

Why are the Calculations different in Vedic and Western Astrology?

Many people who have viewed their Vedic birth chart next to their Western birth chart have noticed that in many cases the Signs the Planets are placed in will change from one system to the other. A person born on April 11th for example will have the Sun placed in Aries according to Western astrology. However, in Vedic astrology the Sun will be in Pisces on this date. Western astrology and Vedic astrology have different systems for the calculations of the placement of Planets in Signs. Vedic Astrology is one of the most ancient and complex systems of astrology in existence, which is firmly based upon actual, recordable astronomical phenomena. Vedic astronomy uses a *sidereal*, or fixed star, system of time for which the calculations are precise and complex. These calculations account for the placement of the Earth in relation to fixed stars (the fixed Signs of the Zodiac). Western astronomers have only recently been able to confirm the accuracy of Vedic astronomy. Western Astrology uses a simpler system for calculating the placement of Planets in Signs, which is based upon the orbit of the Earth around the Sun without regard to the location of the stars. This is referred to as the *tropical*, or moving star, system. Neither the Vedic, sidereal nor the Western, tropical system is inherently wrong or useless to astrologers, but the system of Vedic astrology is based upon accurate astronomical calculation of the Sun, Moon and Planets in relation to fixed stars (constellations).

The breadth and scope of practices of Vedic astrologers have long exceeded the practices of Western astrologers. Western astrology has largely been used as an aid for understanding people's personalities and providing counseling. Vedic astrology has been used for centuries for accurately predicting life events, births, deaths, marriages, careers, health, and dis-ease; and for identifying and remedying potential problems for people and nations. In addition to the more precise stellar calculations, Vedic astrology has many complex systems for chart analysis and remedial measures which are not present in Western astrology. With all this said, it must be remembered that though astrology is based upon scientific, astronomical calculations, as a system of divination it can never be a firm science. Accurate predictions and effective remedies will always depend upon a clear mind and sharp intuition. For those without clarity, it will do no good to look at astrological charts at all. Yet for a person with a calm, clear mind, astrology can be a great tool to gain insight into how to benefit a person or society. Yet if a person's mind is clear and the intuition is sharp, then it does not matter so much what system he uses. It is possible to gain some insight from a tropical chart, or a sidereal chart, or from tarot cards, or from gazing at a crystal ball, or even from observing the behavior of the crows and other birds. But for this a person cannot learn from a book. He must have a teacher and he must sacrifice his worldly desires and dedicate himself to the service of humanity. This is because astrology is a system for developing the intuition of the higher mind, and the process of thought is contrary and disruptive to intuitive knowing. To really learn such sciences, it is essential not to read and study but to learn directly from an experienced practitioner through personal instruction and direct observation. It is not possible to understand how to transcend the mind by thinking about this feat, but only by seeing and doing it. The intention of this article is not to discredit Western astrology altogether, because surely much good work which helps people is done by Western astrologers, but instead to explain the differences of calculations between the Vedic and Western systems. Vedic astrology is firmly based upon astronomy and the placement of the stars; Western astrology is not astronomically based. That is to say that the Signs in

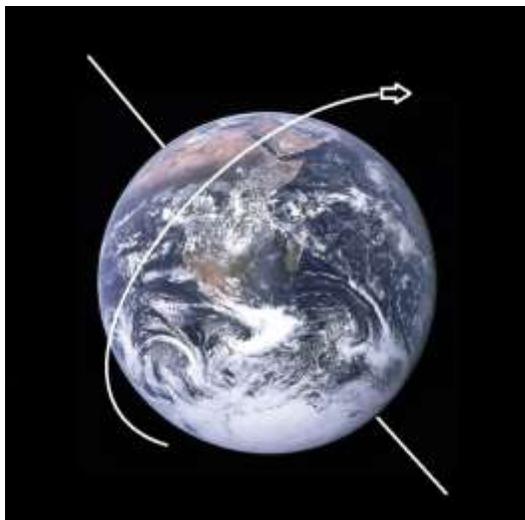
Vedic astrology correspond to astronomical stars but in Western astrology they do not correspond to any actual astronomical bodies. The Western system is based upon simpler astronomical calculations which were available at the time Western astrology was developed. These calculations deal with the placement of the Earth in relation to the Sun and planets, but not the stars.

Tropical (Western) Astrology

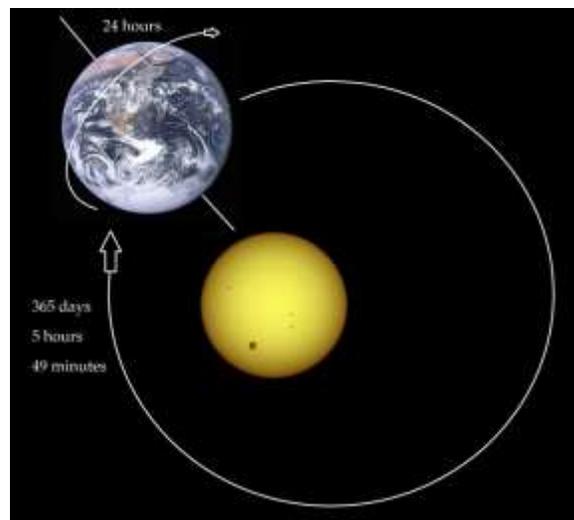
The word *tropical* has its root in the Greek word *tropikos* which means a “turn” or “revolution” (and this may also refer to the solstice which marks one revolution of the Earth around the Sun). This is a solar system of time measurement which does not have to do with the Earth’s movement in relation to the constellations, but only the Earth’s progress around the Sun. Once the Earth has progressed one time around the Sun, which is marked by the solstice, a tropical year is said to have elapsed. Vedic astrologers also use the tropical system as a basis for their sidereal calculations. The ancient Vedic texts like Surya Siddhanta provide several methods for calculating the tropical year.

The Tropical Year

The first thing we must understand is that the tropical year is not the same as the Gregorian year (or calendar year). The calendar year of 365 days and an extra “leap year” day every 4 years, is based upon the tropical year, but it is not precise. The tropical year is measured by the advent of the solstices (or in modern scientific terms, by the return of the celestial equator of the Earth to the Sun’s ecliptic). The amount of time which it takes for the Earth to complete one tropical revolution around the Sun is about 365 days, 5 hours, and 49 minutes. The civil calendar of 365 days and leap-years has been created based upon this calculation. A day is made up of 24 hours, from one dawn to the next, because it takes 24 hours for the Earth to rotate on its axis. The calendar year we use aims to correlate the system of time of 24-hour days with the tropical year.



Earth Rotating on its Axis



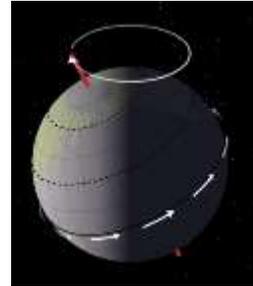
Tropical Year calculated by the Earth’s Revolution around the Sun

Shifting of the Tropical Constellations

(Precession of Equinoxes)

In tropical time, the fixed constellations are gradually shifting. This is on account of a phenomenon called “precession of the equinoxes.” To understand equinoctial precession it is important to understand why it occurs. As the Earth rotates on its axis, the orientation of the Earth’s rotational axis very slowly changes. This is like the movement of a spinning top which spins and also wobbles. The rotation of the Earth’s axis is called axial precession and it is the cause for equinoctial precession.

In the diagram, the red line through the Earth indicates the Earth’s rotational axis, the white arrows indicate the rotation of the Earth around its axis, and the white circle indicates the rotation (wobbling) of the Earth’s axis.



Axial Precession (see text)

The Earth completes one rotation on its axis every 24 hours. The Earth’s axis requires about 26,000 years to complete one rotation. On account of the Earth’s axial precession, each year at the time of equinox, the Earth will be aligned with different fixed stars. This is why the Earth’s axial precession is also referred to as the precession of the equinoxes. Each year, the tropical system moves in relation to the fixed zodiac by 50.3 seconds, and in 72 years it moves by one degree. This is because the equinoxes move along the ecliptic (the apparent path of the Sun) in relation to the fixed stars. Tropical time is therefore not measured in relation to the position of the stars, but according to the orbit of the Earth around the Sun. The sidereal (Vedic) system accounts for the rotation of the Earth’s axis and uses specific calculations to measure time by the Sun, returning to the first degree of Aries.

History of Tropical Astrology

The tropical zodiac (referred to by Western astrologers as the classical zodiac) was introduced by Babylonian astrologers around the 7th or 6th century BCE. At that time, there was no knowledge in the West of precession of the equinoxes. Classical Greek astrology (upon which Western astrological calculations are firmly based) derived its zodiac from the Babylonian tradition. In the second century BCE, the Greek astronomer Hipparchus discovered that the fixed stars seemed to be moving along the ecliptic at the time of equinox. Hipparchus estimated this precession to be about 1° per century (the measurement is actually closer to 1.4° per century). In the West, this calculation remained for 1000 years, until Islamic astronomers discovered a more precise value for the precession. This shows that though the Western astronomers had knowledge that the fixed stars were moving in relation to the equinoxes each year, they did not have the astronomical knowledge to rectify this.

Though the famous Greek astronomer and astrologer Ptolemy must have known about the precession of equinoxes (because he lived 250 years after Hipparchus), he opted to use the tropical system for his astrological calculations. Ptolemy was not ignorant that the fixed stars were moving in relation to the equinoxes of the tropical year, but he did not have the astronomical knowledge to correct this calculation.



Greek Astrologer, Ptolemy

Sidereal Astrology

The Vedic (sidereal) system of astronomy and astrology is more complex and precise than the simpler tropical model. The Vedic system not only accounts for the movement of the Earth in relation to the Sun but also in relation to the fixed stars of the zodiac. The sidereal system is also referred to as the “fixed star” system. It is based upon the observable and measurable phenomenon of the Sun moving in alignment with the first degree of the constellation of Aries. The sidereal zodiac is the visible, actual zodiac. This system is not based upon the orbit of the Earth around the Sun or the seasons on Earth as is the Western tropical system, but it is based upon the actual placement of the Sun and planets in relation to the fixed constellations. In recent times, modern astronomers have come to recognize that the Vedic, sidereal calculation for the placement of the Planets in Signs is extremely precise and accurate.

Sidereal Calculations

The sidereal calculation for planetary placement is based upon the tropical system (which is easier to calculate). From the tropical calculation, the sidereal calculations are made. The precession of equinoxes is corrected by an equation called ayanamsha. Ayanamsha is defined as “the angle by which the sidereal (ecliptical) longitude is less than the tropical longitude of a planet or celestial body.” In simpler terms, this means the difference between a planet’s tropical and sidereal placement along the zodiac. Though there are several major systems of ayanamsha each with slightly different values, all are within a degree or two (all around 23 or 24°). The most widely used system of ayanamsha is the Lahiri ayanamsha. Lahiri ayanamsha calculates the difference to be about 24 degree, 3 minutes, and 21 seconds as of April, 2014. The calculation continues to change as time goes on, because it accounts for a difference in two distinct rates of movement (the tropical and sidereal movement of planets). The different ayanamsha systems are considered accurate by modern Western astronomers and precise within about a degree.

The Difference between Sidereal and Tropical Time

The tropical (Western) and sidereal (Vedic) zodiacs were in unison around 283 CE. Due to the precession of equinoxes, the tropical system has since moved away from the fixed stars by about 24°. This difference of movement will continue for the next 11,000 years before the tropical and sidereal zodiacs align once again. This means that the placement of planets will vary in Western and Vedic astrology up to 24°. The Sun for example moves into Aries on the 21st of March according to Western astrologers and

on the 14th of April according to Vedic astrologers. That is 25 days difference, almost an entire month. For over half of all astrological charts, the Sun sign will change according to systems. The New Age concept of the Age of Aquarius also arises from knowledge of the precession of equinoxes and that at the time of the equinox, the alignment of the actual constellations is slowly shifting over time. It is said that every 2,150 years a different constellation will be on the horizon at the time of equinox. The Western charts are clearly shifting in relation to the astronomical phenomena. On the other hand, the Vedic charts are scientifically accurate and they account for the actual movement of planets into alignment with the astronomical constellations. This does not mean that the Western charts cannot provide useful information, only that they are calculated from incomplete astronomical data.



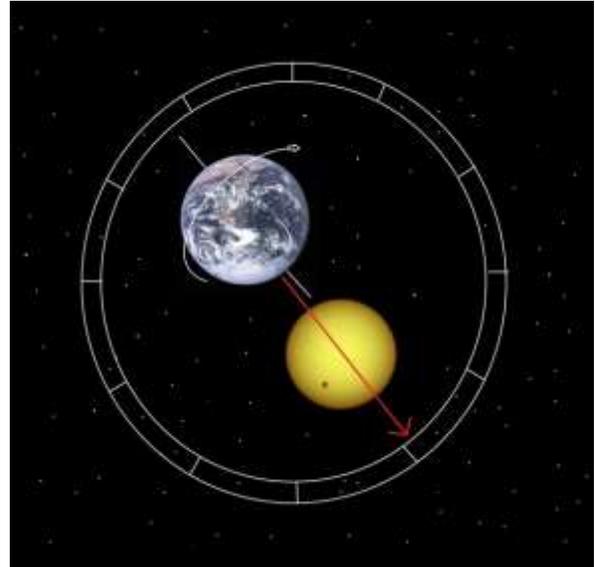
Two images of the signs of the Zodiac Depicted as a band around the Earth

What are the Signs?

The Signs of the zodiac are different according to the tropical (Western) and sidereal (Vedic) astrologers. For the Vedic astrologers, the Signs or Rashis as they are called in Sanskrit are actual physical constellations. For the Western astrologers, the Signs are segmented portions of an imaginary band which rotates around the Sun and Earth. Though the Western Signs are named for the fixed constellations, they have no correspondence to any physical astronomical phenomenon. In both cases, the constellations can be viewed as a band of visible sky which can be seen from Earth. In each case this band of 360° is divided into twelve 30° portions known as Signs.

The Sidereal (Vedic) Zodiac

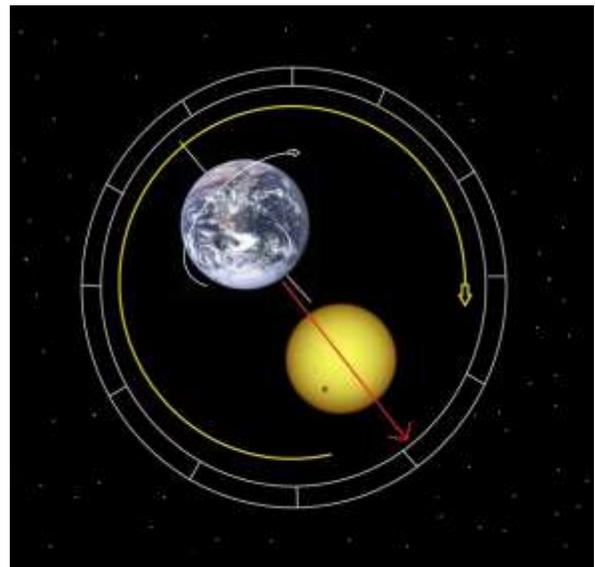
In the case of Vedic astrology, the band of the visible zodiac corresponds to actual stars (constellations) which remain fixed in space in relation to the Earth and Sun. Though these constellations are not all precisely spaced in the sky into even 30° intervals, the 360° zodiac is divided in 12 equal portions of 30° each, in which the respective constellations occur.



Sidereal Zodiac consisting of actual constellations

The Tropical (Western) Zodiac

In Western astrology, the zodiacal band does not relate to the fixed constellations because its measurement is determined by the Earth's movement around the Sun without relation to the fixed stars. The tropical zodiac is therefore a non-physical band of space which revolves around the Earth and moves against the backdrop of fixed constellations. The Western Signs are not astronomical phenomena, but arbitrary divisions of imaginary space.



Tropical Zodiac consisting of a band rotating apart from the constellations

History of Vedic Astrology

Vedic Astrology is an ancient system stemming from the Vedic religion of Ancient India. It is a spiritual system revealed by the ancient Sages in their meditations. It has been used for timing Vedic rituals conducted for world peace in accordance with complex astronomical phenomena. The ancient use for astrology was to time the Vedic rituals in accordance with astrological conditions which support the aim of the ritual.



Vedic Sage in Prayer



Ancient Sanskrit Text on Astrology

The earliest extant text on Vedic Astronomy, the Vedanga Jyotisha, dates to 1400-1200 BCE. There is much historical evidence that Vedic people have been using sidereal calculations for planetary movements since this time or earlier. The Surya Siddhanta which was written by the 3rd century BCE, provides detailed information about both sidereal calculations and the tropical calculations upon which they are based. The precision of these complex astronomical calculations were quite advanced in comparison to those of Western astronomers. The complex understanding of astronomy of the ancient Sages had not been matched by Western astronomers until the last 200 years.

Vedic Astrology, Western Astrology, and the Future

The wisdom of the ancient Vedic Sages had given birth to a timeless system of astrology which accounts for the shifting of Signs in relation to the equinoxes over time. This has allowed for Vedic astrology to be founded on unchanging principles. For the Vedic astrologer, the nature of the Planets and Signs is the same now as it was a thousand years ago. The Sun has a hot quality and the sign of Leo has a self-centered and commanding nature. Saturn has a separative quality and the sign of Aquarius has a self-

less and iconoclastic nature. These fundamental qualities of the Planets and Signs have remained the same throughout the centuries because the Planets and Signs are actual physical bodies which exert a physical effect upon the pull of gravity on Earth and also on the consciousness of humanity.

The Planets of Western astrology have a physical presence and nature as they do in Vedic astrology, but the Signs do not. The Western Signs are changing and it is hard to know what the Signs mean if their meaning and nature is in constant flux. Western astrologers have often been quick to shift their system as astronomy has presented new knowledge. Western astrologers have included the outer Planets, Pluto, Neptune, and Uranus (which are not used in Vedic astrology) in their charts since the time of their discovery. Many Western astrologers have switched already to the sidereal system. Perhaps, now that astronomers have confirmed the sidereal calculations of the Vedic Sages, perhaps the Western astrologers will soon accept the tropical system.