Virgo being the previous peak to the Golden Age (the point at which The Earth was closes to The Seat of Brahma) (Yukteswar, 5). The evidence of human development during this period of ascension is very slim and certainly not anything of significance to demonstrate a trend of science and spirituality convergence. However, as we look at the start of the descension period (Circa 11,825 – 2500 BCE), the following evidence has been discovered:

#### Göbekli Tepe

Göbekli Tepe was constructed in approximately 9,500 BCE (Age of Leo). Mainstream archeologists agree that the evidence shows that the complex was use for spiritual and worship purposes. This site was designed and built with impressive engineering even by today’s standards (Selbie, 223).

#### The Piri Re’is Map

The Piri Re’is Map is a cartographic artifact and features the coastline of Antarctica with accuracy that has been confirmed to have coastline detail consistent with modern capabilities of seeing through ice. The interesting points of this map include the fact that it is alleged to have been created in 1513 (before the discovery of Iceland) and includes evidence that the map must have been made at a time when Antarctica’s coastline was without ice; a time period estimated at between 5,000-3,000 BCE (Ages of Gemini or Taurus) (Selbie, 292).

#### The Great Pyramid

The Great Pyramid, even by today’s standards, was built with exquisite design and precision. It’s orientation with true north and measurements that are seemingly in scale with that of the Earth’s dimensions along with the ratios that reveal measurements of π (3.141) and ф (1.618, or The Golden Ratio) are mysteries since there is otherwise no evidence that the designers of the time of construction (between 3,400 and 2,900 BCE, or The Age of Taurus) knew how to calculate these ratios. Furthermore, it is a mystery as to how the designers knew the circumference of earth some 5,000 years ago (Selbie, 311).

#### Stonehenge

The design and construction of Stonehenge is as mysterious as The Great Pyramid. The tremendous weight of the stones (50 tons) along with the evidence that transportation of the center stones came from a quarry approximately 200 miles away marks Stonehenge as an amazing feat in construction (Selbie, 340). Additionally, the measurements of the site, as it relates exactly to ratio measurements of The Great Pyramid, is astounding (Michell, xxxi).

## How Does the Cycle of the Great Year Affect Us?

The double-helix waveform in Figure 9 has significant symbolic meaning. For example, compare the figure to the Caduceus symbol in Figure 12. The Caduceus represents the ascent and descent of man and return to The Source (Carey ,97). It represents the balance of two opposing forces (depicted by the two serpents) along with the representation of the red, representing the spinal column, and the top of the rod and wings which represent the pineal gland and brain (Hogan, 60) (Hall, 325). These serpents represent the Ida and Pingala (Hall, 325). The Pingala refers to the masculine “Sun Channel” associated with the right brain. The Ida refers to the feminine “Moon Channel” associated with the left brain (Schmidt, n.p.). Since the Sun (as well as the masculine) represents positive energy, we can associate the south pole to the gold line in Figure 9 (since the south pole is the positive magnetic pole). Likewise, the north pole is associated with the silver line in Figure 9 (NASA, n.p.). Based on this correlation, the current location of the Pingala and Ida are represented in Figure 13.

The diagram in Figure 13 describes the orientation of the Pingala (Gold) and Ida (Silver) serpents represented in the caduceus based on the corresponding orientation in Figure 10. As the figure describes, the Pingala of the brain’s left hemisphere has just left the maxima point from center and is returning towards the Ajna, Third Eye or pineal gland as it moves in a clockwise motion. The same is true for the Ida in the Right hemisphere (Hall, 325). The arrangement of the serpents are symbolic the movement of the oppositional forces cooperating in resulting in the higher “self” (Nuit, 39). (Hall2, ).

Functions of the right hemisphere of the brain include creativity, intuition and pattern recognition (spiritual). The left hemisphere is responsible for functions such as critical, analytical and rational thinking (material) (Sagan, n.p.). This process is known in mystery school traditions under names such as the alchemical marriage, chemical marriage or mystical marriage (among others) and involves the triune constitution of mand consisting of the sprit/spirituality (Ida), mind (Ajna) and physical body/science (Pingala) resulting in the spiritual transmutation of the self, resulting in reunification with the Divine Source (Hall2, n.p.). Therefore, as mankind ascends towards the golden age of Virgo where the Pingala and Ida of humanity will be united with Ajna. This unification is demonstrated in Figure 14. The result of this mystical marriage as we proceed though the ascension of the Great Year will result in a society where science and spirituality will once again be in full cooperation and a mutual interest in unification with The Source.

**Conclusion**

<<Just like you did with the Discussion, put your curser immediately before the first carat (<) at the top left and highlight this instructional text through the last carat (>) at the end of this paragraph. Then, select delete and begin typing your Conclusion, you don’t have to select Return (Enter) until you want to start a new paragraph, and the word processor will give you automatic page breaks. When your Conclusion is done, scroll down to the Works Cited page.>>

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Appendix

Center of Mass

Figure 1: Orbit of a Binary System

Center of Mass

Figure 2: A Binary System at Periapsis

Center of Mass

Figure 3: A Binary System at Apoapsis

Chart

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Figure : Velocity Curve of Sirius from Sol's Perspective

Chart

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Figure : Absolute Velocity of Sirius from Sol's Perspective

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Figure : Motion of Sol and Sirius

Diagram

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Figure : Orbit Path of Sol

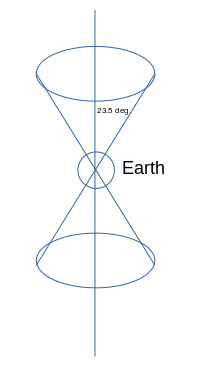


Figure : 23.5 Degree Wobble of the Earth

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Figure : Precessional Wobble of the Poles over Time in Three Dimensions

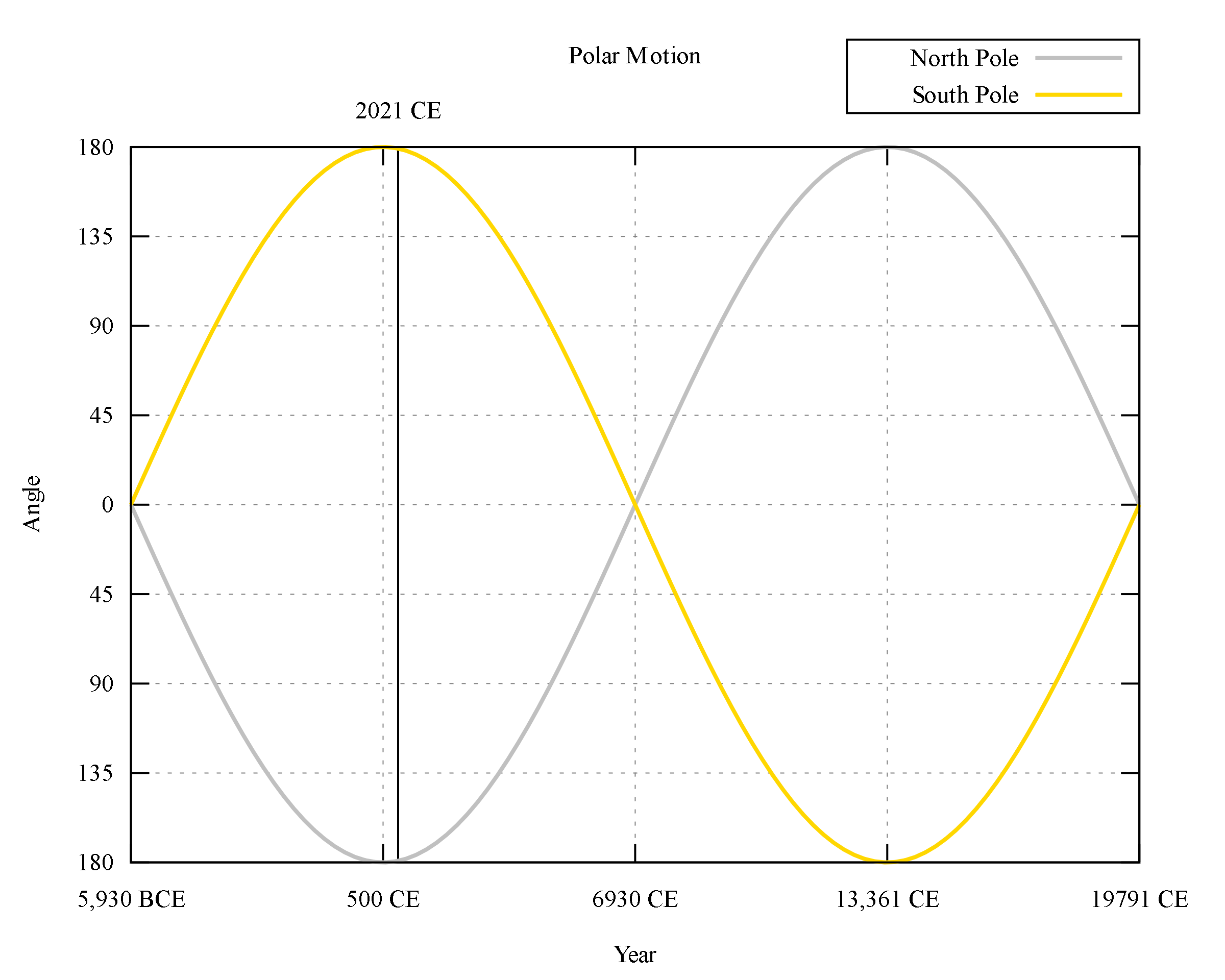


Figure : Precessional Wobble of the Poles over Time in Two Dimensions

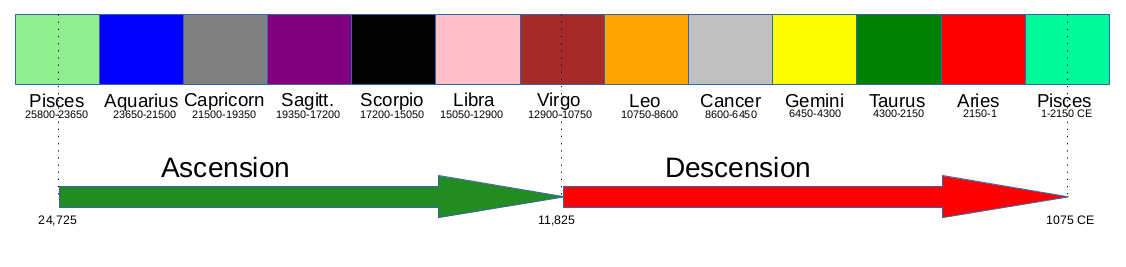


Figure : Approximate Time Periods from the Previous Age of Aquarius (All years BCE Unless Specified Otherwise)

Logo

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Figure : The Caduceus

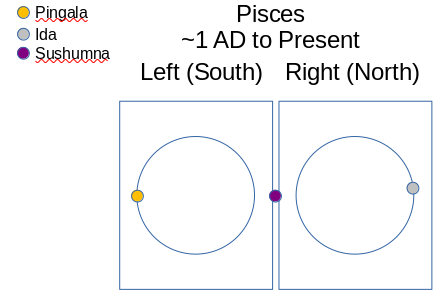


Figure : Orientation of Ida and Pingala with the Hemispheres of The Brain

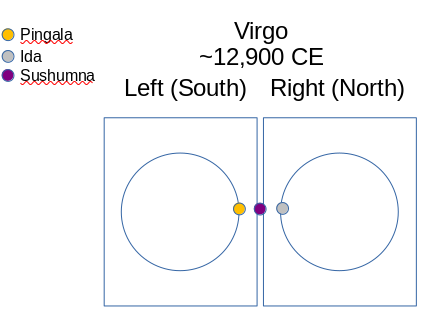


Figure : The Future Age of Virgo