

## The Gas Giant Planets, the Great Year and the Holy City

The gas giant planets Jupiter, Saturn and Neptune form a conjunction cycle of 179 years, a period that is  $1/144^{\text{th}}$  of earth's long term temporal cycle known as the Great Year (25765 years). This astronomical structure of time also has a cultural resonance with the Bible's implicit use of the planetary structure of the Great Year as the framework for the Holy City. This paper provides new physical findings about the Great Year which show how this long time horizon provides a temporal framework for Christian cosmology.

The Great Year is the main long term astronomical cycle of the earth as the point of return of the stars to their previous position against the seasons. An orbital conjunction pattern of the planets Jupiter, Saturn and Neptune relates to this cycle, matching one twelfth of one twelfth of the terrestrial wobble period. Jupiter, Saturn and Neptune are in the same relative positions every  $178.9 \pm 0.2$  years. This period is  $1/144^{\text{th}}$  of the axial wobble period of the earth, the 25,764 year cycle known as the Great Year.

The JSN triple conjunction cycle of 178.9 years has duration one twelfth of the Zodiacal Age period of 2147 years, with twelve Ages forming a Great Year. Furthermore, each successive JSN conjunction occurs  $30^\circ$  along the ecliptic from the previous one, so the twelve related JSN events of each Zodiacal Age occur in each of the twelve successive zodiacal signs. This solar system cycle, with its apparent harmonic resonance with the earth's Great Year, also has implications for how the Great Year is embedded in mythology. This paper explains some of the science of this celestial harmonic and shows that in fact it is central to coherent explanation of old human visions of the structure of time.

The sexagesimal measurement of time on earth by the clock of 24 hours comprising 60 minutes is exactly reflected in the 35.8 year planetary conjunction cycle of Saturn and Neptune, which is one sixtieth of Earth's Zodiacal Age (2147 years), which in turn is one twelfth of the Great Year. By this time frame, with 36 years considered as a minute, a day is 4,320 years, a figure conventionally used in Vedic sources as one millionth of the Day of Brahma.

To illustrate how this  $1/12$  fractional relation seen in the ratio between the JSN cycle and the spin of the earth is embedded in life on earth, it may be speculated that the twelve-fold harmonic resonance between the earth-sun cycle and the JSN pattern is in fractal relation to the atomic structure of carbon. The twelve protons and neutrons of the carbon nucleus indicate the stability of the atomic weight of 12 ( $=3 \times 4$ ) as a mathematical structure of carbon life in the universe. The formation of carbon 12 by fusion of three helium 4 atoms through the stage of beryllium 8 in stars illustrates the natural stability of the number twelve, formed by three groups of four, at the origin of carbon life, and helps to justify further exploration of cycles of twelve periods such as those embedded in the relation between the Great Year and the solar system.

The Great Year is the period over which the position of the sun at the equinox precesses around the ecliptic to the same point in relation to the galaxy.<sup>1</sup> Precession of the equinox has been seen since ancient times as a long term cycle of the earth. Conventionally estimated at 25,800 years, more precise estimation of the Great Year indicates a period around 25,764-5 years, with uncertain rate of change. A rough estimate of 25,920 years ( $5 \times 3^4 \times 2^6$ ) is also used for the Great Year, as the closest exact multiple of small primes and the sum of angles of twelve cubes. The Zodiacal Age, defined as the period in which the sun precesses through one sign of  $30^\circ$  arc, is actually 2147 years, although it is often conventionally given as 2160 years, the sum of the angles of a cube.

At least 99% of the precession effect is due to the gravitational torque of the moon and the sun on the equatorial bulge of the earth. The remaining contribution, less than one percent, is due to the gravitational effect of the other planets. Lunisolar torque causes the axis of the earth to wobble like a spinning top, causing the slow reverse movement (precession) of the equinox. The speed of precession is changing very slightly, but the relatively short period in which accurate data is available means that the rate of change is not fully known. Calculating the precise effect of the approximately 1% of precessional torque resulting from gravitational effects of other planets and other factors is complex, with a range of models predicting the future rate of change of the speed of precession.

In examining the relation of other planets to the earth's precession, it is noteworthy that the three largest planets, Jupiter, Saturn and Neptune, come into conjunction about every 178.9 years, with variance 0.2 years. This period is  $1/144^{\text{th}}$  of the Great Year, and so is less than 180 years by the same amount (0.61%) as the Great Year is less than the prime multiple number 25920 years. The JSN triple conjunction cycle period contains nine Jupiter-Saturn conjunctions every 178.7 years, five Saturn-Neptune conjunctions every 179 years, and 14 Jupiter-Neptune conjunctions every 178.9 years. While these numbers do not indicate a simple orbital resonance between earth and the gas giants, like that of Jupiter's moons or of Neptune and Pluto, they are very close to a  $1/144^{\text{th}}$  fraction of the earth's spin wobble. The close match between these three conjunction periods means they recur in families and can be considered a main temporal marker for the solar system.

The 179 year JSN cycle has not been previously noted to my knowledge. However, Dane Rudhyar, in his book *Astrological Timing*, defined the period of 180 years as 'the house of the age' based simply on the division by 12 of the 2160 year estimate of the Zodiacal Age, a theme also investigated by Charles Carter. Rudhyar was not aware that this periodic division of the earth's Zodiacal Age is also marked by the twelve JSN conjunctions, one in each sign. The JSN conjunctions each occur  $30^\circ$  past the position of the last one, so the twelve 'houses' of an Age each contain a JSN conjunction in a different one of the twelve signs. The 0.2 year difference between the JS and the JN/SN periods means the family of conjunctions over an age drifts into and out of alignment, like the lunar eclipse Saros Cycle. The table below shows all JSN conjunction dates over 2700 years through the Age of Pisces and into the Age of Aquarius.

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<sup>1</sup> Other long term cycles of the earth discovered by Milankovich can also be factored in to more complex models, but are not considered further here.

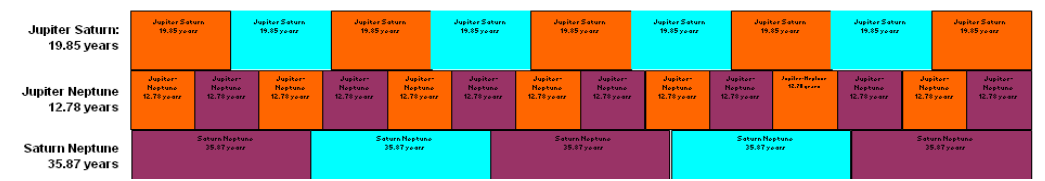
This table presents all conjunction events of Jupiter Saturn and Neptune from 54 AD to 2777 AD. Each line of dates shows the conjunction points over 179 years, equal to the Great Year period of 25764 years divided by 144, beginning with the year of the triple conjunction in each sign. Two overlapping Zodiacal Ages of 2147 years are shown with two successive families of JSN cycles centred in 769 and 1524 AD. The table is included to illustrate the calendar regularity of the JSN cycle over the millennia.

**Jupiter Saturn Neptune conjunctions: 179 year cycles**

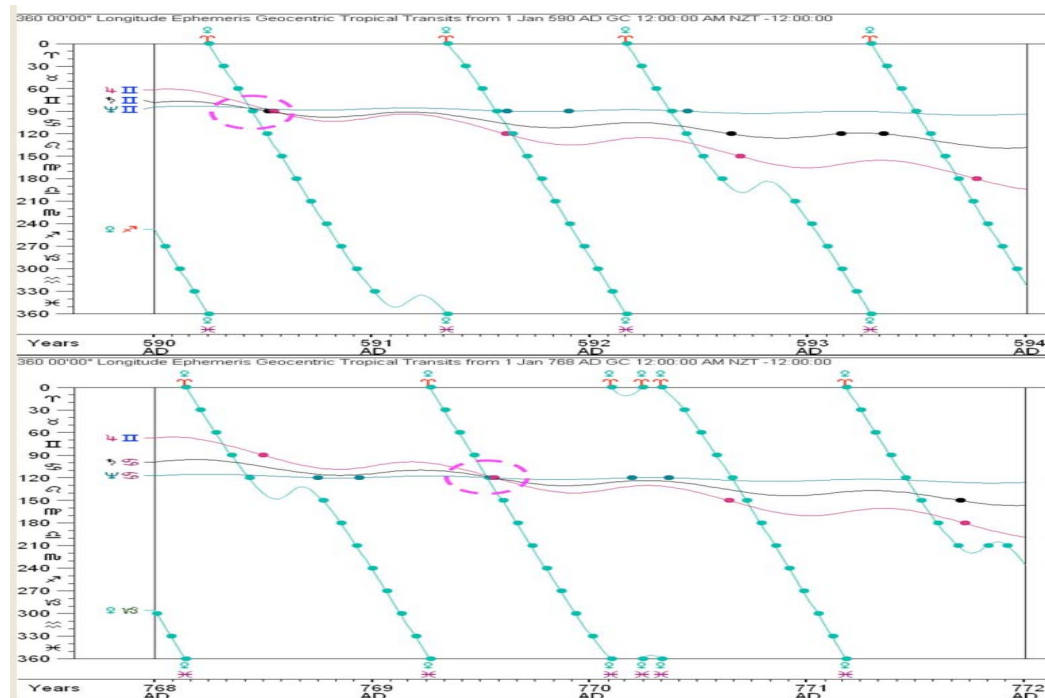
JSN Conjunction Year and Sign	Year																																				
<b>Aries</b> 53	53	63	68	72	78	82	88	92	98	102	108	112	118	122	128	132	138	142	148	152	158	162	168	172	178	182	188	192	197	202	207	212	217	222	227	232	
<b>Taurus</b> 232	232	242	247	252	257	262	267	272	277	282	287	292	297	302	307	312	317	322	327	332	337	342	347	352	357	362	367	372	377	382	387	392	397	402	407	412	417
<b>Gemini</b> 411	411	421	426	431	436	441	446	451	456	461	466	471	476	481	486	491	496	501	506	511	516	521	526	531	536	541	546	551	556	561	566	571	576	581	586	591	
<b>Cancer</b> 590	590	595	600	605	610	615	620	625	630	635	640	645	650	655	660	665	670	675	680	685	690	695	700	705	710	715	720	725	730	735	740	745	750	755	760		
<b>Leo</b> 769	769	774	779	784	789	794	799	804	809	814	819	824	829	834	839	844	849	854	859	864	869	874	879	884	889	894	899	904	909	914	919	924	929	934	939		
<b>Virgo</b> 948	948	953	958	963	968	973	978	983	988	993	998	1003	1008	1013	1018	1023	1028	1033	1038	1043	1048	1053	1058	1063	1068	1073	1078	1083	1088	1093	1097	1102	1107	1112	1117		
<b>Libra</b> 1127	1127	1132	1137	1142	1147	1152	1157	1162	1167	1172	1177	1182	1187	1192	1197	1202	1207	1212	1217	1222	1227	1232	1237	1242	1247	1252	1257	1262	1267	1272	1277	1282	1287	1292			
<b>Scorpio</b> 1296	1296	1301	1306	1311	1316	1321	1326	1331	1336	1341	1346	1351	1356	1361	1366	1371	1376	1381	1386	1391	1396	1401	1406	1411	1416	1421	1426	1431	1436	1441	1446	1451	1456	1461			
<b>Sagittarius</b> 1485	1485	1490	1495	1500	1505	1510	1515	1520	1525	1530	1535	1540	1545	1550	1555	1560	1565	1570	1575	1580	1585	1590	1595	1600	1605	1610	1615	1620	1625	1630	1635	1640	1645	1650			
<b>Capricorn</b> 1664	1664	1669	1674	1679	1684	1689	1694	1699	1704	1709	1714	1719	1724	1729	1734	1739	1744	1749	1754	1759	1764	1769	1774	1779	1784	1789	1794	1799	1804	1809	1814	1819	1824	1829			
<b>Aquarius</b> 1843	1843	1848	1853	1858	1863	1868	1873	1878	1883	1888	1893	1898	1903	1908	1913	1918	1923	1928	1933	1938	1943	1948	1953	1958	1963	1968	1973	1978	1983	1988	1993	1997	2002	2007	2012		
<b>Pisces</b> 2022	2022	2027	2032	2037	2042	2047	2052	2057	2062	2067	2072	2077	2082	2087	2092	2097	2102	2107	2112	2117	2122	2127	2132	2137	2142	2147	2152	2157	2162	2167	2172	2177	2182	2187			

<b>Libra</b> 629	629	634	639	644	649	654	659	664	669	674	679	684	689	694	699	704	709	714	719	724	729	734	739	744	749	754	759	764	769	774	779	784	789	794	799
<b>Scorpio</b> 888	888	893	898	903	908	913	918	923	928	933	938	943	948	953	958	963	968	973	978	983	988	993	998	1003	1008	1013	1018	1023	1028	1033	1038	1043	1048	1053	
<b>Sagittarius</b> 1166	1166	1171	1176	1181	1186	1191	1196	1201	1206	1211	1216	1221	1226	1231	1236	1241	1246	1251	1256	1261	1266	1271	1276	1281	1286	1291	1296	1301	1306	1311	1316	1321	1326		
<b>Capricorn</b> 1445	1445	1450	1455	1460	1465	1470	1475	1480	1485	1490	1495	1500	1505	1510	1515	1520	1525	1530	1535	1540	1545	1550	1555	1560	1565	1570	1575	1580	1585	1590	1595	1600	1605		
<b>Aquarius</b> 1724	1724	1729	1734	1739	1744	1749	1754	1759	1764	1769	1774	1779	1784	1789	1794	1799	1804	1809	1814	1819	1824	1829	1834	1839	1844	1849	1854	1859	1864	1869	1874	1879	1884	1889	
<b>Pisces</b> 2003	2003	2008	2013	2018	2023	2028	2033	2038	2043	2048	2053	2058	2063	2068	2073	2078	2083	2088	2093	2098	2103	2108	2113	2118	2123	2128	2133	2138	2143	2148	2153	2158	2163	2168	
<b>Aries</b> 2182	2182	2187	2192	2197	2202	2207	2212	2217	2222	2227	2232	2237	2242	2247	2252	2257	2262	2267	2272	2277	2282	2287	2292	2297	2302	2307	2312	2317	2322	2327	2332	2337	2342	2347	
<b>Taurus</b> 2361	2361	2366	2371	2376	2381	2386	2391	2396	2401	2406	2411	2416	2421	2426	2431	2436	2441	2446	2451	2456	2461	2466	2471	2476	2481	2486	2491	2496	2501	2506	2511	2516	2521	2526	
<b>Gemini</b> 2540	2540	2545	2550	2555	2560	2565	2570	2575	2580	2585	2590	2595	2600	2605	2610	2615	2620	2625	2630	2635	2640	2645	2650	2655	2660	2665	2670	2675	2680	2685	2690	2695	2700	2705	
<b>Cancer</b> 2719	2719	2724	2729	2734	2739	2744	2749	2754	2759	2764	2769	2774	2779	2784	2789	2794	2799	2804	2809	2814	2819	2824	2829	2834	2839	2844	2849	2854	2859	2864	2869	2874	2879	2884	
<b>Leo</b> 2898	2898	2903	2908	2913	2918	2923	2928	2933	2938	2943	2948	2953	2958	2963	2968	2973	2978	2983	2988	2993	2998	3003	3008	3013	3018	3023	3028	3033	3038	3043	3048	3053	3058		



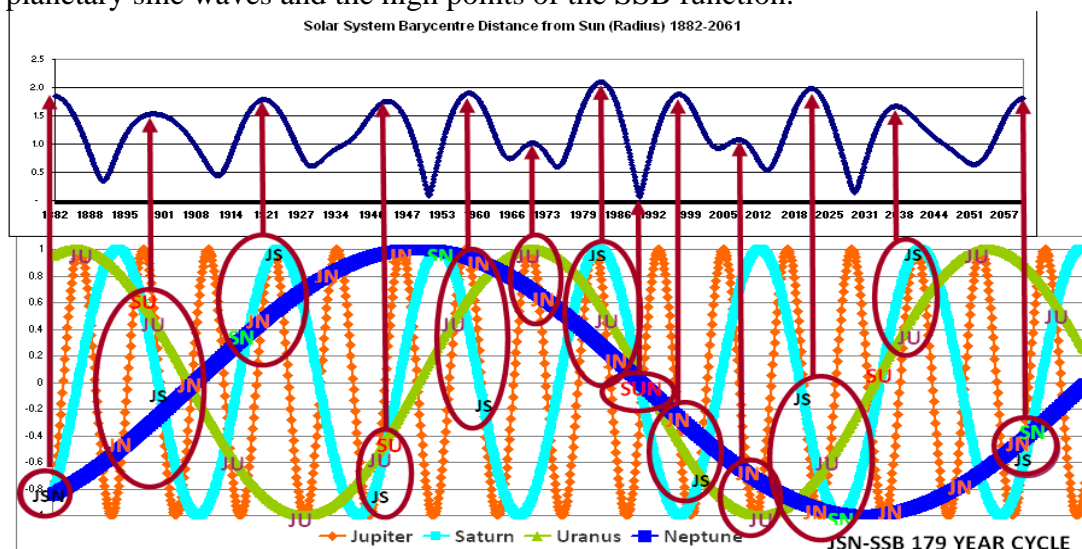
JSN were most exactly conjunct from 17-20 July 769 AD at the Cancer-Leo cusp (and then again in 1524 in Pisces in the next family). The following two diagrams illustrate the JSN conjunctions in 590AD and 769 AD. We see here how the JS conjunction point moves over the 179 year difference between the two diagrams to a point closer to the JN and SN points, with Venus also shown. The first chart shows the conjunction occurring between Gemini and Cancer, while the second shows it between Cancer and Leo, illustrating the 30° of arc between any two successive JSN events.



The 2147 year period of the Zodiacal Age is equal to 60 Saturn-Neptune conjunctions (35.8 years) and 108 Jupiter-Saturn conjunctions (19.85 years). The sexagesimal order of the sixty seconds and minutes of our clock is embedded in these larger temporal structures of the solar system. The ratio of the 35.8 year Saturn-Neptune cycle to the Age equals the ratio of the second to the minute and the minute to the hour. This means that the sun's precession by one degree of arc every 71.6 years precisely matches two Saturn-Neptune cycles.

Analysis of the JSN cycle against the overall unitary patterns of the solar system reveals that this cycle is a dominant temporal structure of the solar system. This can be demonstrated by considering the overall wave function of the system mass. The 'pulse' of the solar system, by loose analogy with the pulse of the biological heart beat, can be defined as the wave function that combines all the gravitational forces within the system into a single unified result. Such a pulsing function can be seen in the combination of all the mass factors of the system into the single function of the Solar System Barycentre. The SSB, or centre of mass, is the point at which all the mass of the whole system balances, like the centre of gravity or balancing point of a plane surface. Because 99.8% of the mass of the solar system is in the sun, the SSB is always within one solar diameter of the sun. A correctly weighted scale model of the solar system, a device known as an orrery, could always be supported at a single point within one solar diameter of the sun, on the side of the heaviest planets. The SSB moves around the galaxy in a perfect arc, with the sun moving from side to side of it as a function of the orbit of the planets.

The sun moves in relation to the SSB in a pattern as shown in the diagram below. The analogy to a pulse is seen in the upper wave function, like the product of an electrocardiogram. The upper part of this diagram shows the SSB distance to the sun over 179 years from 1882 to 2061, while the lower part shows the corresponding gas giant orbital positions represented as sine waves. As discovered by Isaac Newton, the high points of the SSB wave occur near Jupiter-Saturn conjunctions, and the low points near JS oppositions. There is close alignment between the JS meeting points in the planetary sine waves and the high points of the SSB function.

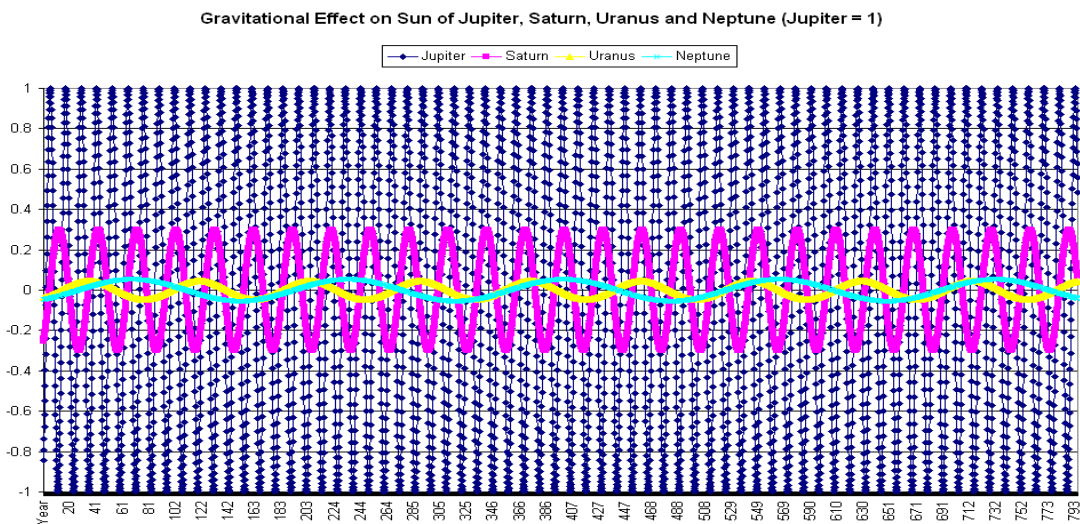


The primary observable SSB wave shown here, with period almost 20 years, is caused by the Jupiter-Saturn cycle. Every 19.85 years, Jupiter and Saturn are conjunct, marking the points at which the SSB is furthest from the Sun, at the peaks of the SSB

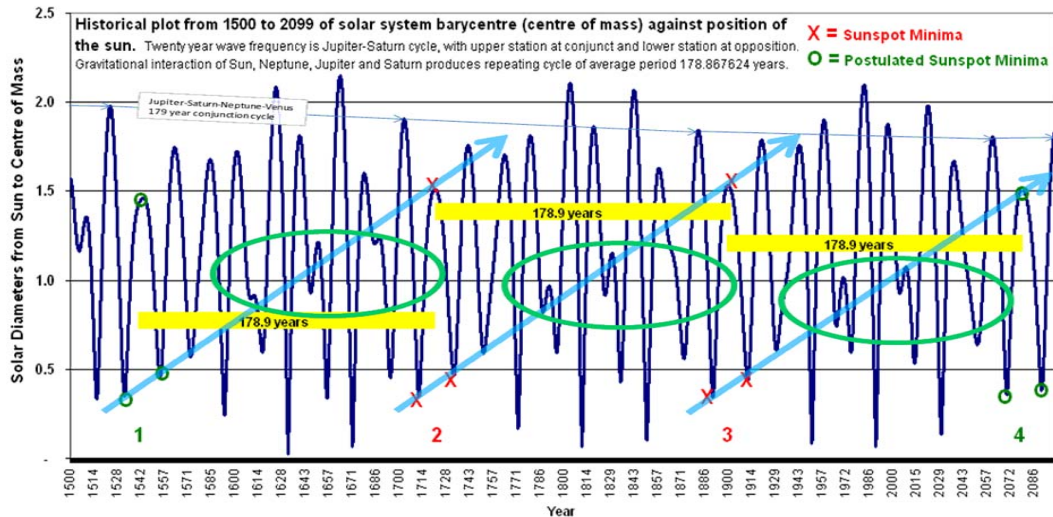
wave function. Recently these peaks have occurred near 2000, 1980, 1960, 1941, etc. Near the 9.9 year half way point of the JS cycle, when Jupiter is opposite Saturn (2010, 1990, 1970, etc), the SSB is close to the centre of the sun. This 19.85 year JS wave period can be defined as a primary pulse of the sun, marking the wave function peaks and troughs. The departure from this simple JS pattern seen in the SSB wave function is caused by the effect of the other planets.

The regular twenty year SSB JS wave pattern also obeys a longer 178.9 year JSN pulse formed by nine JS cycles. Neptune modulates this wave function of the solar system. Nine JS cycles take almost exactly the same time as five Saturn-Neptune cycles and fourteen Jupiter-Neptune cycles. These three planets therefore combine to produce a principal ‘structure of time’ for the solar system. The diagram above illustrates how the decomposition of the solar system barycentre wave function maps by Fourier Transform to the orbital sine curves of the four gas giants, including Uranus. Study of this diagram indicates that groups of planetary conjunctions pull the SSB maxima and minima forward and back in time. This is a purely mathematical illustration of physical calculations of mass in a stable periodic system governed by the operation of the law of gravity.

The JS wave function contains a repeating pattern every nine cycles due to Neptune being in the same relative position to Jupiter and Saturn every 179 years. The distance from the SSB to the sun has a near-exact 179 year pattern, gradually drifting due to the slight (0.2 years) gap between the 179 year return periods of JSN, and the smaller influence of the other planets.



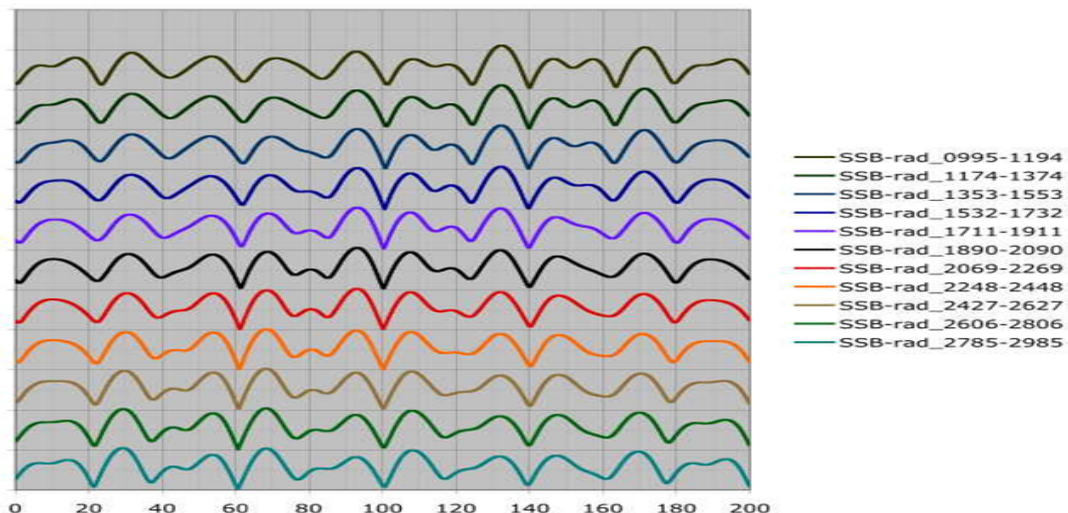
This diagram shows the relative effect of the four gas giants within the SSB wave function by illustrating the relative orbital speed and the gravitational effect at the sun of the gas giants over 780 years. While the centre of mass and gravity are different, for this purpose they are comparable. It shows that Uranus and Neptune have near equal gravitational effect on the Sun. Uranus does not share Neptune’s repetitive clustered relation with Jupiter and Saturn, and so Uranus is not resonant with Jupiter and Saturn in a similar repeating pattern, except over much longer periods.



Here we see the SSB cycle over four periods, with similarities shown by arrows and ovals, with some speculation on sunspot minima.

Having seen how this 179 year wave function is constructed, we can now look at how it repeats in successive iterations. The diagram below, provided by Carl Smith<sup>2</sup>, shows the long term stability of the 179 year JSN orbital pattern over eleven successive cycles over 1990 years from 995 AD to 2985 AD. The present moment, 2009, is at year 120 of the sixth line (black). As shown also in the SSB charts above, the small bump in the graph at the 120 year point every 179 years corresponds to a Jupiter-Neptune conjunction half way between two Jupiter-Saturn conjunctions. It can readily be seen here that the shape of each successive wave is similar, with slow changes gradually moving through from wave to wave. These small changes between each line seem to be primarily a result of the shift of Uranus against the other three gas giants. Plotting the SSB with any period other than 179 years would not produce such striking repetitive patterns.

SSB distance as 179y cycles 995-2985 AD

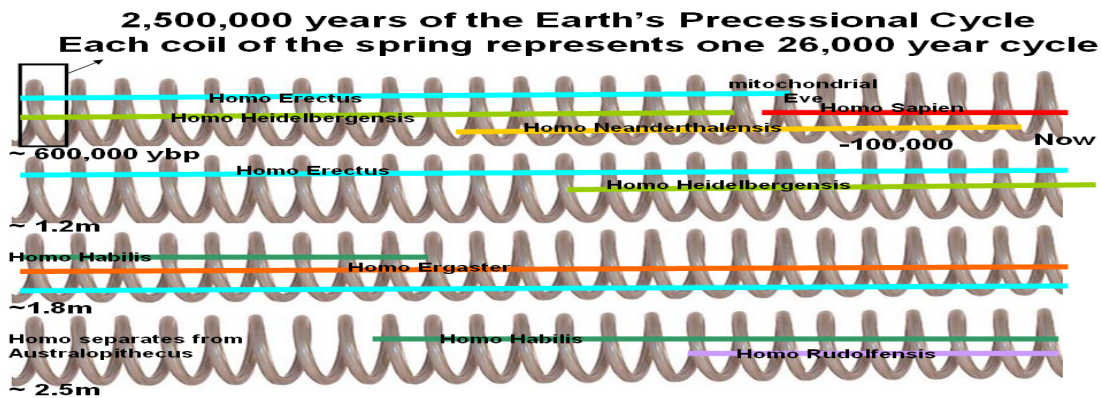


It is likely that this stable configuration has been largely unchanged for billions of years, given the isolation of the solar system within the galaxy. Scientific conjecture suggests that Neptune was inside the orbit of Uranus at the dawn of the solar system,

<sup>2</sup> [http://plasmareources.com/ozwx/SSB/images/SSB\\_179y\\_cycles\\_995-2985AD.jpg](http://plasmareources.com/ozwx/SSB/images/SSB_179y_cycles_995-2985AD.jpg)

and moved out to its present orbit some 4 billion years ago, causing an event known as the massive cosmic bombardment. The earth-moon system has been stable since then, suggesting that the 25765 year period of the earth's axis wobble has barely changed since the dawn of life.

This next diagram shows the small fraction of time, 0.06% of the history of life, since humanity split from Australopithecus some 2.5 million years ago, set within the stable



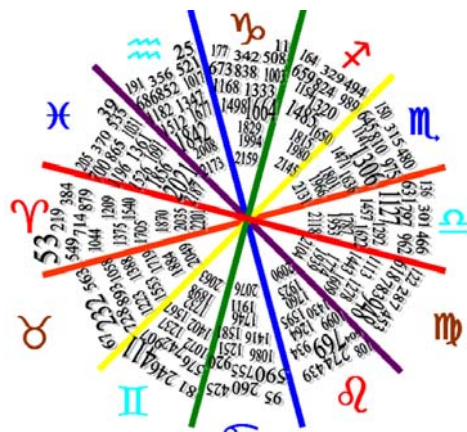
cycle of the Great Year. About one hundred of these diagrams would be required for each of the dozen times the earth has orbited the galaxy with the sun. The purpose of this diagram is simply to illustrate deep time, with the cycle of the Great Year a stable pattern that has recurred about one hundred times since our human ancestors evolved, and nearly 200,000 times since life first emerged. Against this stable pattern of precession, the weak gravitational cycles of the gas giants, summed in the SSB wave function, have been a permanent part of the background environment as the context for the evolution of life. The wobble of the earth is like a spinning top, with interactions between Jupiter and the other outer planets functioning almost like a whip, aligned to the tempo of the top in harmony with the barycentric wave period.

So far, this paper has outlined empirical correlations between the cycles of the earth and the gas giants. These are of purely astronomical interest as a way to understand regular periodic patterns for our planet. A question raised by this material, introducing a more speculative note, is whether this observation has any effect. One way to explore this is to ask whether the slow cycle of the Great Year has a shape, possibly analogous by progression to the shape of the annual and daily rhythms of light and dark. Such a claim appears in Vedic mythology, with claims that the Yuga cycle of light and dark over 24,000 years, with its suggested low point at about 500 AD, is a function of the precession of the equinox. Joseph Campbell, the famous scholar of mythology, has noted the presence of the 2160 year period and its multiples in a range of mythologies, including the period from Adam to Abraham in the Bible, the Vedic Yuga, and four sets of the 540 gates of the Norse Valhalla.



Valhalla is an interesting cosmic example of how planetary cycles are coded in to mythology. The 540 gates of Valhalla sit atop the world tree Yggdrasil. In terms of the Jupiter-Saturn cycle of almost 20 years, the world tree can be seen as a braided triple helix of Jupiter and Saturn, as indicated in this photograph of a temporal model of the solar system.

In the model, the sun is the central pole, surrounded by Jupiter, Saturn and Neptune in their orbits over 179 years. Every sixty years, seen in the coloured woollen ladder in the upper left of the photograph, Jupiter and Saturn meet again about ten degrees on from their third last meeting. Put together, with their conjunctions as the rungs of a ladder in space, Jupiter and Saturn form three braided ladders which come together with Neptune every third rung after 179 years. In the diagram the green-red-blue-orange coloured thread connects JS conjunctions. The purple thread = Jupiter-Neptune conjunctions, and black thread = Saturn-Neptune. Three sets of three JS rungs evenly spaced around the circle form three nine rung ladders every 537 years, or every 540 years if 20 years is considered the base period. These ladders appear in the myth of Odin, Baldur and the Norns as the sacrificial rope cross of the world tree Yggdrasil.



Neptune through the signs and houses of the Age of Pisces

The model above of the solar system can be used as a permanent calendar to find the positions of Jupiter, Saturn and Neptune at any time using the key shown here to Neptune through the signs and houses of the Age of Pisces. Year of entry of Neptune into each sign makes a spiral from the edge to the centre. This wheel can be placed on the solar axis of the model to identify planetary sign positions at a given date, also matching the table of dates given before.

Also known as the tree of life, Yggdrasil is at the key to salvation in the Bible books of Genesis and Revelation, where it marks the theme of union with God. The discussion above suggests a prima facie connection between the tree of life and the Great Year.

Looking further into Biblical references to the Great Year, we see that Jesus makes frequent references to the Age in the New Testament. Conventionally translated as 'the end of the world' the Biblical phrase 'the end of the age' is better understood in reference to the Age of Pisces. Jesus speaks of the end of the age, and describes the loaves and fishes, symbols of the Virgo-Pisces stellar axis of the then-new age of the Pisces the fish, as the source of universal abundance.

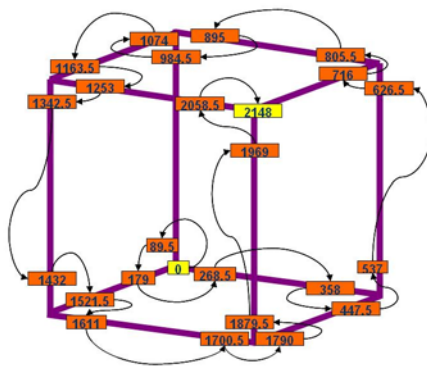


Most vividly, the Revelation of Saint John encodes precession in the structure of the holy city, as shown in this temporal model. Described in the Bible as 12,000 stadia across and 144 cubits around, the wall of the holy city corresponds in width to the 12,882 years from one pole of the precession cycle to the other, and in circumference to the 144 x 179 year periods of the Jupiter-Saturn-Neptune conjunction cycle as the period of the Great Year. These correspondences are marked in the diagram.

Most directly, the twelve foundation stones of the holy city are described in Revelation 21:19-20 as twelve jewels. By old tradition, the twelve jewels symbolise the twelve signs of the zodiac in reverse from Pisces to Aries, matching the twelve ages from the Age of Pisces that began with Christ, through all the signs around the ecliptic, to the next Age of Aries in over 20,000 years time from now.

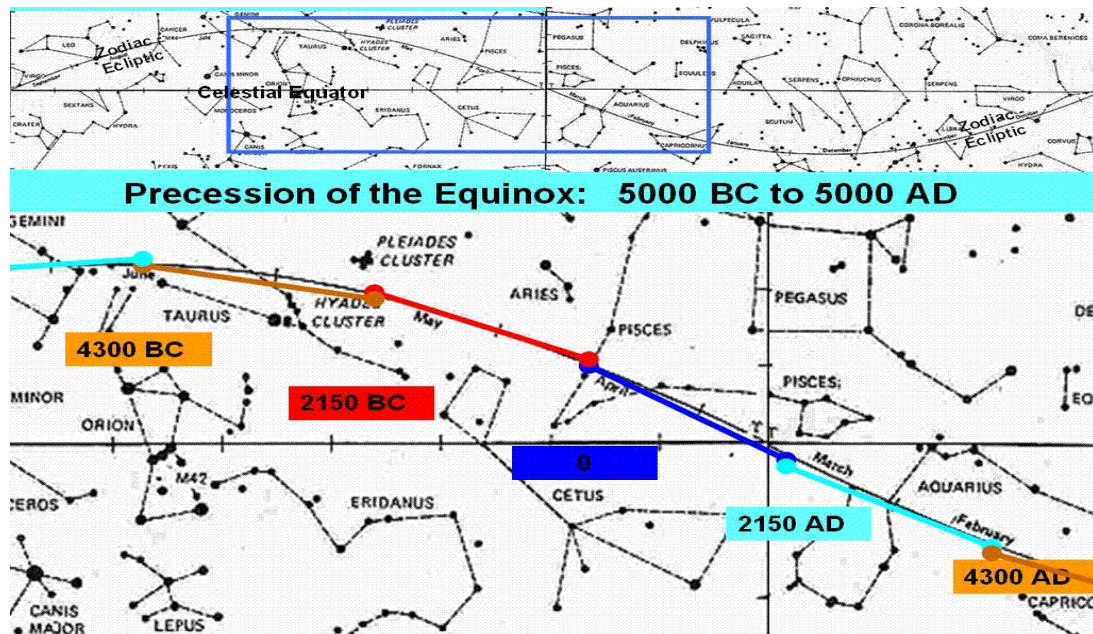
Jesus speaks of a man with a water jug in Jerusalem on Palm Sunday, an allegorical reference to the coming Age of Aquarius, the age of the water bearer. Aquarius is symbolised thematically by innovative humanitarian knowledge, suggesting a central moral goal for evolution in the shift of the spirit of the age. In these speculative thematic terms, we can similarly consider the Age of Pisces against the Piscean symbolic themes of mystical compassionate belief, with the current shift from Pisces to Aquarius symbolised in the slow shift from belief to knowledge as a central governing principle for human life.

Angle	Year
1	89.48911 89.48911
2	178.9722 90
3	268.4563 71.58989
4	357.9444 72
5	447.4306
6	536.9167
7	626.4028
8	715.8899
9	805.375
10	894.8611
11	984.3472
12	1073.833
13	1163.319
14	1252.806
15	1342.292
16	1431.778
17	1521.264
18	1610.75
19	1700.236
20	1789.722
21	1879.208
22	1968.694
23	2058.181
24	2147.667
Age	
12 Signs	
26772 Great Year	



over 7000 years, with the seventh Sabbath day an age of the holy spirit, a time of rest for the planet after the turmoil of the last 6000 years. On this time scale, the ongoing fall into ignorance from the time of Adam reached a low point several centuries after the time of Christ and is now emerging on a slow redemptive path towards the next golden age in ten thousand years, when Vega and Canopus are the Pole Stars again. By this interpretation, Christ is the representative of the golden age of knowledge in the midst of the iron age of ignorance.

Slow structures of astronomy at the ecliptic and the poles match this temporal framework. The precession of the equinox, shown below with the movement of the equinox through the twelve signs of the zodiac at the top and in detail through the 10,000 years around known history, is seen as having a natural beginning and ending with the movement from Aries to Pisces, the time Christianity sees as the alpha and omega point of Christ. The 3.5 Ages of Christian tribulation are illustrated here against the stellar position of the March equinox.



In the Vedic Yuga and possibly the old Egyptian tradition, the circle of the celestial poles links closely to the cycle of the golden and iron ages. The celestial axis connecting Canopus (known in India as Agastya) at the South Pole to Vega at the North Pole is reached around 13,000 AD, marking the golden age of knowledge. The point furthest from this Canopus-Vega axis, about 500AD, marks the centre of the iron age of ignorance, with the rising bronze age having started around 1700 AD.

The Vedic myth of the turtle at the bottom of the universe can also be explained in this cyclic cosmology. The story of the turtle matches the Large Magellanic Cloud, which can be seen in this star map of the South Celestial Pole, and the earlier picture of the Great Year, at the centre of the spin cone of the South Celestial Pole over the period of the Great Year. Canopus was opposite the position of the pole in about 500AD.



