

The Precessional Structure of Time

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Overview

A systematic framework of deep planetary time can enable wholistic understanding of human existence. This paper presents a new hypothesis to integrate earth's orbital mechanics with the evolution of mythology, seeing the current precession of the equinox into the constellation Aquarius as a key to a new paradigm explaining planetary time through the framework of Zodiac Ages.

I will firstly explain two slow physical structures of time that relate the earth to the sun to describe the physics of Zodiac Ages, and then reflect on what this could mean for our world. The two physical structures of time are firstly the slowly moving date when earth is closest to the sun, called the perihelion, and secondly the integrated wave function of the whole solar system, seen in the movement of the sun and planets around the centre of mass. These orderly physical patterns provide a model to help explain the role of precession in human evolution and its relevance to contemporary culture.

The idea of Zodiac Ages sits hidden beneath the big cultural frameworks of religion, and can be analysed to see an objective cosmic meaning of zodiac mythology. My aim in this analysis is to explain how culture relates to the context of the stable orbital patterns of our solar system, pointing toward a wholistic integrating framework to understand human reality. Ancient mythological traditions appear to have interpreted the slow visible precession of the seasons against the stars, moving at a rate of about one month per two thousand years, as a foundation of their stories of the meaning of human existence. Such observation led to the astrological concept of Zodiac Ages, a framework of time that I will show underpins major religious work including the New Testament and Leonardo da Vinci's Last Supper.

Analysis of Zodiac Ages sets human existence in the context of stable cosmic processes that govern the natural evolution of life on earth. These orderly systems operate at both historical and geological timescales, revealing underlying unconscious drivers of human spiritual identity. This analysis, integrating astronomy, climate and myth, points to a new paradigm for the structure of time for our planet, opening productive new ways to analyse cultural evolution against astronomical data. The paradigm shift created by recognition of precession of the equinoxes applies to astronomy, seeing the solar system as the framework of existence, to religion, placing mythology in a systematic framework of empirical and symbolic meaning, and to politics, transforming the planetary trajectory of current thinking to create a long-term vision of improvement and repair. This integration suggests an overall thematic shift from a culture based on belief to a culture based on knowledge, as seen in the ongoing change in cultural values from supernatural faith to evidence and logic. This cultural evolution, intriguingly, is exactly what is predicted by zodiac themes of belief and knowledge to explain the current transition from the Age of Pisces to the Age of Aquarius.

The main physical effect of precession is seen in the climate cycles of ice ages. Far from just producing imaginary spiritual effects, the precession of the equinox is a dominant factor in the stable patterns of life on earth, combining with other orbital factors to cause alternating warmer and colder periods over a 21,000-year cycle. Early humans noticed this slow pattern, as seas rose and fell by more than one hundred metres and two-mile-high walls of ice advanced and retreated across whole continents. The memory of these vast events appears to be embedded in mythology, such as in the widespread stories of descent from a Golden Age and the myths of the flood.

In addition to these climate cycles and how they are remembered in myth, precession also has a remarkable link to the overall structure of the solar system. As I will explain, a primary 179-year

¹ I began study of the relation between precession and culture in my Bachelors and Masters Honours Degrees in philosophy from Macquarie University, and have since continued with private research. Discussion is welcome by email to robert@rtulip.net

cycle of the gas giant planets drives the stable wave pattern of the sun, with period one twelfth of a Zodiac Age, matching what astrology calls the “Houses of the Age”.

The Physics of Precession

Precession of the equinoxes is caused by the gravity of the sun, moon and planets tugging on the bulge around the earth’s equator. This process, called lunisolar torque, makes the axis of the earth slowly wobble like a spinning top, with one full wobble of the pole against the background stars known as a Great Year or Platonic Year. The current speed of the Great Year is one cycle per 25,771.5 years,² slightly shorter than the traditional estimate of 25,920 years ($=2^6 \times 3^4 \times 5$). Each successive Great Year is calculated to increase in duration by just 0.4 years, or 0.002%, due to the very slow increase in distance from the earth to the moon,³ illustrating how stable the astronomical pattern of precession is over millions of years. The orbital wobble causes the celestial equator and the seasons to move slowly against the stars. This observation led astrologers to divide the Great Year into twelve equal Zodiac Ages, traditionally estimated at 2160 years, but actually 2147.6 years long. Zodiac Ages are defined by the precession of the equinox through the constellation where the sun changes hemisphere from south to north. Precession moves the equinoxes back through each successive zodiac star group, with the shift of the March equinox from Pisces to Aquarius marking the current Zodiac Age transition.

The movement of the stars against the seasons due to precession is slow, just one degree of sky per 71.6 years, and is not widely understood. Yet knowledge of precession goes back to ancient times. Researchers such as Joseph Campbell⁴ and Graham Hancock⁵ have argued the traditional estimate of 2160 years for a Zodiac Age appeared in ancient myths from well before the recognised discovery of precession by the Greek astronomer Hipparchus in the second century BC. Ancient Indian writings even suggest accurate coded knowledge of the 71.6 year period of each degree of precession.⁶ At the start of modern astronomy in the sixteenth century AD, Copernicus observed⁷ that our planet has three motions, the day, the year and what we now call the Great Year, forming the structure of terrestrial time.

In defining the structure of deep time, scientific and historical perspectives operate at very different orders of magnitude. Astronomy and geology see aeons or ages as lasting a billion years, with fourteen astronomical aeons since the Big Bang⁸ and four since the dawn of life on earth. For human history, an aeon or age is the roughly two-thousand-year zodiac age period. This millennial framework of history places human existence in the big picture of climate change and cultural evolution, setting human identity against time since the Pleistocene Era.

Precession and Climate

Earth’s slow orbital patterns drive natural climate change. The mechanisms, including precession of the equinoxes, were largely calculated a century ago by astronomer Milutin Milanković,⁹ who

² https://en.wikipedia.org/wiki/Axial_precession#Values

³ [Comments on the long-term stability of the Earth's obliquity](#), Icarus 1982, William R. Ward

⁴ Joseph Campbell, *Myths to Live By*, 1972

⁵ Graham Hancock, *Heaven's Mirror*, 1999

⁶ The early Vedic text the *Markandeya Purana* states, in apparent camouflaged reference to precession, "Seventy-one repetitions of the four ages, with a fraction in excess, constitute a manvantara". <https://www.wisdomlib.org/hinduism/book/the-markandeya-purana/d/doc117085.html>

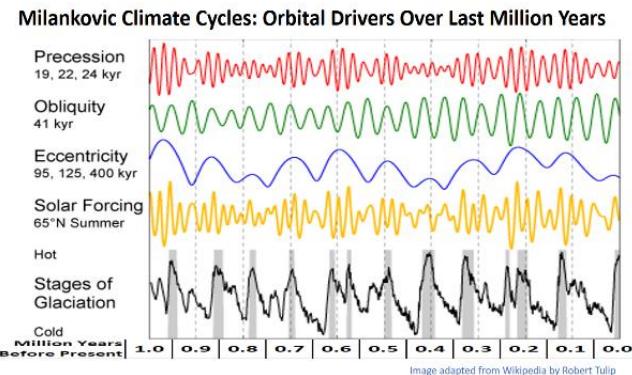
⁷ Copernicus, *On The Revolutions of the Celestial Spheres*, published in 1543

⁸ Martin Harwit (1991). *Astrophysical Concepts* (2nd ed.). Springer-Verlag. [ISBN 3-540-96683-8](#). p. 4.

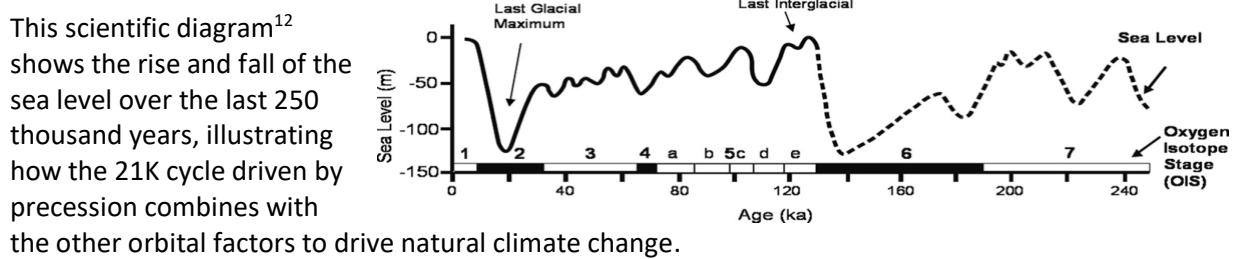
⁹ https://en.wikipedia.org/wiki/Milutin_Milankovi%C4%87#Selected_works

analysed the solar forcing that drives climate. The results over the last million years are shown in this chart.

The 26 Kiloyear (K) precession cycle combines with other orbital cycles to drive the ice age precession cycle of 21K, forming complex bi-partitioned waves with periods 19, 22 and 24K.¹⁰ The 21K climate precession period is defined by the longitude of perihelion, the distance between the point where earth is closest to the sun and the solstice point. The longitude of perihelion combines the 26K precession period with the spinning of the orbital ellipse of the earth against the stars, a 112K cycle called apsidal precession.¹¹ The chart shows how precession combines with the changing tilt of the earth, called obliquity, and the changing orbital roundness, called eccentricity, to produce solar forcing, which then causes stages of glaciation between hotter and colder periods.



Precession of the equinoxes makes the annual date of perihelion advance around the year on this 21K cycle, changing the amount of light reaching each latitude in each season. The amount of sunlight reaching each part of the earth varies with the season of perihelion, which varies mainly with zodiac ages. The perihelion is now at 4 January, in northern winter, and advances by one day every 59 years. The northern hemisphere dominates the planetary cycle of ice ages due to the positions of the continents. When perihelion is in northern winter, less snow usually melts in summer and glaciers advance, while when perihelion is in the northern summer, more winter ice melts in the summer and glaciers retreat. The stages of glaciation observed in the Milanković Cycles, documented from ice core and sediment records, are caused by solar forcing, amplified by natural feedback loops such as whiteness, dust and carbon photosynthesis.



The ice age cycle of light and dark is therefore in large part governed by precession through a simple date, the perihelion point, defining the season when the earth is closest to the sun each year. Other slower factors also have impact. Obliquity changes earth's tilt between about 22 and 24 degrees on a 41,000 year cycle, and will delay the next orbital turning point to an ascending light phase by about a thousand years. Eccentricity shifts earth's orbit between more circular and more elliptical shapes, surrounding the millennial framework of precession by very slow primary glaciation patterns at the 100K and 400K scale. The change in orbital roundness is driven mainly by the relative positions of Earth, Venus and Jupiter, illustrating how the whole solar system is connected.¹³

¹⁰ 'Bi-partitioning' of the precession climate signal predicted by astronomer Andre Berger was found in ice and sea floor sediment data.

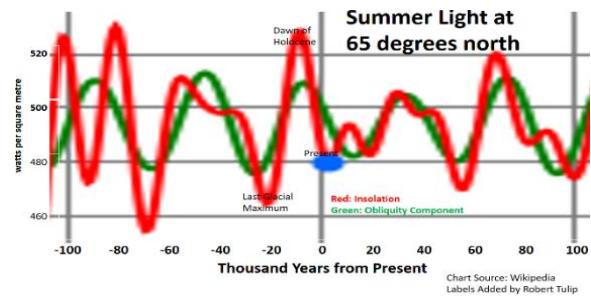
¹¹ https://en.wikipedia.org/wiki/Apsidal_precession

¹² From *Paleo-shorelines on the Australian continental shelf: Morphology, sea-level relationship and applications to environmental management and archaeology*, Brooke et al, in *Continental Shelf Research* 134:26-38 · February 2017 DOI: 10.1016/j.csr.2016.12.012

¹³ *Ice Ages and Astronomical Causes* by Muller and MacDonald

Over the next ten thousand years, as the perihelion slowly advances through the northern winter and spring, it will reach the summer solstice in the year 11,250 AD, as illustrated in this graph of northern summer light levels for 200,000 years.

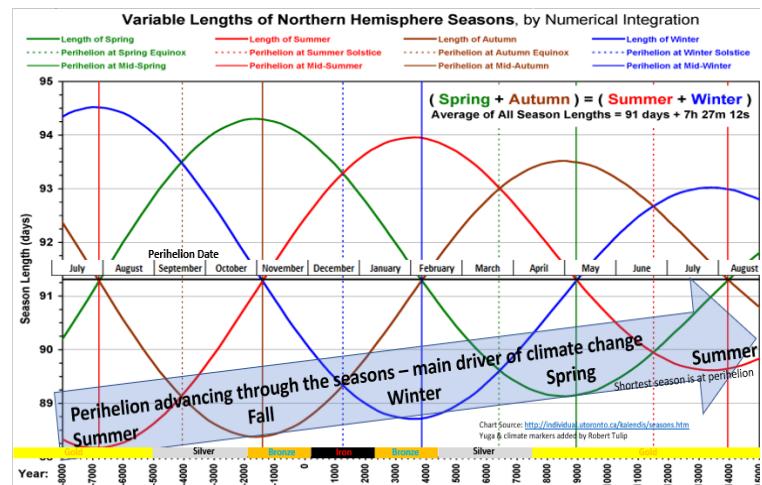
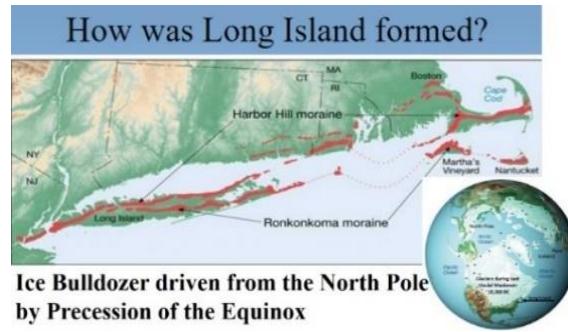
The red wave here, driven by perihelion precession, maps to the advance and retreat of glaciers, and has caused rise and fall of sea level by more than one hundred metres. The changing summer light shown in this chart indicates the main natural driver of global climate change at the millennial time scale relevant to human history.



The Last Glacial Maximum was about 20,000 years ago when northern summer insolation (solar forcing) was low, and was followed by ascent of light to the dawn of the Holocene Era 10,000 years ago when insolation was high. Insolation then descended to a low point over the last thousand years, and is now starting a slow ascent over the next ten thousand years.

This picture shows how the ice ages created Long Island in New York as one of their calling cards, leaving glacial moraines¹⁴ behind after the retreat of the vast two-mile high walls of ice that covered most of North America, driven by the precession of the equinox.

The annual and precessional seasons both start and end at solstices and equinoxes. But the seasons vary in length. The shortest season each year is always at perihelion because the earth moves fastest when it is closest to the sun in its elliptical orbit. This diagram of the changing number of days in each season over twenty-four thousand years¹⁵ shows the perihelion advancing through the seasons. The curve segments at the bottom of the chart define the 'cosmic season' of precession of the perihelion. Over previous cycles this point has defined ice ages, broadly mapping to zodiac ages.



When perihelion is in northern summer, our planet has a warmer period, while when perihelion is in northern winter, earth normally has a colder period, although the natural cycle is now disrupted by human causes. Intriguingly, the perihelion 'season of fall' from around 4000 BC to 1200 AD, when the annual perihelion date advanced from the autumn equinox in September to the winter solstice in December, correlates directly to the period known in Christian tradition as the fall from grace. Whether this correlation with religious mythology has any meaning is a very interesting question, to be addressed in the final part of this paper, in discussion of the Yuga cycle of gold and iron ages as a structure of time that encompasses the Christian myth of fall and redemption.

¹⁴ https://en.wikipedia.org/wiki/Geography_of_Long_Island#Geology

¹⁵ This chart of the length of the seasons was made by Dr. Irv Bromberg, University of Toronto, Canada, and is from <http://individual.utoronto.ca/kalendis/seasons.htm> http://individual.utoronto.ca/kalendis/solar/Season_Lengths_23K.png

The connection to the dawn of the Age of Aquarius is that the slow upward direction of the perihelion cycle creates an equivalent direction in cultural evolution. The current perihelion date in January maps to when the northern day has passed its shortest point at the solstice and is starting to increase in length. The Age of Pisces therefore symbolises the lowest point of the cycle while the Age of Aquarius marks the beginning of ascent toward spring and summer. The precessional seasons caused by the movement of the perihelion are the drivers of natural climate change, and therefore produce the change marked by these Zodiac Ages.

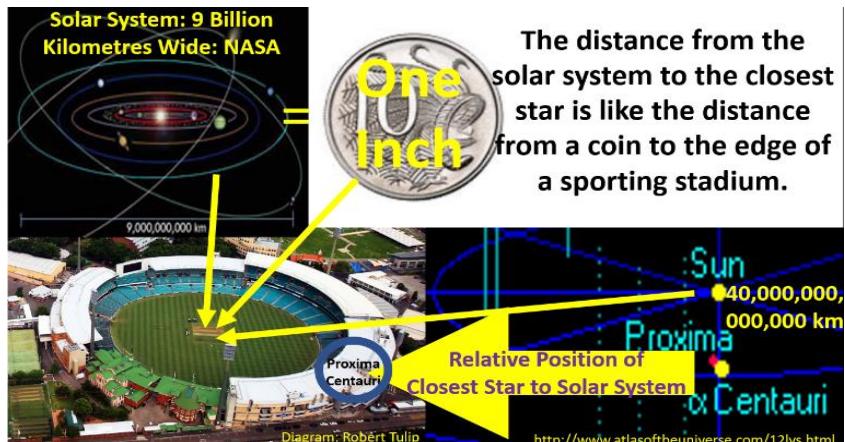
A system of twelve ages defined solely by the perihelion climate cycle would produce ages only 1750 years long, about 400 years less than the zodiac age of 2148 years. And yet, as the next discussion explains, the Zodiac Age is a key period, due to its resonance with the whole solar system.

Earth and the Solar System

Earth's movements are nested in cycles of the whole solar system. Compared to the sun, the earth is like a minnow beside a whale. The sun contains over 99.8% of the mass of the solar system, with all the planets making up the remaining 0.2%. The four gas giant planets together have more than 400 times the mass of the earth, as illustrated in this diagram of the relative sizes of the sun and planets.¹⁶ The planetary orbits have been stable for nearly four billion years, since the events known as the Late Heavy Bombardment,¹⁷ when Neptune migrated out from its original position inside the orbit of Uranus.



And our solar system is isolated. If we imagine the solar system out to Neptune as the size of a coin, then the nearest star, Proxima Centauri, which is forty trillion kilometres away from us, would be one hundred metres away. The relative distance is like from a coin in the middle of a sporting stadium to the stands, as illustrated here. We are cocooned in this stable isolated system around the sun that provides the enabling conditions for life. The genetic evolution of life on earth has occurred entirely within this stable orbital framework of the solar system, whose patterns define the terrestrial structure of time.



Zodiac Ages

Zodiac Ages are central to the structure of terrestrial time, through stable patterns that connect our planetary precession to the pulse of the whole solar system. The Earth has gone through about two million Zodiac Ages since the dawn of life four billion years ago. Precession has a triple impact, firstly in climate and genetics, secondly in connection to the gas giant cycle of the solar system, and thirdly in cultural construction in myth. Together these provide a basis to postulate Zodiac Ages as physical units of time. By linking natural climate cycles to the integrated motion of the solar system and to long term human memory, the astrological period of the Zodiac Age becomes a useful way to integrate physical astronomy and cultural meaning. We are now nearing the end of the Age of Pisces

¹⁶ <https://upload.wikimedia.org/wikipedia/commons/thumb/c/cb/Planets2013.svg/2000px-Planets2013.svg.png>

¹⁷ https://en.wikipedia.org/wiki/Nice_model describes the main theory on the evolution of the solar system, the Nice Model

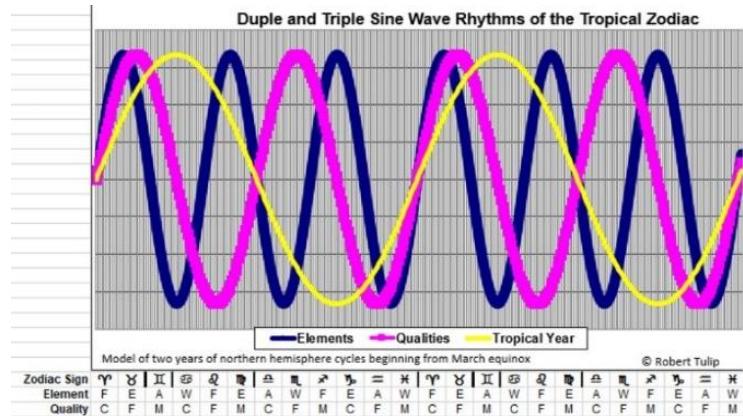
and approaching the cusp of the New Age of Aquarius, defined just in terms of the star groups behind the March equinox point. However, defining what Zodiac Ages are in scientific terms is a challenging problem with overlapping and conflicting answers.

Western tropical astrology defines zodiac signs by the dates of the solstices and equinoxes. Seeing all claimed astrological effects as the result of processes within the solar system, tropical astrology sees the stars only as background markers of time, like the numbers on a clock face, not as having any causal power. For Zodiac Ages, tropical astrology therefore also sees the star shapes forming the constellations as only like clock numbers, providing reference points for processes that must be physically explained by the dynamic cycles of the earth and the sun.

The twelve signs of the zodiac in western tropical astrology are defined by solstice and equinox dates, and are therefore disconnected from the stars, which are only markers like numbers on a clock. The current gap between the signs and the stars due to precession of the equinoxes is nearly one sign. For example, the constellation Pisces is now mostly in the position of the sun after the spring equinox that tropical astrology calls the zodiac sign of Aries.

Using the western tropical zodiac, beginning from the equinox point rather than the fixed stars, the twelve signs are defined as wave functions of the seasons, produced by the annual cycle of solstices and equinoxes. The annual cycle can be mapped as a sine wave, based on the length of the day and night. Days are longest and shortest at the solstices, and equal with the night at the equinoxes. These four points of the year mark the entry cusps of the four cardinal zodiac signs, defining the cardinal points of the compass.

The zodiac sign periods are the result of dividing the annual wave period to produce harmonic waves. This wave division provides a mathematical illustration of the nature of zodiac signs. This chart shows the annual wave of the tropical year based on the length of daylight through the seasons, together with the wave frequencies two and three times faster. These postulated waves



define the signs of the tropical zodiac. Due to the varying length of the seasons, small adjustments from this model are needed to locate cardinal sign cusps at the equinox and solstice points.

The triple wave function of period four months models the annual sign cycle that astrology calls the four elements, fire, earth, air and water. The duple wave function of the seasons, with wavelength six months, models the annual cycle producing the three qualities, called cardinal, fixed and mutable. The interaction of these duple and triple resonant waves produces the twelve signs of astrology. This primary pattern for the earth is entrained by the monthly orbit of the moon. This annual pattern of the twelve months combines elements and qualities to provide the thematic structure of the meaning of each astrological sign, such as 'fixed air' for Aquarius and 'mutable water' for Pisces. These themes are postulated in reverse for Zodiac Ages.

Precession, Gas Giant Planets and The Solar System Centre of Mass

The power of Zodiac Ages is reinforced by a remarkable stable twelve-fold structural relation between earth's precession and the pulse of the whole solar system. Earth's precession period of 25,771.5 years is almost exactly 144 times the primary wave period of the solar system, the centre of mass period of 178.86 years. This temporal relation between the solar system and the earth supports the hypothesis that Zodiac Ages are physical orbital patterns with real effects, rather than

just existing as myth. This stable 1:144 ratio with the solar system means that the number twelve is embedded into the fabric of the solar system in its relation to our planet, defining the ratio of the Zodiac Age to both the Great Year and the pulse of the solar system.

The structure of time for the solar system can be defined as the physical unit that integrates all the mass of the system into a single stable repeating period. Such a pattern exists in the movement of the balancing point of the solar system. This point is called the Solar System Barycentre (SSB) or centre of mass. The SSB follows a wave pattern with period 178.86 years, like the pulse of a heart, but far more slow and regular. At one twelfth the Zodiac Age, this solar system period is an orderly cosmic structure encompassing the earth. My hypothesis is that this underlying stable systemic structure is why the zodiac must be defined with twelve signs and not some other number, showing the physical basis for the theory of Zodiac Ages.

The importance of the SSB was expressed by Sir Isaac Newton, who wrote in his *Principia* that “the common centre of gravity of the Earth, the Sun and all the Planets is to be esteemed the centre of the world”.¹⁸ In an accurate scale model of the solar system, called an orrery, the SSB is the single point on which the model can rest, like a fulcrum balance. As Newton explained in his *Principia*, when Jupiter and Saturn are opposite each other, the SSB is near the heart of the sun, and when Jupiter and Saturn are conjunct they pull the SSB out of the sun by about one solar radius. This recognition in classical celestial mechanics of the SSB as a central point remains valid today if we see the solar system as our frame of reference, even including scientific discoveries since Newton.

NASA’s Jet Propulsion Laboratory (JPL) calculated the distance of the sun from the SSB over 6000 years from 3000 BC to 3000 AD.¹⁹ The stable wave function emerging from this data has period 178.86 years, as used to produce the next chart, collating modern data on this “centre of the world”. Each line in this graph is a successive map of the distance from the sun to the SSB over 179 years. The bottom line starts from 3000 BC at the left, and the top line ends in 3000 AD at the right.

The whole of recorded history since 3000 BC is contained in this astronomical graph, as our planet is a tiny part of this encompassing solar system pattern. The nine oscillations across each line are caused by the 20-year cycle of Jupiter and Saturn. The return to the same shape in each successive line marks the fact that after nine Jupiter-Saturn cycles, every 179 years, these two biggest planets always return to the same position with respect to Neptune. The near-absence of gaps between lines shows how similar each line is to those immediately above and below it. The whole wave gradually drifts over the centuries, creating natural patterns like ripples in sand.

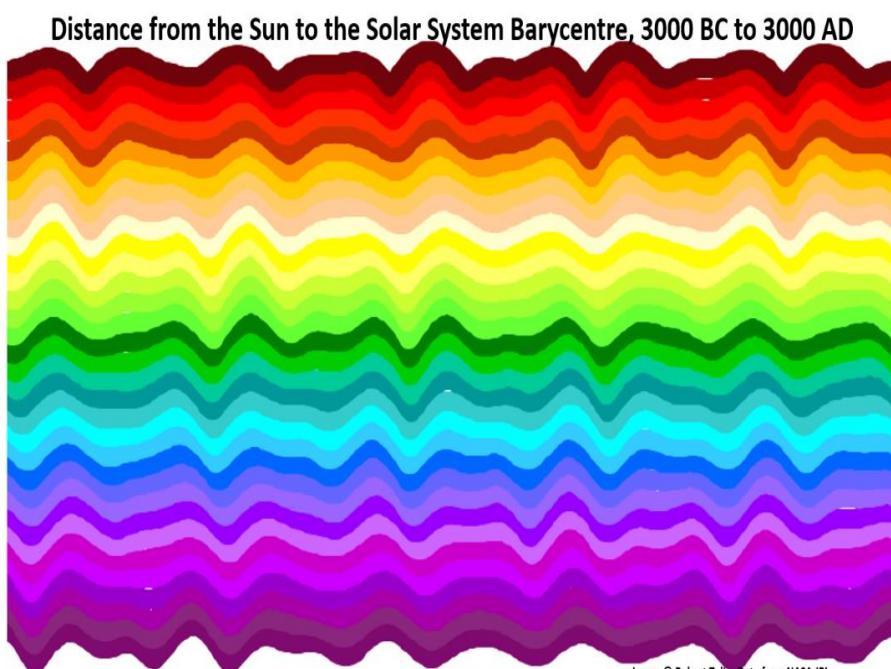
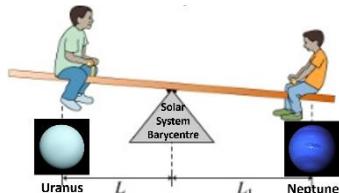


Image © Robert Tulip. Data from NASA JPL

¹⁸ [Newton: Principia Mathematica, On the System of the World. XII](#)

¹⁹ NASA JPL Horizons Database <https://ssd.jpl.nasa.gov/horizons.cgi>

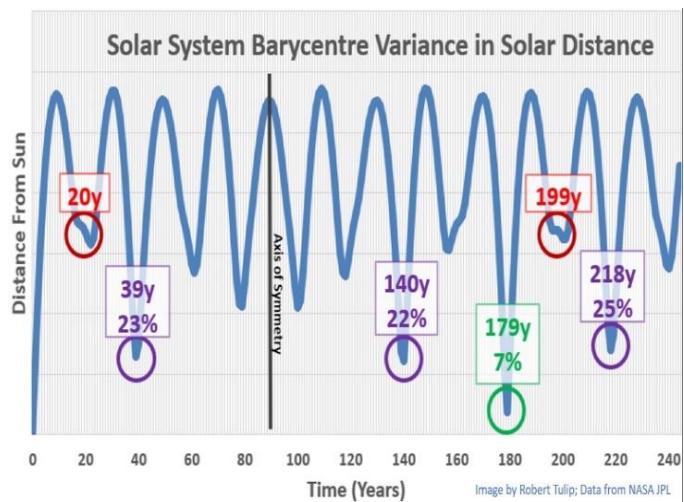


Jupiter (J), Saturn (S) and Neptune (N) together dominate the wave pattern of the SSB. Neptune has more influence on the SSB than Uranus even though they have similar mass. Like two children playing on a seesaw, the bigger influence on the system balance is from the equal weight that is further away from the fulcrum.²⁰

NASA has calculated the SSB to integrate all the mass and motion of the solar system into the single wave function of the distance from the SSB to the sun. The solar system including the sun orbits around the SSB point, which is the focus of the solar system ellipse, moving to form the smooth arc of our path around the galaxy.

The SSB-sun distance has a stable repeating period. A scientific paper²¹ published in 1965 stated "the variation in the motion of the sun around the center of mass of the solar system has a periodicity of 178.7 years." My analysis of the JPL data shows a small increase of this calculation, to 178.86 years, 0.16 years longer. It appears this small difference may be because the earlier work used a 1950 analysis of just 400 years of data, whereas I have used the current 6000-year dataset from NASA.

179 years defines the SSB wave period because this is how long it takes for the distance from the SSB to the sun to always return closest to the same length. This chart shows the stable variance in solar distance to the SSB over periods from zero to 244 years. The twenty-year oscillation is due to the Jupiter-Saturn conjunction cycle of 19.85 years. Variance in the SSB-sun distance is maximised over the Jupiter-Saturn cycle at 10, 30, 49 years etc, and minimised between successive Jupiter-Saturn alignments at 20, 39, 59 years etc.



The ninth alignment, at 179 years, has by far the least variance because it is the first one that always involves the same triple alignment with Neptune, the third most powerful planet. This means any SSB-sun vector will be the same length as those 179 years before and after it. The wave function over periods greater than 179 years repeats the same patterns, eg the vector at 199y \approx 20y.

This variance chart adapts a method in signal processing called autocorrelation²² to show that the SSB has a wave function with a period of 179 years and an axis of symmetry at 89.5 years. Autocorrelation tests the similarity between observations as a function of the time lag between them. Comparing the SSB vectors at each annual time lag uncovers a repeating pattern, a periodic signal, identifying the fundamental frequency in the signal.

The axis of symmetry of the line at 89.5 years occurs because the two halves of the 179-year period are mirror images of each other, since the planet positions approaching the triple conjunction point always reflect their departing positions, except for the small variance due to ellipticity. The 7% accumulated change in solar vectors over 179 years produces the slow millennial drift seen in the wave form, which has strong orderly stability and direction. Over successive cycles, Jupiter, Saturn and Neptune repeat the same pattern, while drifting slowly in and out of exact alignment, somewhat like the eclipse Saros Cycle. The drift is due to small differences between the periods of the three

²⁰ Seesaw diagram from https://notendur.hi.is/eme1/skoli/edl_h05/masteringphysics/9_10/torquesonseesaw.htm

²¹ *The Sun's Motion and Sunspots*, by Paul D. Jose, published in the Astronomical Journal, April 1965, Volume 70 Number 3.

<http://adsabs.harvard.edu/full/1965AJ.....70..193J>

²² Definition of Autocorrelation from Wikipedia

orbital pairs, JS, JN and SN. The secondary minima at 39, 140 and 218 years reflect the start and end of new and old JSN cycles, and occur at broad decadal JSN conjunctions, such as across the 1980s.

To calculate the SSB period more exactly, this next chart shows detail of NASA data on the 179-year correlation point, autocorrelating across the full 6000 years. The turning point of the curve, measured by its axis of symmetry, occurs at 178.86 years, defining the precise period of the wave function of the centre of mass, the pulse of the solar system. This cyclic period of the gas giants and the centre of mass can be considered the primary unit of time for the solar system.

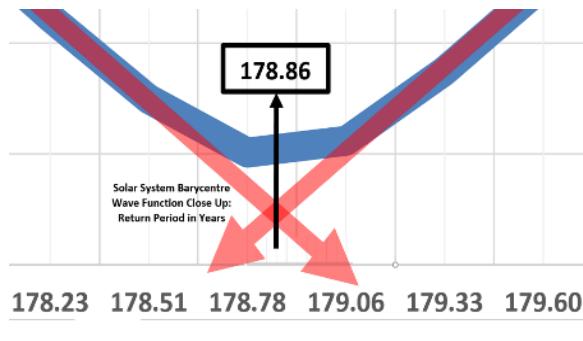


Image Source: Robert Tulip, NASA data

Precession of the equinox has a remarkable correlation to this systemic time period. Each Great Year contains twelve Zodiac Ages, and each Zodiac Age is twelve times the SSB wave period. The one-to-twelve ratio was exact one million years ago and is now slowly increasing, due to the increasing distance from the earth to the moon. The ratio is now 1:144.08 and by my calculation will increase over the next ten million years to 1:145. For historical time, and extending to the last million years, the slow rate of change means the 1:144 ratio can be regarded as a constant.

The 1:144 ratio means the Solar System Barycentre and the Great Year are inverse multiples of the Zodiac Age, one to twelve and twelve to one. The Zodiac Age therefore embeds the number twelve in the structural relationship between the earth and the solar system over the last million years.

If we consider the SSB wave period of 179 years as the unit of time, equivalent to the pulse of the sun, the ratio between the earth and the solar system unit of time makes the Zodiac Age the square root of the Great Year. This 1:12:144 equation helps to define the temporal relation between the earth and the solar system. This ratio links the main long-term periods of the earth and the sun.

A similar twelvefold relationship also exists between the moon, the earth and Jupiter. The moon/earth relation defines the twelve months of the year, and Jupiter's orbit takes twelve years. The Moon-Earth-Jupiter orbital ratio is 1:12.3:146, close to the SSB-Zodiac Age-Great Year ratio.



The Zodiac Age can be hypothesised as resonating to this SSB 179-year pattern through a process called entrainment. To model the relation between earth and the SSB, imagine the solar system as like a trampoline with a regular oscillation of period one second, and the earth as like a spinning top bouncing on the trampoline, wobbling with a regular period of 144 seconds. The trampoline and the top periods are related to each other through mutual inverse relation to the period of twelve seconds. That

relation, shifted to the solar system, illustrates the potential for a resonant entraining relationship, like how clocks start to tick together when on a shared bench in entrained harmonic motion.²³

Extending this harmonic resonance idea, the stable ratio of the Zodiac Age is part of what the astronomer Johannes Kepler called the music of the spheres.²⁴ On this musical model, the Zodiac Age can be defined as an overtone of the frequency of earth's spin wobble, entrained by mathematical resonance with the fundamental wave function of the solar system.²⁵

²³ <https://www.youtube.com/watch?v=5v5eBf2KwF8> metronome synchronisation video illustrates entrainment

²⁴ Full Text of Kepler's *Harmony of the Worlds* is at <http://www.sacred-texts.com/astro/how/index.htm>

²⁵ Musical notes with frequency ratio 1:12 are 3.5 octaves apart.

Fourier Transform Decomposition of Solar System Barycentre Wave Function

Analysis of the NASA SSB data can be done by a sophisticated statistical method called Fourier Analysis, which separates a complex wave signal into its components.²⁶ Mathematically decomposing the SSB wave spectrum produces this list of the planetary effects. This table of Fourier Spectrum Decomposition of the Wave Function of the SSB shows that the three main motions, JS, JN and SN, together produce two thirds of the SSB signal. The data shows that together the three JSN cycles – JS, JN and SN - vary from the 178.86 wave period by only 0.4%. Their integrated orbits produce the SSB pulse signal. Their combined effect is therefore the dominant factor producing the unit of solar system time seen in the SSB wave at 179 years.

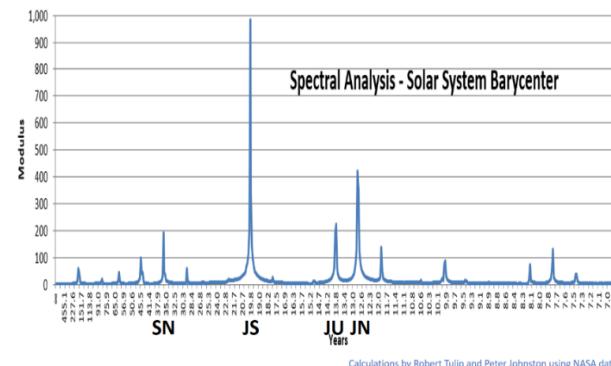
The planetary peaks are illustrated in the SSB Spectral Analysis graph, using Fourier Spectrum to show the main planetary pairs that contribute to the SSB wave form. The top four peaks in order of power are JS, JN, JU and SN, as shown. NASA produced the input data that enabled production of this graph by iterative integration of planetary positions, not by inputting these relationships.²⁷

This next table lists the 1:12:144 ratios between the barycentre, Zodiac age and Great Year, alongside the equivalent ratios for the orbits of the Moon, Earth and Jupiter. These ratios illustrate how using the integrated wave function of the solar system as the unit of time makes the Great Year the square of the Zodiac Age.

Fourier Spectrum Decomposition of Wave Function of Solar System Barycentre												
Cycle	SSB Spectral Peak (Years)	First Planet A	Second Planet B	Spectral Power D	% of total spectrum E	Orbital Period F	Cycle period close to 179 years G	Cycles in 178.86 years H	Rounded # of cycles I	Absolute Variance from 178.86 J	Precession Ratio K	
1	19.85	Jupiter	Saturn	983	40.9%	19.85	178.67	9.010	9	0.11%	144.24	
2	12.8	Jupiter	Neptune	419	17.4%	12.78	178.92	13.996	14	0.03%	144.04	
3	13.8	Jupiter	Uranus	190	7.9%	13.81	179.52	12.952	13	0.37%	143.55	
4	35.9	Saturn	Neptune	189	7.9%	35.87	179.36	4.986	5	0.28%	143.68	
5	11.9	Jupiter	Cycle	137	5.7%	11.86	177.90	15.081	15	0.54%	144.86	
6	7.8	unknown		128	5.3%	7.80	179.40	22.931	23	0.30%	143.65	
7	45.5	Saturn	Uranus	96	4.0%	45.37	181.48	3.942	4	1.44%	142.01	
8	9.9	Jupiter	Saturn	75	3.1%	9.93	178.67	18.019	18	0.11%	144.24	
9	8.2	unknown		72	3.0%	8.20	180.40	21.812	22	0.85%	142.86	
10	29.5	Saturn	Cycle	59	2.5%	29.46	176.76	6.071	6	1.19%	145.80	
11	171	Uranus	Neptune	57	2.4%	171.37	171.37	1.044	1	4.37%	150.39	

Source	Fourier Transform			E= D/SUM(D)	F= 1/(1/B - 1/C)	G= F x I	H= 178.86/F	I= round(H)	J= ABS(H/I-1)	K= 25771/G
planet	Jupiter	Saturn	Uranus	Neptune						
period	11.86	29.46	84.01	164.8						

Calculations by Robert Tulip and Peter Johnston using NASA data



Calculations by Robert Tulip and Peter Johnston using NASA data

Relation between Earth and Sun		Years	Ratio	Variance from 1:144
Solar System Barycentre	S	178.86	1.000	
Zodiac Age	Z	2,147.62	12.007	0.06%
Great Year	G	25,771.50	144.087	0.06%

Formula: When S=1, G = Z²

Moon	0.081	1.000
Earth	1	12.369
Jupiter	11.857	146.653

²⁶ I thank statistician Peter Johnston for his assistance with this Fourier Transform analysis.

²⁷ In response to my query, NASA JPL wrote to me with the following advice: "The planetary ephemerides are not derived from a formula (in which periodicities might be "put in"). We are oblivious to periodicities when solving for planetary orbits. Instead, orbit solutions come from a numerical integration of 2nd order differential equations of relativistic gravitational motion in which periodicities are emergent properties of the physics and a fit to measurement data. You might be interested in work by Bretagnon; he and others deliberately fit periodic functions after-the-fact to the numerically integrated planetary ephemerides so, in a sense, they deliberately "put in" periodicities as necessary to approximate the actual result." ([link](#)) As well, NASA recommended discussion on Newhall et al : DE102 numerically integrated ephemeris.

The House of the Age

The connection of the SSB period to the precession of the equinox has a further feature that makes it particularly interesting. As shown in these charts, each successive Jupiter-Saturn-Neptune triple conjunction over the Age of Pisces from 53 to 2201 AD is in or entering each successive zodiac sign, starting with Aries and ending with Pisces.

Each triple conjunction is thirty degrees of arc further along the ecliptic, one twelfth of the circle or one zodiac sign. This stable 30° advance for each conjunction means these three main planets, and the SSB system wave period of 179 years, mark what astrology has traditionally termed 'the houses of the age'.

Over a Zodiac Age, each family of JSN conjunctions produces twelve successive conjunction groups, in or just before the twelve zodiac signs in order. This diagram shows the JSN conjunction paths at the start of each of the twelve houses of the current Zodiac Age, the Age of Pisces.

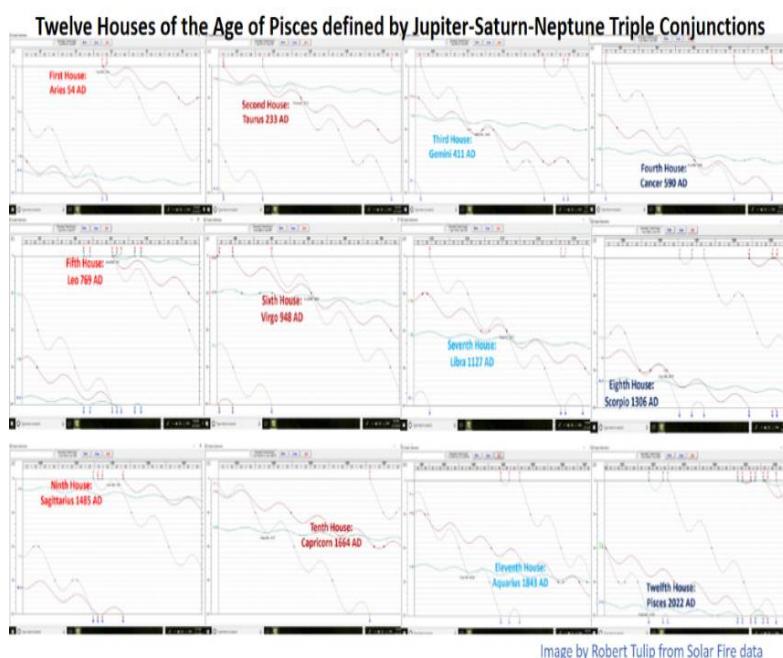


Image by Robert Tulip from Solar Fire data

The 'house of the age' was estimated at 180 years by Dane Rudhyar in his book *Astrological Timing*,²⁸ and is here given a precise empirical duration, 178.86 years, through the primary integrating natural orbital pattern of the solar system and the locations of the planets.

These charts show the JSN 'family of conjunctions' every 179 years from 54 to 2201 AD, with triple conjunctions occurring in or just before each zodiac sign from Aries to Pisces in order every 179 years.²⁹ The small differences between the three 179-year return periods (JS, JN, SN) are tabulated in the Fourier Spectrum Table above. These orbital differences mean the combined orb of the three conjunction pairs slowly drifts together and apart over the course of a Zodiac Age. For the Pisces JSN family over the 2148 years from 53AD to 2201 AD, the JSN orb starts at one year, tightens to just five days, and then increases to five years over the period of the age.

In the first JSN event of the Pisces Age, in 53-54 AD marking the House of Aries, the time from the first to the third conjunction is one year, and the position of Neptune at first contact is 18 degrees before its entry to Aries, a gap that will steadily decrease in each successive group. The conjunctions in 53-54 are at 12-13 degrees of Pisces for SN and JS, and at 28 Pisces for JS. Jupiter and Saturn moved together into Aries in 54 AD, followed by Neptune in 60 AD.

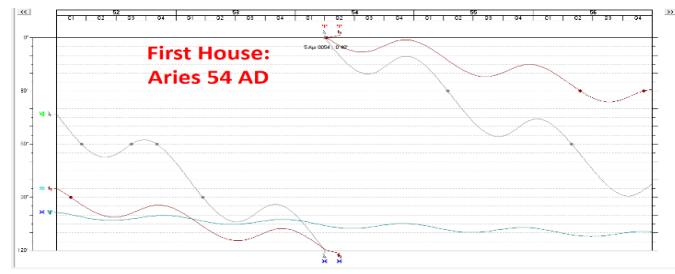


Image by Robert Tulip from Solar Fire data

²⁸ Dane Rudhyar's book *Astrological Timing* is available free online from http://www.khaldea.com/rudhyar/at/at_c6_pp2.shtml

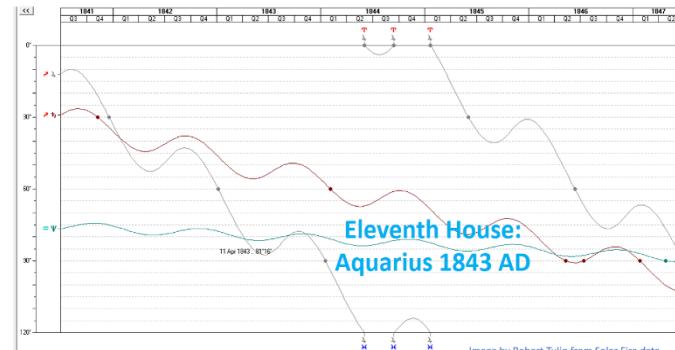
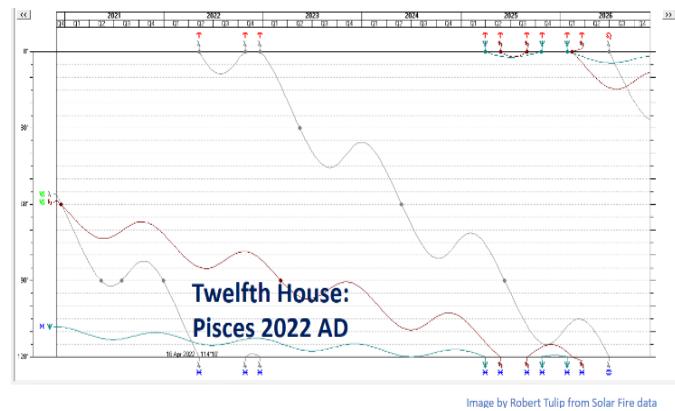
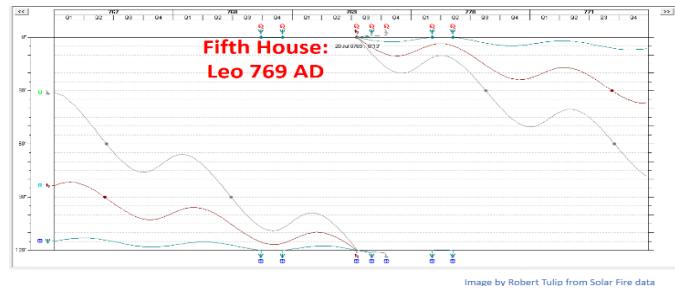
²⁹ These planetary charts were created using the graphical ephemeris in astrology software program Solar Fire, condensed from 360 to 120 degrees of arc. They illustrate how over the 179 year cycle the triple conjunction orb starts wide, becomes tight and then widens again.

As we move forward through the conjunction family, the JSN orb narrows with each successive event until in the fifth house, the orb is just five days. The three planets move together from Cancer into Leo. These conjunctions opened the House of Leo in July 769 AD, with JN on 18 July, JS on 20 July and SN on 23 July.

The final triple JSN conjunction of the family of conjunctions defining the Zodiac Age of Pisces runs over five years from December 2020 to February 2026, opening the twelfth house of the age, the House of Pisces. The JS conjunction on 21 December 2020, the solstice, is at the Capricorn-Aquarius cusp, more than a sign before Jupiter and Saturn form conjunctions with Neptune, with JN on 13 April 2022 at 24 Pisces, and SN on 20 February 2026 at 0 Aries.

This upcoming pattern of JSN planetary alignments in the 2020s around Pisces should be central to astrological interpretation of the transition from the Age of Pisces to the Age of Aquarius. An interesting point about the Jupiter-Saturn conjunction at the 2020 solstice is its relation to the Mayan prophecy of the turning point of the ages at the 2012 solstice. The Mayan astronomers calculated their theory of time using the 19.71 year period called the K'atun. This period probably emerged from observation of the Jupiter-Saturn 19.85 year cycle, the longest regular visible pattern in the solar system. An error of eight years in their calculation, making the 2020 conjunction the predicted cosmic event, is entirely possible.

On this model of time, the now concluding eleventh house of the Age of Pisces, over the 179 years from 1843 to 2022, beginning when Jupiter, Saturn and Neptune were conjunct in Aquarius, has anticipated the New Age of Aquarius, within an overall context of an Age ruled by the Piscean theme of belief.



Thematic Principle of the New Age of Aquarius

Astrology conventionally says that the sign of Aquarius has the theme of innovative humanitarian knowledge.³⁰ The House of the Age hypothesis means that the now ending eleventh house of the Age of Pisces, the Aquarian House, is marked by this Aquarian theme that will govern the Age of Aquarius over the next two millennia. We can therefore consider that the coming twelfth house of the Age of Pisces, while continuing this underlying tectonic orbital momentum of transition to a New Age, may also emphasise the theme of Pisces, traditionally understood in astrology as mystical compassionate belief. This shift of ages can be seen in terms of the Aquarian and Piscean themes, knowledge and belief, as the underlying drivers in the world historical conflict between science and religion. The shift of principle for social organisation from belief to knowledge matches to the

³⁰ For these traditional themes of zodiac signs, see Sakoian and Acker, *An Astrologer's Handbook*.

orbital climate evolution of the start of an upward cycle, in the sense that knowledge is a more advanced form of cognition than belief. This model of time should not however be seen simplistically as a shift from religion to science, but rather as offering a path to help reconcile reason and faith. Zodiac Ages are a way to explain natural observations that religious concepts symbolise and reflect. The depiction of these ages with the themes of Pisces and Aquarius is primarily a constructed cultural symbol, rather than a necessary dynamic product of the orbital drivers, except in so far as the house patterns formed by the JSN triple conjunctions occur in specific zodiac signs.

In both astrological and astronomical terms, this coming 179-year period, the twelfth house, can be viewed as a transitional period between the Age of Pisces and the Age of Aquarius, a period that will enable scientific analysis of the meaning of the precessional structure of time as the framework of history while also enabling planetary social transformation toward a global community based on values of peace, truth and justice.

Dynamic Structure of The Age of Pisces

The Zodiac Age of Pisces can be summarised in this clock model, illustrating the twelve JSN conjunctions at successive thirty-degree angles, together with their signs and dates. This clock pattern connects the SSB to the Great Year to show how the number twelve is embedded in earth's relationship with the solar system to define the natural orbital structure of time. Each point, starting from 53 AD at the top through to 2201 AD after the full circle, represents 179 years. Each hour represents five cycles of Saturn and Neptune, nine cycles of Jupiter and Saturn, and fourteen cycles of Jupiter and Neptune. This 5:9:14 ratio of these planetary pairs is the primary cause of the stable 179-year pattern of the SSB.

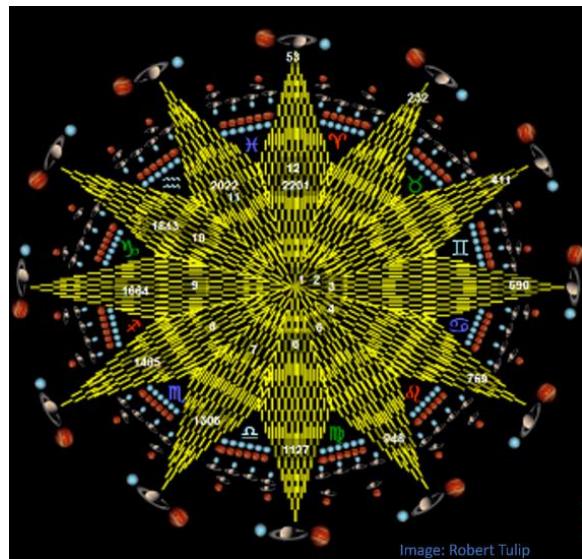
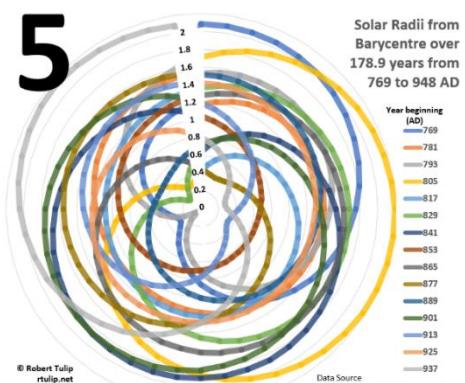


Image: Robert Tulip

With five SN conjunctions in each house, there are sixty Saturn-Neptune periods of 35.85 years in a Zodiac Age, forming the same 1:60 ratio as a second to a minute or a minute to an hour. The Saturn-Neptune conjunctions of the Piscean House of Aquarius in 1881, 1917, 1953 and 1989 were coincidentally all major turning points in the history of Russia.

There were no close triple JSN conjunctions in the twentieth century. This cycle of the Age of Pisces is now reaching its slow end, while new JSN conjunction families emerge about every thousand years. The next family of JSN conjunctions is centred on a triple conjunction in 1523 AD in Pisces, and will include a triple conjunction in Gemini in 2060-61. This family group bridges the Ages of Pisces and Aquarius. The tightest triple conjunction of the Age of Aquarius is in 2994 AD in Aquarius, and then the equivalent event for the Age of Capricorn is in 4284 AD in Capricorn. The JSN family group for the Age of Aquarius has a broad triple JSN conjunction in Virgo and Libra in 2096-2100.

This flower diagram illustrates the movement of the sun around the SSB over the 179 years defined in this model as the House of Leo in the Age of Pisces. When Jupiter, Saturn and Neptune are together the heart of the sun moves up to one full solar diameter (two radii) away from the centre of mass. The equivalent diagrams for all twelve houses



change very slowly, with the same level of difference illustrated in the chart presented earlier in this paper of the wave function of the SSB.³¹

The wave function of the SSB combines with the movement of the perihelion to drive deep patterns in slow time, appearing in the historical structure of the Zodiac Age. The perihelion climate framework shows our planet is slowly entering an upward glacial trajectory, analogous to the annual climate in the northern hemisphere on 4 January, despite how the current glacial cycle has been suppressed by technology. The SSB analysis shows we can empirically measure Zodiac Ages as comprising twelve houses of duration 179 years, integrating the earth with the solar system. As a regular wave pattern, the SSB period of 179 years is the primary stable repeating unit of time for the solar system. Combining this SSB analysis with earth's spin wobble and with the perihelion climate cycle provides the basis for a systematic analysis of the structure of terrestrial time through the Zodiac Age period of 2148 years, seeing how precession governs myth and culture.

Precession and Evolution

The slow orbital processes driving Zodiac Ages have been stable for four billion years, since the dawn of life on earth, meaning that all life has evolved in this stable repetitive causal context. The hypothesis can therefore be presented that cultural and genetic impacts of precession will mirror the orbital drivers, producing different adaptive evolutionary traits for life during descending and ascending phases, on the model of the seasons and the day. Although hard to measure, the postulate is that the slow temporal cycles of precession should affect genetics in a similar way to the effects of the more rapid cycles of the day, the month and the year.

Just as plants and animals are programmed for instinctive daily and annual patterns of activity and rest, so too the stable durability of the precession cycle means that similar genetic coding could be expected to exist at the precession time scale. Four billion years of microbial evolution could therefore have produced genes which behave differently in different phases of the perihelion cycle. Sea floor sediment analysis bears this hypothesis out to some extent. The type and quantity of marine organisms in benthic sediment are used to measure precession, illustrating the possible genetic impact of the glacial precession cycles.³²

As with the natural feedback loops from orbital impact on climate, cultural transitions occur over centuries or millennia. The probable nature of such cultural signs, reflecting the perihelion cycle of light and dark, is the topic of the remaining part of this paper.

Precession in Myth and Culture

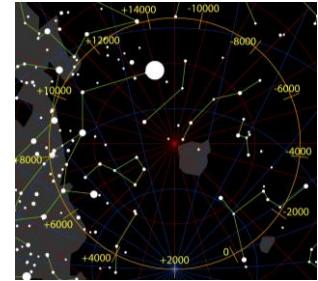
The cultural meaning of the astronomical framework of the perihelion climate cycle emerges in mythological visions of ascent out of cosmic winter toward a new Golden Age over the next ten thousand years, as reflected explicitly in ancient Vedic and implicitly in Christian Gnostic cosmology. The extent to which the resulting theory of Zodiac Ages reflects deliberate conscious understanding or unconscious intuition is complex. Zodiac Ages are grounded in the orbital climate cycle of light and dark over thousands of years. Observation of the cycle of light correlates with ancient myth, especially the Yuga cycle from India, with its story of a 24,000 year cycle of ages. The hypothetical resonance described above between earth's spin wobble and the wave function of the solar system could not have been seen in ancient times, or at any time before the discovery of Neptune in 1846. However, the overall system harmonics could have had observable effects, strengthening the cultural intuition of Zodiac Ages. This physical framework points to how precession has affected

³¹ Graphs of the flower patterns of the twelve houses of the Age of Pisces are at rtulip.net/astronomy

³² See [Timothy D. Herbert Proc Natl Acad Sci U S A](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC149033/). 1997 Aug 5; 94(16): 8362–8369. Colloquium Paper A long marine history of carbon cycle modulation by orbital-climatic changes

cultural evolution. An example of such perceived effects of precession postulated by Santillana and von Dechend in their 1969 book *Hamlet's Mill* interprets the 'cosmic mill' in the Finnish epic the Kalevala. In the story, this mill has fallen off its axis, so now grinds out salt and rock where it once ground out an abundant cornucopia. This cosmic mill can be read as a symbol of the polar axis of the Golden Age, which at that time connected the bright stars Vega and Canopus. The fall of the mill off its axis, with these former pole stars now more than 40° from the pole, appears as an unconscious symbolic intuition of the weakening of summer light over the last ten thousand years.

Another example of how precession could have influenced ancient myth comes from this depiction of the South Celestial Pole.³³ As noted earlier, ancient Indian astronomers recorded in the Vedas their coded observation of how the number 71.5 figured in the structure of time. We now know this number is the years for one degree of precession, making it highly likely this was the original but lost meaning. Indian astronomy also described a 'turtle at the bottom of the universe', a myth whose meaning is now also lost. Looking at this picture, we see that the South Celestial Pole rotates every 26,000 years around the Large Magellanic Cloud, which sits close to the South Pole of the Sun, a point in space called the Ecliptic Pole. From South India, the Cloud of Magellan appears low on the southern horizon each year, a large circular smudge in the sky that could easily have been seen as a turtle. Its date of appearance moves around the seasons in a way that ancient astronomers recording observations for thousands of years could have calculated, much as was done in ancient Babylon and India. Such records could readily have been camouflaged as the famous myth of Kurma the Turtle with the world resting on his back, churning the cosmic ocean through the precession of the equinoxes as an avatar of Vishnu.



If the role of precession in the construction of mythology has been real, there are grounds to take this hypothesis to a further stage by seeing analysis of precession as central to the paradigm shifts required for human flourishing. The stability, durability and influence of precession, seen just in its climate impact, justifies investigation of connections between these natural trends and the direction and momentum of history. The core of the paradigm shift is the observation that the upward trajectory of northern summer insolation is a decisive driver of future historic potential over the next ten thousand years, just as the downward trajectory governed the last ten thousand years.

The cultural impact of Zodiac Ages is like tectonic change. With continental drift, pressure slowly builds until tectonic plates suddenly realign via earthquakes to match the underlying forces. Similarly with Zodiac Ages, the very slow change of insolation causes the natural glacial process of ice ages, and repeats a slow pattern of light and dark that our oldest genes have lived through millions of times. These observations invite the hypothesis that the slowly increasing or decreasing forcing of northern summer light also drives the slow process of culture, with cultural ascent and descent mapped to the date of the perihelion, repeating processes that have happened thousands of times before over the long history of organic evolution as life has adapted to precession cycles.

The current perihelion date of 4 January, in mid-winter, indicates a planetary time near the bottom of the climate cycle. Northern summer insolation will slowly increase over the next ten thousand years, in the same way light increases over winter and spring each year. Human civilization emerged during the 'fall' season, as northern summer light descended while the perihelion advanced from September to December over the last 6000 years. The implication of the reversal of direction is that cultural values that evolved in the descending phase have formed cultural paradigms that remain in place but are no longer adaptive. The old paradigms need to be replaced to enable new values to emerge, suitable for human flourishing in the ascending phase of the natural climate cycle.

³³ Map of South Celestial Pole cycle <https://commons.wikimedia.org/w/index.php?curid=891890>

The paradox in this framework is that the 6000 years that Christianity traditionally calls the fall from grace, from 4000 BC to 2000 AD, supposedly a worsening time, is the same period in which technological progress has enabled spectacular advances in wealth and health. The answer may be that progress and fall are two sides of the same coin, that material advance has occurred at the expense of barely noticed spiritual alienation from the natural cost of progress. Progress constructed an artificial ideology that acted to separate culture from nature, assuming a false autonomy of spirit from matter, alienating humanity from the physical world. The need now is a new paradigm that will integrate and reconcile spirit and nature.

Precession and Anthropogenic Climate Change

Current dominant paradigms reflect deep longstanding cultural assumptions. Beliefs and values that evolved in the descending fall phase of the precession cycle have formed ideologies that remain socially entrenched and powerful, creating the dangers of global warming. The old paradigm has conferred material benefits and a surface appearance of stability, but cannot sustain the practices of current economic systems in a changing global climate. Understanding the underlying orbital drivers that have enabled the evolution of these cultural patterns can help to analyse how to shift the global paradigm of reality to meet the needs of the new ascending climate trajectory, and to forestall the risks of catastrophic collapse that attend a failure to shift paradigm.

Elements of the required paradigm shift, starting from the planetary astronomy of precession, have practical consequences for managing climate stability, which now presents the primary planetary security and safety risk. These changes in the economic and political paradigm also have broader cultural implications for the pervasive psychological and philosophical split between culture and nature. The false belief that culture is autonomous from nature has enabled global warming, as part of the broad global catastrophe of the sixth extinction, and humanity's heedless indifference to the destructive impacts of progress. Failed delusions must now be replaced by a wholistic integrated natural paradigm of human cultural identity to return our planet to a path of healing and to enable peaceful sustained abundance.

Technological progress, dating from the evolution of metal, agriculture and writing at the dawn of civilization thousands of years ago, has severely disrupted the natural climate cycle, traumatising human ability to see and fix the causes of alienation from nature. The depth of the trauma can seem too intense for a new reconciling vision of love and truth to emerge, and can blind people to the damage caused by progress. The scale of risk is immense, as Elizabeth Kubler documents in her book *The Sixth Extinction*, with human-induced biocide comparable to previous epochal collapses of biodiversity such as the Permian Great Dying and the end of the age of dinosaurs.

Without human technology, our planet could have fallen back into another ice age over the last ten thousand years, as happened after previous warming cycles driven by precession. Interglacial periods occur only every 100,000 years, when the precession warm period coincides with a rounder orbit, and usually last less than ten thousand years. Within each ice age, the 21K precession cycle produces warmer periods known as interstadials that usually last just one thousand years. The difference suggested between the Holocene and previous inter-glacial periods is that the rise of early agriculture produced so much methane, mainly from cultivation of rice, that the natural cycle was stopped by the methane greenhouse blanket causing artificial warming.³⁴ The sea level has been stable ever since, a stability largely unprecedented in recent geology. It appears that a real fall into another ice age was stopped accidentally by artificial human technology.

Progress has been closely associated with human-induced disruption of the natural climate pattern. This artificial climate disruption is termed the Anthropocene, defined as the period when humans

³⁴ William F.Ruddiman et al, *Early Rice Farming and Anomalous Methane Trends*, Quaternary Science Reviews, Volume 27, July 2008,

leave geological traces. Elizabeth Kolbert, in *The Sixth Extinction*, supports dating the Anthropocene from when human-caused effects appear in geological strata forty thousand years ago due to the killing of megafauna, although of course the current scale of human impact on nature massively exceeds anything from pre-industrial times.

The disruptive power of technology has increased exponentially with modern industrial activity. Unfortunately, the primary global problem is that carbon emissions, the great enabler of progress, have put the planet on a trajectory to catastrophe. Current science³⁵ predicts that without removal of excess carbon from the air, a repeat of the Permian 'Great Dying' of 252 million years ago could occur suddenly, with a mass extinction event caused by disruption of ocean circulation. Preventing such an apocalyptic catastrophe requires a paradigm shift to recognise the fragile sensitivity of our planet, attuning culture to nature, and responding rapidly at global scale to address the climate security threat through deliberate climate management.

The current situation is that artificial warming has so vastly accelerated that deliberate intervention is needed to manage and regulate the global climate, aiming to remove one third of the carbon from the air and sea, in order to restore the planet to the stable Holocene climate. A paradigm shift is needed in climate policy, toward a focus on carbon removal. However, the psychological and political blockages that prevent such a shift appear to be largely religious in nature, requiring a discussion of how Christianity can reform to engage with climate science.

Precession and Christianity

The cultural perception of fall, reflected in founding myths such as the Biblical Book of Genesis, described a mythological collapse of human morality into separation from nature with the story of the expulsion of Adam and Eve from paradise. The Christian myth of the fall of man from grace into corruption correlates with the actual climate fall marked by the perihelion date. Mythological beliefs about the fall appear in metaphysical theology, such as in the idea that the incarnation of Jesus Christ involved payment of a ransom by God to rescue believers from the fall. Conventional supernatural faith holds that the death of Jesus on the cross atones for sin, in a one for all salvation event positing Jesus as the second Adam.

Rather than interpreting this mythical belief as a supernatural intervention of a conscious God, the precession framework provides a basis for a scientific evolutionary psychological investigation of its hidden meaning as unconscious archetypal reflection of climate trends. The massive economic and cultural changes due to technological progress in metal, writing and agriculture in the Iron Age were enabled by the cyclic climate patterns driven by precession. These changes created a sharp separation between the emerging individualist visions of human identity and the age-old egalitarian cultures of social identity that had continuity back to the last hundred thousand years of human evolution in the Pleistocene. The trauma of this psychological shift toward civilization created a new mythology around the descent from an ancient Golden Age and an eventual redemption.

A fragmented intuition arose with the Christian belief that humanity could recover from the shock of alienation and return to a state of grace. This framework of redemption involves a two-stage theory with the first and second coming of Jesus Christ, myths which match directly to the imagined dawn of the Ages of Pisces and Aquarius, and also to the insolation pattern of long term climate.

A culture that has become alienated from nature is intrinsically delusional, ignoring reality. The prophetic tradition emerged in response to this sense of delusion, arguing that the scale of human delusion is catastrophic. Prophetic vision led to the apocalyptic logic of the Bible, that humanity would either shift paradigm to align with the logic of God and nature or face civilizational collapse.

³⁵ The Permian risk is explained in *Earth System Dynamics*, Climate engineering by mimicking natural dust climate control: the iron salt aerosol method, by Oeste, F. D., De Richter, R., Ming, T., & Caillol, S. (2017). <http://www.earth-syst-dynam.net/8/1/2017/esd-8-1-2017.pdf>

For today, such divine logic emerges in analysis of climate change. Carbon emissions are a problem that must be fixed to prevent collapse, and yet the measures in place are nowhere near adequate.

In line with how evolution always builds on precedent, the seeds of a new ascending culture can be sought in concealed visions in the old descending culture. Ancient cultures reflected on emerging practices and beliefs in ways that remain relevant today, given that the original problems of civilization and its discontents are even more established now. An underlying Christian theory of good and evil correlates with the model of astronomical ascent and descent, and can be found in concealed cosmic teachings of Christianity. In the New Testament, the lightly hidden cosmic vision of Jesus Christ as avatar of the successive Zodiac Ages of Pisces and Aquarius appears as a key theme, although it was suppressed, forgotten, ignored and denied.

The transition from the Age of Pisces to the Age of Aquarius is the decisive main paradigm shift required for our planet. The Piscean paradigm reflects the attitudes and practices that evolved through the Age of Pisces, over the last two thousand years, building on the preceding millennia of descending northern summer light. As metal technology gradually replaced stone and wood, writing replaced oral communication and settled agriculture replaced nomadic movement, ways of thinking evolved that were suited to these economic developments, especially around the interpretation of the Biblical idea of dominion as meaning the domination of nature. Essentially, the Pisces paradigm was suited to the fall period of the perihelion. The movement of the perihelion across the northern winter solstice, in 1246 AD, was the low point of the climate cycle, marking also the beginning of a new upward phase, as modern science gradually emerged.

Many beliefs that functioned in earlier stages of history are no longer suitable for the evolving global reality of our planet. And yet beliefs from this period remain strongly influential, meaning the dominant paradigm is contradictory, confused and incoherent. Most starkly, there is a contradiction between the old belief in God as a supernatural conscious entity and the belief in limitless technological progress. This paradoxical combination of beliefs, assuming a divine providence in which nature is effectively infinite, remains central to modern culture, enabling delusional fantasy whereby belief in God enables people to ignore material reality. The crisis emerging for this old paradigm is most clearly visible in how we are fouling our planetary nest with climate change. Business as usual presents strong risk of a global collapse of economic, social and biological systems, unless there are fundamental change to a new global paradigm.

The shift of paradigm now required can be considered in the framework of new thinking required for the transitional twelfth house of the Age of Pisces. The analysis above of the resonance between precession and the solar system presents a new wholistic framework of time, seeing the solar system as the primary framework of reality. The hypothesis of Christ as avatar of the zodiac ages supports a scientific focus on Christian ethics, a new philosophical paradigm that can enable innovative humanitarian knowledge to emerge as the theme of the Age of Aquarius. This social change must be understood in evolutionary terms, building on precedent, by identifying and retaining the Aquarian core concealed within Christianity. The core idea of the new paradigm is to interpret the Christian theory of the Second Coming of Jesus Christ as the Dawn of the Age of Aquarius, to make the gospel vision of transformation a template for planetary change.

The Aquarian theme of innovative humanitarian knowledge appears in the Bible as the driving agenda for the Second Coming of Christ. Gospel themes that support this reading include that the last will be first in the kingdom of God (Matt 20:16), that forgiveness is conditional upon repentance (Mark 1:4), that humanitarian works of mercy are the key to salvation, seeing Christ among the least of the world (Matt 25:31-40), that the transition between ages is like the separation of crops from weeds at harvest (Matt 13:24), that the end of the age will occur once the whole world has heard of Jesus Christ (Matt 24:14), that Jesus Christ is the King of Ages (Rev 15:3), and that love of enemies can be enabled through restorative justice based on truth, repentance, forgiveness, care and mercy (Matt 5:6).

The paradigm shift from Pisces to Aquarius can primarily be understood as a metaphor of ascent and transformation. The gradual change from Piscean belief to Aquarian knowledge as the organising principle of society reflects the emerging scientific priority of evidence and logic as primary values, gradually replacing supernatural faith while placing trust in natural systems. The thematic change of ages from Pisces to Aquarius also includes more subtle shifts. The change from the mystical to the innovative reflects the need for priority of intellect over emotion. And the shift from compassion to humanitarian ethics means the idea of the good is shifting from instinctive empathy to a more logical and evidence-based analysis of consequences of action, addressing causes rather than symptoms.

The old Chinese theory of political change is based on the concepts of mandate of heaven and dynastic cycle. It provides a useful way to interpret political and social implications of the shift between Zodiac Ages. Dynastic change occurs when an old regime is corrupt and decadent, and as a result has lost the mandate of heaven, lacking legitimacy and ability to achieve necessary results. This theory of change then enables a transition strategy to emerge through leaders with dynamic and vigorous values for a new age, in tune with the needs of the time.

Seen in terms of Zodiac Ages, the dynastic transition from the Age of Pisces to the Age of Aquarius appears in the long-term shift from belief to knowledge as the driving theme of social organisation and legitimacy, pointing to a new divine covenant grounded in scientific knowledge, interpreting God as the stable order of the cosmos enabling human flourishing. This shift from the old myths of supernatural revelation involves similar types of change as dynastic change, seeing traditional belief as having become corrupted as an organising principle of society. The worst examples of false belief arise when people are led to accept delusional fantasy as true. Unfortunately, that syndrome of delusion is pervasive in supernatural and miraculous beliefs that contradict scientific knowledge.

Established beliefs should not simply be opposed and abandoned just because they are literally false. Old stories often contain the evolutionary seed of knowledge, with metaphorical and symbolic meaning that describes a hidden reality. For example, the Christian theme of death and resurrection is presented in John 12:24 as a parable for how seeds must die in the earth in order to be reborn and multiply. Knowledge is like a seed that can only grow and flourish by breaking free of the constraints of delusion that bind obsolete ways of thought. A Biblical metaphor for this Aquarian liberation is presented by Paul at Romans 8:21, "the creation will be delivered from the bondage of decay into the glorious liberty of the children of God."

The required paradigm shift is from a culture of descent to a culture of ascent, reflecting the natural climate cycle. This change can be studied in various ways, to see how ancient apocalyptic visions are compatible with this scientific framework, how old insights reflect unconscious or conscious awareness of the broad slow planetary patterns.

Indian Sources of Western Precession Myth

The paradigm shift envisaged in the theory of Zodiac Ages maps to the orbital framework of light and dark cycles driven by the perihelion position. It also maps to old stories about the structure of time that can be explored under the framework of comparative religion. Mythological cycle of Golden and Iron Ages are presented in ancient Indian Vedic stories of Yuga Ages. These Indian ideas flowed through to the mythologies of Babylon, Israel, Greece and Rome, correlating to the precession cycle of light and dark ages. The Vedic myth of Yuga Ages is presented in the ancient Indian texts the Mahabharata and the Laws of Manu. It describes a recurring cycle of light and dark over 24,000 years, with successive ascending and descending periods of 12,000 years.³⁶ Chaldeans, Zoroastrians, Greeks and probably Jews and Egyptians also believed in a 12,000-year cycle of the ages, illustrating

³⁶ <http://www.bibhudevmisra.com/> has a paper on ancient sources of the 24,000 year Yuga cycle.

how the Vedic Yuga framework provided the source mythology for the whole Indo-European language group.

This diagram of Perihelion Yuga Age Dates sets the old Vedic mythology against the insolation framework of modern astronomy. Linking the Yuga myth of light and dark to the orbital framework of insolation provides a way to assess the old stories against real physical cycles. The Yuga diagram here assigns dates for the planetary cycle using the conventional Yuga ratio of 4:3:2:1 for ascending and descending metallic periods of gold, silver, bronze and iron, timed against the actual climate cycle of precession of the perihelion. Zodiac Ages are also included in the diagram for reference.

The Yuga myths camouflage their match to the real slow cycles of ascent and descent of planetary light by multiplying the observed cycles by billions of years. Stripping off the zeros, the most plausible explanation for this correlation of myth and science is that this myth encodes long experience and observation of natural climate change in India. The accuracy of the numbers indicates that over tens of thousands of years of pre-literate oral culture, people remembered stories of the advance and retreat of ice and the rise and fall of sea level and encoded this knowledge in mythology.

The hypothesis that the myth of the Yuga cycle reflects extremely old memory of natural events coheres with emerging anthropological understanding of the use of long term memory in ancient cultures. The universal ancient practices of initiation into knowledge through memory of myth are well explained in *The Memory Code* by Lynne Kelly (2017). The hypothesis is that longstanding human culture dating back tens of thousands of years into the stone age assigned social power on the basis of initiation into ancestral knowledge. This framework of knowledge as power was replaced by the emerging hierarchical societies of the bronze and iron ages, where social power was now generated by the controllers of metal, agriculture and writing, and ancestral knowledge was marginalised.

This model of cultural evolution through memory of myth sets the secretive mystery practices that were encoded in stories in continuity with universal human cultural traditions dating back to the evolution of speech. These traditions are documented in the ancient Mediterranean world, and more widely such as in India, where ancient Vedic texts camouflage their real meaning. A key factor across all such initiatory systems around the world is that the real meaning of myths is concealed in symbolic allegory. For example, the Vedic claim that a Day of Brahma is 4.32 billion years long is a miraculous surface stories told to the public, and in reality serves as an entry parable and portal to the deep secret knowledge, rather like the myth of Kurma the Turtle mentioned earlier. This model of deliberate secrecy and oral transmission explains why the pervasive hints of ancient knowledge of precession are often not backed by explicit written explanation.

The Yuga framework of time as a slow cycle of light and dark ages appears to be extensively referenced in the Bible in exactly this camouflaged form, in ways that exhibit continuity with the pervasive ancient secret initiatic mystery traditions documented in *The Memory Code*. For example, the Bible describes the holy city as 12,000 units wide, equal to the Yuga measure, and encodes the precession of the North Celestial Pole from the constellation of Draco to Ursa Minor since 1000 BC in the fantastic image of the beast who acquires 'power, seat and authority' from the dragon (Rev 13:2). The coded description of the twelve jewels of the New Jerusalem (Rev 21) by old tradition symbolises the twelve zodiac signs in reverse from Pisces to Aries, matching the observed precession

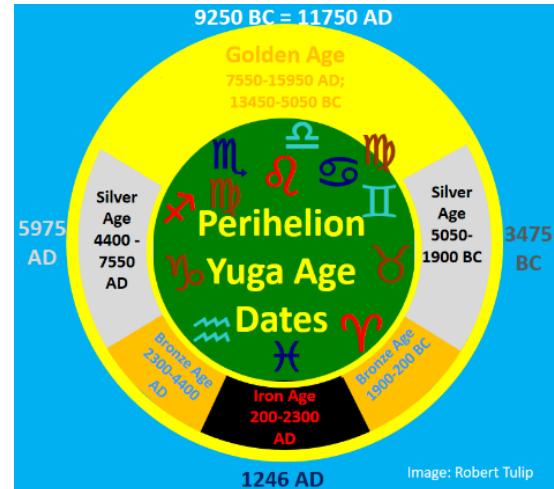


Image: Robert Tulip

cycle of Zodiac Ages.³⁷ The loaves and fishes miracle, which appears six times in the Gospels, more than any other story, on this model appears to symbolise the universal abundance arising from the creative shift into the New Age of Pisces, with the loaves symbolising Virgo through its main star Spica (the ear of wheat) and the fishes symbolising Pisces, the new signs of the equinoxes from the time of Christ.

A Bible code sets a day for God as a thousand years (2 Peter, Psalm 90:4). This has traditionally³⁸ been interpreted to mean a 7000 year theory of history from 4000 BC to 3000 AD, with 6000 years of fall followed by a thousand years of repair, modelled on the seven days of creation described in Genesis. This day-millennium theory provided the basis for the traditional premillennial belief that the Second Coming would occur at the beginning of the current millennium, before the seventh millennium/day.

These images encode ancient knowledge of the precession cycle. Jesus Christ symbolises the spirit of the Golden Age in the midst of the Iron Age, representing a life of truth and integrity in the midst of ignorance and lies. This model is like what the modern theologian Dietrich Bonhoeffer called “the beyond in the midst of our lives”.³⁹ The theory of the Golden Age as representing the spirit of Christ can be viewed as the true Bible Code, reflecting the vision of ancient mystery Gnostic secret societies who influenced the Gospels. This model accords with a reading of the New Testament as designed to initiate acolytes into knowledge of the slow patterns of astronomy as the great natural revelation of the orderly governing divine power in the cosmos.

Further examples of coherent astronomy concealed in the Bible include the four living creatures, the bull, lion, eagle and man, from Ezekiel 1 and Revelation 4, as representing the four cardinal constellations Taurus, Leo, Scorpio and Aquarius, and the tree of life and river of life from Revelation 22 as representing the zodiac stars and galaxy. The tree of life has twelve fruits, one for each month, and grows on both banks of the river, images that match no real tree, but exactly match the appearance of the zodiac in the night sky.

The Yuga myth expresses the real cyclic astronomical vision at the foundation of the orderly cosmology of ancient Indo-European mythology. Placing the astronomy of precession against the framework of Christian theology should begin with the more encompassing mythology of the Indian Vedic tradition of the Yuga cycle of Ages, to help us see how Gnostic traditions of astrology provided the basis for western myths.

Platonic Origins of The Christ Precession Story

The precessional model indicates that orthodox Christianity evolved from philosophical ideas about Jesus that have only survived in coded fugitive traces in the Bible. These ideas most plausibly arose from Gnostic Platonic schools. The Christ Precession hypothesis sees Christian origins in Gnostic philosophy and cosmology, syncretising Greek philosophy with Judaism. This syncretic vision defined Jesus Christ as the turning point of time, the beginning and end of successive zodiac ages, in a messianic theory to explain a terrestrial reflection of the observed heavenly movement of the equinox point from Aries to Pisces. This zodiac interpretation is not compatible with literal Christian orthodoxy about Jesus of Nazareth as a real historical person, and instead sees these stories as symbolic parables of hidden wisdom.

Given how astrology is despised and rejected, any effort to discuss such a framework remains a highly controversial and misunderstood reading among both religious and secular scholars. Esoteric Christian traditions were suppressed as heresy due to their incompatibility with literal myths about

³⁷ Revelation 21:16 encodes precession in the description of the holy city New Jerusalem.

³⁸ Millennial Day Theory: https://en.wikipedia.org/wiki/Millennial_Day_Theory

³⁹ Bonhoeffer, Letters and Papers from Prison

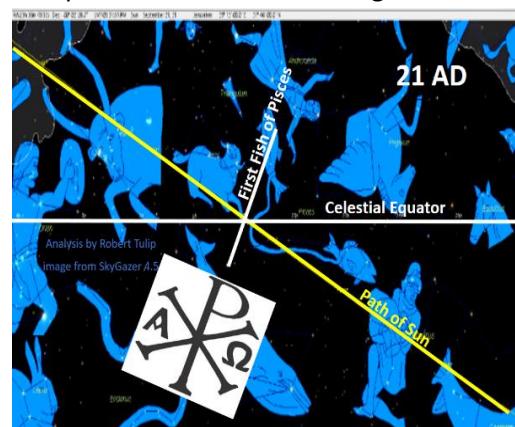
Jesus. Throne and altar entered a longstanding alliance under Christendom, requiring compliance, control and conformity, as part of the security apparatus of western empires, integrating church and state as a single power system with a single dogma. Such uniformity of belief had no place for the heterodox mystery traditions involved in seeing astronomical messages embedded in the Gospels.

It can be shocking to encounter advocacy for such a perspective that is so different from traditional interpretations, so I seek the reader's patience in working through the claim that a Platonic Gnostic cosmology based on observation of precession had primary responsibility for the origins of Christianity. The broad problems of Christendom theology with its simplistic myths of salvation through belief have been analysed from a range of angles. Modern scholars have discovered a range of contradictions and factual errors in the literal text of the Bible, a process of criticism that has expanded to a broad public suspicion of the church and of theology as an intellectual field. It is a hard question how Christianity could recover credibility given its broad disrepute for placing political stability and institutional loyalty above the human liberation and solidarity advocated by Christ in the Gospels. This recognition that Jesus Christ was fictional provides a simple and elegant way to resolve the numerous factual anomalies that surround the old paradigm of literal faith.

As we move now into a new age, the Age of Aquarius, the dogmatic limits of the former age need no longer apply. The story of precession enables us to analyse Christian myths in a new light. The core Gnostic observation is that the imaginative placement of Jesus Christ at the dawn of the Age of Pisces reflected his avatar role for the earliest Gnostic Christian Platonists, defining the turning point of time from BC to AD, the alpha and omega or first and last. This messianic myth of salvation reflected ancient knowledge of precession as the structure of time, as something that astronomer-priests could see and predict for centuries beforehand in a purely scientific way, and use as a basis for the idea that events on earth reflect events in heaven. The placement of the Second Coming of Jesus Christ at the dawn of the Age of Aquarius is equally something that could readily have been imagined by the authors of the Gospels, with the idea that the world of their day was not ready to engage with the ideas of Christ, which would take a full age to become accessible. The Gospel authors could see that the spirit of truth had to percolate through the world for the whole Age of Pisces before it could be understood, as reflected in Matthew 24:14 "this gospel of the kingdom will be preached in the whole world as a testimony to all nations, and then the end will come."

An excellent piece of evidence for how the precession hypothesis shows natural cosmology was used and then suppressed in the origins of Christianity is the major Christian symbol the Chi Rho Cross. There is a clear correlation between the Chi Rho Cross and the precessional hypothesis of the original Christ story, explaining the use of astronomical observation of the slow shift of the heavens as the foundational structure of Christian myth. The arms of the Greek letter Chi (χ) match exactly to the observable heavenly circles formed by the path of the sun and the equator. The Rho (ρ) matches the line of stars in the first fish of Pisces, the symbolic point of the new Zodiac Age started by Christ.

A Chi Rho Cross formed in the sky in 21 AD as these calculated celestial circles moved into Pisces is shown in this star map. Ancient astronomer-priests could have predicted this precession timing for centuries beforehand to within a decade, giving reason to suggest the prophecy of the advent of Christ in Daniel 9 could have reflected a combination of Jewish messianism with Babylonian and Greek astronomy.⁴⁰ The location of the imaginary cross in the sky between the constellations of Aries and Pisces is at the triple intersection point



⁴⁰ A typical traditional Christian explanation of the prophecy of Christ at Daniel 9 is at <https://jewsforjesus.org/publications/issues/issues-v05-n01/the-messianic-time-table-according-to-daniel-the-prophet/>

‘anointed by the lamb’ as depicted with the traditional zodiac figures, indicated by the pointing hoof of the Aries ram. The location, timing, purpose and method are entirely possible, simple and explanatory for the ancient astronomer-priests and philosophers who invented the original framework that became Christianity.

This star myth at the origin of Christianity, matching directly to the primary chi-rho symbol, is compelling and simple as an explanation of how Jesus was imagined as connecting time to eternity, humanity to divinity, and earth to the heavens. This hypothesis sets Christ in the heavens in a comparable way to how other constellations are associated with mythological figures, like Hercules and Andromeda, suggesting this source code was suppressed for the political reason of its clash with literal faith. This placement of Christ in the stars differs from the conventional constellations in that it reflects a dynamic moving analysis, placing the shape at a specific moment in time using complex astronomical calculations of precession, rather than a static depiction based on a star group alone.

Despite the complexity, this knowledge of precession was fully available to ancient astronomers. This star story explains this core symbol of the chi rho cross, based on Plato’s cosmology, as the basis for Christianity placing Christ on earth as in heaven. It is an example of the widespread ancient practice of telling stories about the stars, in this case using the motion of the point where the sun begins the natural year, a physical location in the sky that also relates to Jesus Christ through solar metaphors like Jesus as the light of the world (John 8:12) and the sun of righteousness (Malachi 4:2).

Big questions for this chi-rho star correlation as a symbol for precession include why nobody in modern times has noticed or discussed it, and what it could mean for us today. The ancient suppression of this Gnostic symbol accords with the overall precession hypothesis I have presented here. A simple literal surface reading of the Bible won out over any allegorical interpretation that would cast doubt on the true existence of Jesus of Nazareth. The apparent centrality of the cosmology of precession as defining the timing and nature of the advent of Christ made this entire type of discussion a heretical taboo and capital crime, to be expunged from all records by imperial edict.⁴¹

To reconstruct the most plausible account of how Christianity actually evolved requires a reverse engineering of the surviving texts using the stars as a blueprint. The consistency of the precession hypothesis with Platonic philosophy, in method, motive and opportunity, provides strong supportive evidence. Early Hellenistic Platonism was involved in creating Serapism in Egypt, Christianity in Israel and Mithraism in Babylon. Of these three competing memes, Christianity won the evolutionary struggle, and incorporated features of Serapism and Mithraism in the Constantinian settlement defining literal faith for Christendom half a millennium later. The original Christianity was a Platonic Gnostic mystery secret wisdom cosmic philosophy for initiates, constructing Jesus Christ as imaginative fiction, but this enlightened vision was taken over and corrupted by the literalist church. Therefore, recognition that Christ was a precessional myth represents a return to the original high pure form of Christianity.

Plato’s dialogue *The Timaeus* describes the creation of the World Soul in a way that aligns with the hypothesis that Christian Gnostic theology was grounded in observation of precession and evolved from Platonist philosophy. Plato describes observable planetary reality⁴² on the model of the letter chi, in a camouflaged explanation of the precession of the equinox, with the structure of reality presented as two circles joined together. This is traditionally read as an accurate coded description of the celestial equator and the path of the sun.⁴³ Plato called these two great celestial circles ‘the same’ and ‘the different’, appearing to reflect how the stars are always the same but they shift around the seasons by precession. The equinox points are the locations of the two opposite

⁴¹ The suppression of heresy by imperial edict is discussed at <http://www.jesusneverexisted.com/theodosius.html>

⁴² See Timaeus 34c-36c: [https://en.wikipedia.org/wiki/Timaeus_\(dialogue\)#The_Creation_of_the_World_Soul](https://en.wikipedia.org/wiki/Timaeus_(dialogue)#The_Creation_of_the_World_Soul)

⁴³ The ecliptic/equator reading of Plato’s chi in the sky is at

<http://www.perseus.tufts.edu/hopper/text?doc=Perseus%3Atext%3A1999.01.0180%3Atext%3DTim.%3Asection%3D36c>

intersections between the path of the sun and the celestial equator. Attribution of hidden knowledge of precession to Plato is why the Great Year is called the Platonic Year, and the Zodiac Age is called the Platonic Month.

The power of this celestial cross image in Western culture is shown by Dante's references in *The Divine Comedy* to the 'love that moves the sun and stars' as represented by 'four circles with three crosses'. This cryptic coded description of an X in the sky is like the heavenly X that Emperor Constantine allegedly invoked to establish Christendom in the Fourth Century AD, with the famous phrase 'in this sign you will conquer'.

The Biblical blind beggar 'Son of Timaeus' whose sight Jesus miraculously restores⁴⁴ serves by this interpretation as a parable for how the world had become blind to the deep truths of astronomy explained by Plato in *Timaeus*, and how initiation into the secret wisdom of Christ could restore this vision under the guidance of Gnostic philosopher kings. The blindness includes inability to see the real meaning of the chi-rho cross, which extends Plato's visual cosmology of the world soul to describe the incarnation of Jesus Christ, presenting a coded map of the equinox stars at the alpha and omega moment when the spring point crossed into Pisces.

My calculation, using the astronomy software SkyGazer 4.5, is that the equinox crossed the line connecting the stars of Pisces in 21 AD. This 'alpha-omega moment', in Christian terms the union of first and last, illustrates why the alpha and omega letters appear in the Chi-Rho Cross symbol as shown in the star map above, and why Christianity said the advent of Jesus Christ occurred under Pilate, at the exact time the equinox crossed into the new constellation marking the new age. This hidden celestial meaning was that Jesus as the 'p' or rho of the chi-rho symbolises the first fish of Pisces, while the chi or χ symbolises the slowly precessing intersection of the path of the sun and the celestial equator.

The concealment of ancient teachings on precession is understandable, given the repressive context of the Roman Empire. Any such discussion, presenting Jesus Christ as a necessary product of visual astronomical reasoning, would have been initially concealed by its Platonic advocates as a secret mystery, in line with their objective of growing the Christian movement by presenting the general public with highly simplified teachings and reserving more complex ideas for initiates. Then, as the literal Gospel story became more popular, the original Gnostic ideas were suppressed as heresy by the fallen world of Christendom. The Roman Empire, once it made Christianity the state religion, made any questioning of dogma or possession of heretical literature a capital crime as part of its incorporation of the literal gospels into its security and stability doctrine from the settlement of Constantine in the fourth century. This intimidating literal approach to faith remained the dominant social paradigm of western Christendom for over a thousand years, systematically suppressing and destroying alternative visions, and only starting to break down with the modern scientific enlightenment.

Based on these observations, the most plausible theory of Christian origins is that Jesus Christ was an entirely fictional invention produced by syncretism between Judaism, Platonic philosophy and other older religions. The core idea from Plato was that good philosophers should rule the world. As Hellenistic culture emerged to rule Israel and Egypt after Alexander's conquests in the fourth century BC, the Greeks first invented Serapis, a Greco-Egyptian proto-Christ figure designed to enable cultural interaction between Greeks and Egyptians, pictured here in an ancient image surrounded by the signs of the zodiac.

Greek philosophy also co-invented the religion of Mithraism, a Hellenised version of Persian Sun God worship.



⁴⁴ <https://www.biblegateway.com/passage/?search=Mark+10%3A46-52&version=CEV> Mark 10:46-52

In the iconic Mithras image of the Tauroctony, slaying the bull, Mithras is accompanied by the constellations of the celestial equator and surrounded by the signs of the zodiac, the sun and moon and the symbols of the rising and falling equinoxes, as shown in this reconstruction.⁴⁵



Mithraism appears to have focussed specifically on precession with its Time God, Aion, depicted with the head of a lion, body of a man and wings of an eagle, surrounded by six coils of a snake. The globe that Aion is standing on is often depicted with the X of the chi cross to show the precession of the equinox. The placement of the snake's head at the lion's forehead matches the point of the end of six ages at the dawn of the Aquarius/Leo Age.

Unfortunately, almost all Mithraic writing is lost, so direct ancient explanation of these symbols is not possible. Carl Jung's book *Aion* recognises this Mithraic heritage in exploring the link between Christ and the Age of Pisces.



My hypothesis of how these cosmic ideas found their way into Christianity is that the Jewish Old Testament prophetic tradition of hope for an Anointed Saviour (a 'Christ Jesus' in Greek) was combined with the Serapis and Mithras inventions to produce Jesus Christ, the anointed saviour of the world. Based on the calculation of precession by the renowned ancient Greek astronomer Hipparchus and possibly other earlier writers, the timing of the incarnation of Christ under Pilate was a necessary product of the astronomical vision of the turning of the ages of the zodiac.

The Gospels can be understood as a product of the Platonic doctrine of the Noble Lie. Plato said in *The Republic* that philosopher kings could rule the world by presenting the masses with fictional stories dressed up as fact. His example of the Noble Lie specifically drew from the old myth of the descent from a Golden Age into an Iron Age. Platonic philosophers after Alexander's conquests could have first helped to construct the myth of Serapis, the Greco-Egyptian synthesis of Zeus and Osiris, and then added Jewish prophecy and Babylonian cosmology into the Serapis myth to invent Jesus of Nazareth in the *Gospel of Mark*, together with themes from Homer's *Odyssey*, timed to match the zodiac age.

This process could only have occurred in secret, within Gnostic mystery societies, in keeping with Plato's Noble Lie agenda, aiming to use the Gospels to initiate newcomers into a secret mystery philosophy religion, in line with the traditional secrecy of such groups. However, the political context was that the Roman Empire was unwilling to allow secret philosopher kings. The church and state completely suppressed and distorted the actual Gnostic origins of Christianity, condemning all such discussion as heresy. Working with the empire in a successful alliance of altar and throne, the church replaced its original Gnostic Christian philosophy with the literal orthodox dogmas that achieved such enduring support throughout Christendom. So, we have an origin of Christianity in high philosophy, as a new paradigm of history completely at odds with received opinion.

Extensive similarities between the Gospels and the works of Homer support this Platonic Gnostic hypothesis. Studies by Dennis R. MacDonald, including *The Gospels and Homer* (2014), show how the Gospels drew on Homer's *Iliad* and *Odyssey*. This demonstration of Greek sourcing helps also to place the Gospels in the old secret oral tradition of knowledge as the source of power described in *The Memory Code*, a tradition that was overwhelmed by the structures of civilization.

⁴⁵ <http://www.museum-grosskrotzenburg.de/illustration/> David Ulansey has advanced the hypothesis that this key symbol of the hero killing the bull encodes the myth of the precession of the equinox from Taurus into Aries around 2000 BC.

The hypothesis of a Platonic Gnostic precessional origin for the Gospels coheres with the Christian idea of cosmic reason or 'logos' incarnating in the world as Jesus Christ. The theme of logos as embodied reason in Christ is a focus of Christian theology, and draws from the Greek Pre-Socratic philosophy tradition of logos as the eternal unifying word of the cosmos.⁴⁶ The Old Testament prophet Amos says at 4:13 that Christ is the mind of God causing the cycle of day into night.⁴⁷ In the New Testament, John 1 describes logos as the word made flesh, and the Pauline Letter to the Colossians says through Christ all things hold together. Rev 15:3 calls Christ the King of Ages. Such ideas present God as cosmic order, manifest on earth in the person of Christ.

This Christology of Christ as pre-existent Cosmic Reason coheres directly with ancient knowledge of precession of the equinoxes in a highly consistent and explanatory way, premised on Christ as allegory for the sun and seeing precession as an eternal astronomical logic. The ancient unity of astronomy and religion was organised by the hermetic principle of the Lord's Prayer 'on earth as in heaven'. This vision of history as reflecting the stars explains the motive for seeing the slow movement of the solar equinox point against the stars as the basis for mythological prediction. This hypothesis provides a simple and elegant explanation of Christian origins, and a sufficient basis for a scientific approach to Christian faith. The Gospel of Mark set the incarnation of Christ in the time of Pilate in order to accord with the visual observation of the stellar precession of the position of the sun at the start of the solar year into Pisces.

Cosmic reason appears as a key theme in Plato's *Republic* in his allegory of the sun as the symbol of logic. Socrates calls the sun the "child of goodness", proposing that just as the sun illuminates, bestowing the ability to see and be seen, so the idea of goodness illuminates the intelligible with truth. There are many points at which Jesus Christ serves as a similar logical analogy for the sun, for example in John's ideas that Jesus is the source of light and life, and in the passion story of dying and rising as metaphor for the solar cycles of the day and the year. There are therefore strong grounds to see Mark's Gospel as a practical product of the agenda presented by Plato in *The Republic*, constructing a new coherent myth of the world-soul based on precession, aiming to gain mass appeal in order to enable philosophers to rule the world.

If Christianity originated in Platonism in this secret solar symbolism, then the entire traditional framework of the growth of the early church from a man called Jesus of Nazareth is revealed as symbolic fiction, as an imaginative answer to the question of what the messiah would have done if he had actually lived, and of how messianic images can be presented in human terms. The Gospels indicate this hidden symbolic agenda when they state that everything Jesus says to the public is a parable while 'the secrets of the kingdom' are reserved for initiates.⁴⁸

A principal anomaly in the paradigm of literal Christianity is that the town of Nazareth did not exist until well after the time of Pilate, as far as reliable archaeology can show, as documented by Rene Salm.⁴⁹ Drawing from the hypothesis that Jesus was invented, the most plausible reason for Mark to say Jesus came from Nazareth is as political cover for the Nazarene and Nazirite Gnostic sects in Israel who were under pressure from Rome for sedition. Saying Nazarene meant "from Nazareth" rather than "member of the Nazarenes" could have provided an effective deflection when persecutors sought to suppress the early secret society that later became the Christian church.

Mark's descriptions of Jesus as the Nazarene make no sense if they mean one from Nazareth. For example at Mark 14:67 a servant girl says Peter was with the Nazarene, but such language was completely unknown at that time as meaning a person from Nazareth, which was not mentioned as a town in any lists from Galilee until centuries later. Similarly, the angel in the tomb at Mark 16:6

⁴⁶ Heraclitus: "Whoever hears the logos will say all is one."

⁴⁷ This interpretation of Amos 4:13 is based on the Septuagint translation of "mind" as "Christ" as shown at <https://www.biblestudytools.com/parallel-bible/passage/?q=amos+4:13&t=lx&t2=niv>

⁴⁸ eg Mark 4, Matthew 13

⁴⁹ <http://www.nazarethmyth.info/index.html>

calls Jesus the Nazarene, implying a far broader meaning than a person from an unknown hamlet. The description at Luke 4:16 of a synagogue at Nazareth is completely impossible.

The fictional origin of Jesus means that Gnostic imagination preceded orthodox literal faith as the basis of the story, reversing the popular assumption that the orthodox gospel ideas came before any Gnostic movement. The original Christian ideas were Gnostic, grounded in the integration of Greek philosophy and astronomy with Jewish prophecy and other traditions. The orthodox belief in the literal truth of the Gospels therefore only emerged as a corrupted political degeneration of a high Gnostic philosophy that was suppressed, forgotten, ignored and denied. The Gnostic origin of Christianity is what the Gospels and Psalms call the stone the builder rejected that will become the cornerstone, and what Isaiah 53 called the despised and rejected man of sorrows.⁵⁰

An implication of this hidden Platonic Gnostic origin for the Gospels is that writings now seen as representing Gnostic thought are only a shadow of the original high tradition that produced the Gospels and was then destroyed. The Platonic secret mystery philosophy was transmitted only from mouth to ear, with the written text serving as prompter and camouflage for the oral instruction. This traditional secret method of transmission of sacred knowledge is abundantly documented in other initiatory traditions. The secrecy proved almost completely vulnerable when attacked by a suppressing state religion armed with pen and sword.

The existence and nature of such an ancient precessional cosmology at the centre of Christian origins can be extracted from the surviving documents of the New Testament, explaining the most plausible way these texts could have come into existence. The Platonic theme of God as the orderly nature of the cosmos revealed in precession is the best explanation of the traces of the introductory ideas in the Gospels. We can only begin to understand how knowledge of precession influenced ancient culture by recognising the coherence of the argument that Jesus Christ was invented as a symbolic anointed messiah and avatar of the Age of Pisces.

If Jesus was in fact a fictional invention, then the general belief that he was a real person is a primary example of the susceptibility of human psychology to persuasive suggestion on a mass scale. This precessional interpretation is a way to help reform Christianity to be more honest and evidence-based, aiming for a coherent account of what the founders meant by seeing Jesus as representing God in the world. Part of the problem of cultural change described as the fall from grace into corruption includes how popular thought can be swayed by comforting delusional memes, with the pervasive willingness to believe myths such as the historical existence of Jesus Christ.

The precession code behind the Gospels and the Apocalypse appears to have been almost entirely lost from view, apart from concealed knowledge among artists like Leonardo Da Vinci, as discussed below. The principle that the Bible encodes a deeper truth of cosmic order was also glimpsed by adherents of literal Christianity, but acceptance of dogmatic faith diverted writers such as Sir Isaac Newton from seeing the symbolic intent and meaning. The scale of paradigm shift in recognising that the Gospels are fiction while seeing their original high message is immense.

The explicit evolution of Christianity to meet contemporary needs now requires open discussion about the possibility that the Gospels are entirely fictional, as a basis for a new reformation of Christian faith to cohere with reason. This hypothesis that Jesus was invented as a precessional myth labours under heavy social taboos, especially regarding the core role of ancient astrology in defining the identity of Christ as an idealised human reflection of the movement of the stars. Such ideas are shocking and unbelievable to those who have grown up into Christian belief. These ideas have few avenues for open discussion. Yet this recognition of the primacy of symbolic meaning provides the most compelling and elegant scientific hypothesis of the truth of Christian origins, part of the transformative new paradigm built around precession of the equinox.

⁵⁰ Psa 118:22, Matt 21:42, Isa 53:3

Precession Encoded in Art: Leonardo's Last Supper

Secret esoteric traditions appear to have continued to be aware of the deep astronomical knowledge of precession through the hidden byways of western mysticism. These Russian icons from the fifteenth century use the Chi Rho structure to depict the resurrection of Christ. The images also reflect, consciously or unconsciously, the observation of the precession of the equinox at the moment of the dawn of the Age of Pisces at the time of Christ, as depicted in the star map above of movement of the constellation of Pisces across the celestial equator from the time of Christ.



Use of the zodiac fish in Christianity is widespread, illustrating knowledge of the Age of Pisces. This secret tradition appears vividly in stories of ancient Christians drawing a fish in sand as a secret greeting. John 21:11, the catching of 153 fish, apparently encodes the Archimedean geometry of the square root of three⁵¹ used in the Christian "Ichthys" fish diagram.

The Gospel story of the Last Supper reads as stellar allegory, a parable seeing the upper room where Jesus ate with his twelve disciples as a symbol for the visible heavens. On this basis, the man with the water jug (Mark 14:13) who shows the way to the upper room appears as allegory for the Age of Aquarius, the sign of the water bearer, indicating that the author of Mark believed the water bearer would show the way, that general knowledge of the Biblical symbolism would not emerge until the end of the Age of Pisces and the dawn of the Age of Aquarius. This stellar code in the Last Supper supports the idea that the Gospels present Jesus as allegory for the sun, with the twelve disciples as allegory for the twelve lunar months and signs of the zodiac. This astral model is not fanciful speculation, as it was supported by one of the greatest geniuses of history, Leonardo Da Vinci.

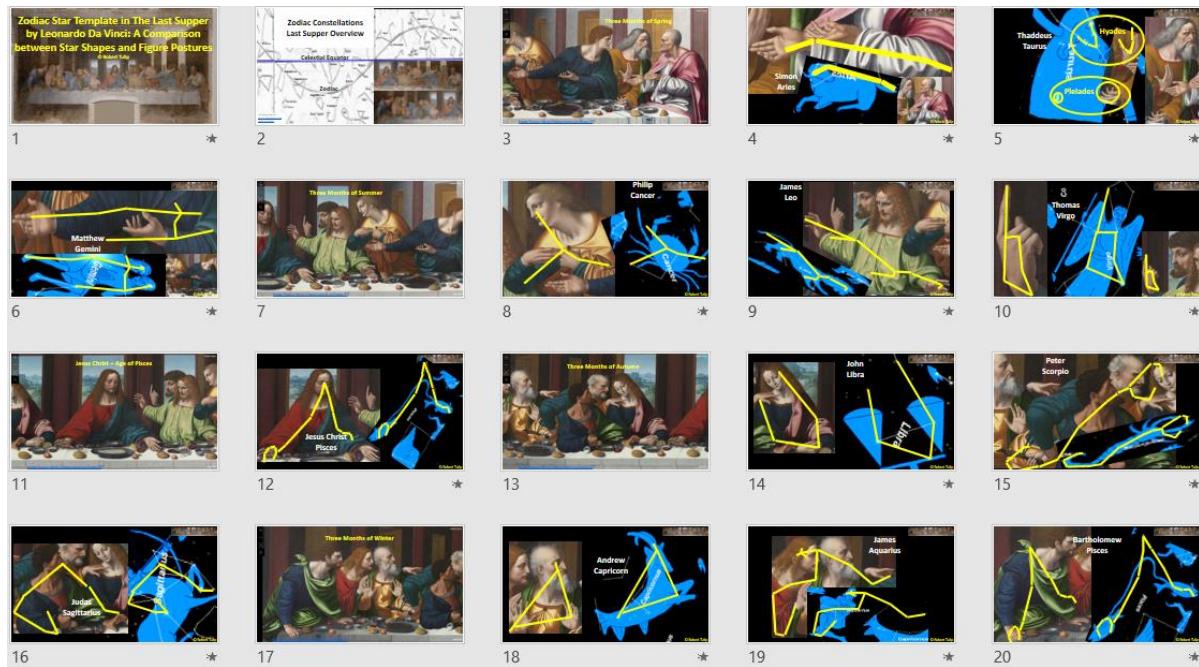
A remarkable instance of Pisces-Christ allegory is hidden in plain sight in The Last Supper by Leonardo Da Vinci. In this world-famous fresco in Milan, Jesus Christ is modelled on the constellation of Pisces and the twelve apostles are directly modelled in order from right to left on the stars of the zodiac, as demonstrated in the diagrams below.⁵² The lines drawn on each apostle are the same shapes as the main stars of the actual zodiac constellations, connecting the features of each of the twelve apostles with the same angles as the stars. The apostles incorporate zodiac shapes in the same order as in the sky from Aries to Pisces, reflecting Leonardo's core interest in accurate depiction of nature, concealed to respect religious prejudice.

Inspection shows detailed orderly similarities between visual observation of the zodiac star patterns and Leonardo's artwork. In this painting Leonardo applied his core maxim "man is the model of the world"⁵³ to a core myth of Western Civilization, the Passion of Jesus Christ. The scene depicts the betrayal of Christ by Judas at the Last Supper, with Leonardo secretly using the zodiac stars as the blueprint for the postures of each figure at this critical moment. The comparison of man and the world in the exemplary model of Christ and the sun provides the real Da Vinci code, in continuity with the ancient hermetic principle that microcosms reflect macrocosms, under the maxim 'as above so below'. Leonardo was steeped in this re-emerging scientific worldview through his intimate involvement in the rediscovery of ancient knowledge in the Florentine Renaissance.

⁵¹ <http://www.gjbath.com/SQR3.htm> illustrates how 153 serves as the width of the Ichthys Vesica Piscis.

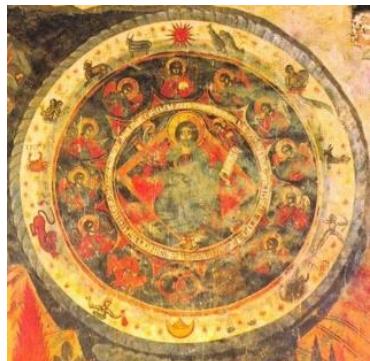
⁵² These diagrams of the star code in the Last Supper are solely my own work. Detailed animated versions demonstrating Leonardo's method in using the stars as his template are at

⁵³ <http://www.bbc.co.uk/science/leonardo/gallery/vitruvian.shtml> cites this quote, and says "Leonardo spent much of his life searching for connections between the structure of the human body, and other patterns in nature."

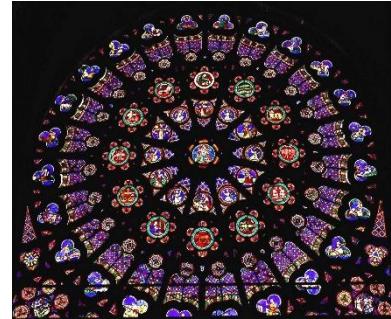


Leonardo's intent revealed by this use of the stars as the template for the Last Supper was to depict Jesus and the twelve as models of the observed path of the sun through the stars, presenting man as a model of the world. He thereby presents Christ at Easter as allegory for the whole natural order, symbolising the sun as it begins the natural year at the spring equinox in the stars of Pisces.

Depicting Christ as Pisces shows Leonardo's clear understanding of the astronomical observation that the equinox precessed into Pisces at the time of Christ, and of the astrological interpretation that the inner meaning of Christianity is that Jesus Christ is the Avatar of the Age of Pisces.



Leonardo's placement of the twelve in four groups of three depicts the traditional zodiac signs of each of the four seasons in order from right to left, spring, summer, autumn and winter, based on empirical observation of the constellations. In this method, Leonardo continued an ancient tradition of Christian linkage of the twelve apostles to the twelve signs of the zodiac, as seen in numerous Christian works of art. Cathedral windows such as this magnificent rose window from St Denis in France and this fourth century fresco from Svetitskhoveli Cathedral in Georgia depict Jesus surrounded by the twelve apostles and twelve zodiac signs. This zodiac theory is ancient, as shown by the comment from Church Father Clement of Alexandria⁵⁴ in the second century disputing the Gnostic view that the apostles replaced the twelve signs of the zodiac.



In looking at the extensive role of psychological and political suppression in religion, there is good reason to suggest Leonardo's secrecy about his interest in the new philosophy of the Renaissance with its revival of classical mystical ideas led him to conceal the cosmic template he used for The Last Supper. This artful camouflage shows the danger he perceived of openly discussing such heretical material under Christendom.

⁵⁴ <http://gnosis.org/library/excr.htm> Clement's work *Excerpta ex Theodoto* paragraph 25

The failure of anyone to notice and publicise Leonardo's depiction of the stars in the Last Supper for five centuries despite its obvious use and coherence with his broader hermetic views naturally makes my claim of a simple direct stellar correlation look astounding, requiring extraordinary evidence to support it. I simply invite readers to study each figure in order, and to compare them all to each successive star group in the zodiac, to see how the shapes and order illustrate Leonardo's use of the stars as his natural blueprint, and then to consider how intimately this analysis coheres with Leonardo's natural philosophy and his interest in accurate depiction of the natural world.

The mass psychological trauma inflicted by literal Christian dogma produced an inability to engage with the core religious symbolic method of using mythology to depict natural observations, as shown in the Last Supper. This blindness echoes the general failure to notice the original meaning of religious symbols, such as how the Chi Rho cross is a map of the precession of the equinox at the dawn of the Age of Pisces, and how the four living creatures map to the four corners of the visible heavens. These failures are highly repressive indicators of pervasive cultural blindness, like Jesus' accusation to his disciples when they failed to understand the miracle of the feeding of the five thousand, another obvious precession parable. Overcoming such blindness is a key element of the transition to a New Age of Aquarius.

The Age of Aquarius

The precession of the equinoxes from their current positions defines the New Age of Aquarius, shifting from the Old Age of Pisces and setting the temporal framework for a new cultural and scientific paradigm. Just as the annual cycle sees a slow increase of light in northern winter from December to January, so too the precessional cycle now sees a slow upward beginning. The current 4 January date of perihelion matches to the Vedic Yuga prediction of the upward bronze age, to the expectation of cultural and scientific transformation and renewal in the Age of Aquarius, and to the Christian vision of world redemption imagined as the Second Coming of Jesus Christ.

As a technical summary of the astronomy of the new age, the situation is that the 21K ice age cycle is caused by the combination of the 26K period of the twelve zodiac ages with the spin of the whole orbit. Mapping the Yuga to the perihelion shows how this actual 21K period of orbital light and dark is at the foundation of Indo-European mythology of Golden Age, fall and redemption.

Adding in the Zodiac Ages based on constellations shows the basic correlation between the Age of Pisces as a low point, matching the Iron Age, and the Age of Aquarius as a rising period, matching the ascending Bronze Age. The depth of the Iron Age, in Vedic myth the Kali Yuga, occurred by this measure in the year of least northern summer light, when the perihelion passed the December solstice in 1246 AD. The 1246 date is calculated by Jan Meeus in *Mathematical Astronomical Morsels*. By this measure, the last Golden Age occurred from when the equinox was in Virgo until it reached Gemini eight thousand years ago, and the next Golden Age will begin when the equinox reaches Sagittarius in four thousand years and continue for 8400 years.

This framework for the physics of the Age of Aquarius combines three orbital cycles, the planetary climate cycle of light and dark cycle with period about 21,000 years, the precession cycle itself with period 25,771 years, and the resonance with the solar system period of 179 years. The astronomy of Zodiac Ages as 'cosmic months' builds on the observation that the earth is entering a slow upward cycle of northern summer light. Set within the encompassing twelve-fold pattern in the structure of time of the solar system, we can see Zodiac Ages as a dynamic cosmic temporal structure. These temporal structures support the hypothesis that the shift of the March equinox point from its current position near the end of Pisces through the constellation of Aquarius over the coming two millennia reflects a time of slow cultural ascent, transforming dominant features of culture that evolved in the last ages of descent. However, this paradigm shift is by no means an easy or guaranteed matter, given the entrenched intransigence of the obsolete thinking that rules the world.

Hence the need to transform the old paradigm of Christianity, building upon its existing resources, and showing how the origins of Christianity embed the prediction of fall into corruption and transformation by grace in ways that cohere fully with the orbital planetary framework.

The paradigm shift involved in the change of Zodiac Ages matches well to the traditional themes that astrology sees in the signs. This shift is from mystical compassionate belief as the theme for the Age of Pisces to innovative humanitarian knowledge as the theme for the Age of Aquarius. The steady replacement of belief by knowledge provides the evolving framework for ordering society. This framework correlates directly with the theory of zodiac ages, with scientific progress and with the original concealed Biblical theory of time, presenting a vision of cultural evolution into a stable peaceful global civilization. The Age of Aquarius is bringing a planetary change of paradigm with a comprehensive transformation in human understanding of religion, science, politics and philosophy.