

BASICS OF ASTROLOGY

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I. Introduction

Astrological predictions appear in several newspapers, magazines and web sites. These are given different headings like predictions based on Sun Signs or Moon Signs or Birth Star. Readers may find this not only confusing but also may read their prediction wrongly. This article explains the systems used worldwide and the fundamental differences between various systems in simple layman language. The article also explains how to give the birth particulars for processing one's horoscope and how to read the same.

II. Definition of Astrology

Astrology attempts to find position and properties of different Planets and their interaction with human behavior. The calculation of these interactions involves determining and interpreting various astrological parameters like phases or brightness of moon, interaction of planets, their proximity or opposition, sensitive positioning of Planets at various points of the sky, which is known as Zodiac in astronomical terms.

In astrology, the position of different planets is first determined. This requires detailed calculations to determine various astrological parameters like phases of moon, interaction of planets, their proximity or opposition with other planets, positioning of planets at various points in the sky- called zodiac or Bhachakra in astrology. Based on these parameters, interpretation and predictions are made.

III. Basic Astronomy

Planets like Mercury, Venus etc. move around Sun with varying speeds and orbits. Planets also have their own satellites - like earth has moon as its satellite. Each of these celestial objects rotates around its axis and this is called "spin". This is in addition to the rotation around their parent object.

For example, earth takes about 365.24.. Days to make a rotation around the sun. This is called the "Solar Year". The earth also spins around itself once in 24 hours called diurnal motion - causing day and night. In contrast, moon takes about 28 days to complete one rotation around earth.

In addition to the above complexities of motion, the inclined plane of rotation of earth around the sun causes additional effects. This inclination of about 23.5 degrees greatly effects astronomical calculations. This inclined motion is also the cause for different seasons of a year.

Finally, the entire system of sky or Zodiac consisting of Planets stars, which is used as a celestial frame of reference is moving at different speeds. These complex motions make calculation of the position of any celestial body difficult and interpretation of their effect

complex. It is further very important to note that these motions are dynamic in nature and time variant.

IV. CALCULATIONS USED IN WESTERN AND INDIAN SYSTEM

The technique and methods used to determine the positioning of planets and their consequent effect gives rise to different systems. Astrological sages in India offered an innovative solution to this complex problem of movement of different bodies and moving frame of reference by defining a Fixed Zodiac. This system is called "Nirayana or Indian System". In the Nirayana system, the Zodiac or celestial circle is assumed to be a fixed one.

The Western or Sayana or Moving zodiac system makes calculations and predictions based on the so-called present position of the stellar system. This has limitations as in the present scientific world, there is no way of defining the current position of ever moving celestial body like frame of reference or zodiac.

The difference between Sayana longitudes and Nirayana longitudes of Planets is called "Ayanamsa" or precision. Sayana system is at best a crude first order approximation. Nirayana SYSTEM is an innovative solution to a complex situation.

The Indian system uses mathematical models and makes it possible to calculate, analyze and interpret to the desired level of accuracy progressively. The Sayana system uses techniques of approximation and progressive accuracy in predictions is not possible.

V. Calendar

From cave man to modern man, the cycle or calendar in the year has great effect on our daily life as the movement of sun controls seasons. The differences due to astronomical complexities are adjusted in different calendars by different methods. In the popularly used Gregorian or English calendar - this is adjusted by the so-called leap year. Irrespective of religious beliefs or civilizations the calendar reforms were and are a necessary part as all social, religious and festival activities (including agricultural activities) are dependent on seasons. The history and reforms in calendar system is a different and big subject by itself.

Again it is the ingenuity of Hindu Sages that gave a permanent and everlasting and self-rectifying calendar. They used a set of complex functions called "Panchagas" - five portions to define the calendar. These are extensively used for seasonal religious and festival and astrological purposes. Panchagas are the derived functions of the movement and properties of celestial bodies and will be discussed at length in another article. They are based mainly on sun and moon positions and hence are subdivided into Solar based and Lunar based panchangas.

VI. How to Use Astrological predictions

a) Based on Sun Signs

Irrespective of the method used for calculation, the zodiac is divided into 12 Rasis or Signs - each 30 degrees. The zodiac is also divided into 27 stars each of 13.333 degrees

Nirayana or Sayana system is used for determining the position of PLANETS as explained above.

Normally, the western system of prediction is based on Sun Signs. The sun sign of an individual is determined from the Date of Birth-, which can be related, with the date of birth. Table 1 below can be used to determine one's Sun Sign. The names in bracket indicate the equivalent Indian Name.

Table 1. Birth dates and sayana sun position.

(Mesham) or Aries	: 21-3 to 20-4
(Vrushabham) or Taurus	: 21-4 to 20-5
(Mithunam) or Gemini	:21-5 to 20-6
(Karkatakam) or Cancer	:21-6 to 20-7
(Simham) or Leo	:21-7 to 20-8
(Kanya) or Virgo	:21-8 to 20-9
(Tula) or Libra	:21-9 to 20-10
(Vruschikam) or Scorpio	:21-10 to 20-11
(Dhanus) or Sagittarius	:21-11 to 20-12
(Makaram) or Capricorn	:21-12 to 20-1
(Kumbham) or Aquarius	:21-1 to 20-2
(Meenam) or Pisces	:21-2 to 20-3

Most of the papers, magazines and web sites give general daily, weekly, monthly predictions based on sun signs and the above chart is to be used. This table can be used irrespective of the year in which the individual is born.

Some Indian systems use predictions based on Sun Sign in Nirayana position. Table2 below could be used to determine the sun sign. However, this is rarely used. Normally, Indian System uses predictions based on Moon Sign.

Table 2. Birth dates and Nirayana sun position.

(Mesham) or Aries	: 15-4 to 15-5
(Vrushabham) or Taurus	: 16-5 to 15-6
(Mithunam) or Gemini	: 16-6 to 15-7
(Karkatakam) or Cancer	: 16-7 to 15-8
(Simham) or Leo	: 16-8 to 15-9
(Kanya) or Virgo	: 16-9 to 15-10
(Tula) or Libra	: 16-10 to 15-11
(Vruschikam) or Scorpio	: 16-11 to 15-12
(Dhanus) or Sagittarius	: 16-12 to 14-1
(Makaram) or Capricorn	: 15-1 to 14-2
(Kumbham) or Aquarius	: 15-2 to 14-3
(Meenam) or Pisces	: 15-3 to 14-4

b) Using Moon Signs

Determining the moon signs or signs in which the moon's longitude lies, is complicated. It cannot be found directly from the date of birth. Determination of Moon sign for an individual requires the use of astronomical tables or PANCHANGA or Almanac.

The data required for finding out the Moon sign is

a) Date of Birth

b) Time of Birth: The birth time needs to be given unambiguously. If the birth is around mid night, the usual practice is to give the dates adjoining the same.

For e.g., if the birth is at early morning 01:30 hrs of 08 May and place is Singapore- the birth date is given as night of May 07 / May 08, time 01 hour 30 minutes, place -Singapore.

c) Place of Birth: This is required to know the latitude and longitude of the place where an individual is born. In case of small and commonly not known places nearest big city is to be given to know the longitude and latitude.

Based on this data the moon sign is calculated.

By using computers, the calculation is simplified and scope for errors is eliminated. Thus, finding out the moon sign requires good knowledge of astronomy and cannot be done by a layman.

VII.COMPARISONA OF VARIOUS SYSTEMS

In contrast to the above generic predictions where whole population is divided into twelve groups, Vedic astrology uses many complex tools to get accurate predictions for specific queries. For e.g. another very important astronomical point called "LAGNA" is also calculated. This is specific to Indian Astrological system and is also called "Ascendant". Astronomically Lagna is the longitude of eastern horizon at the time and place of birth. The Lagna is the focal point of all predictions in Vedic astrology or the Indian Astrological System. Lagna is also determined by complex calculations in processing the horoscope. Many such sensitive points including shadow planets of Rahu and Ketu are used in Vedic astrology. Many varied, complex and advanced mathematical tools are used in Vedic astrology to give accurate answers as predictions for specific questions.

VIII. SUMMARY - MOON SIGNS VERSUS SUN SIGNS

The Sayana system of generic predictions is based on Sun signs. The sun sign is closely related with the date of birth.

In contrast calculation of moon sign is more complex and cannot be determined with simple dates of Gregorian calendar.

Vedic Indian astrological system uses many more complex calculations. The LAGNA, Birth Star and several other parameters relating to each individual is determined by processing the horoscope for the specific date and place of birth. The system is highly complex and has several tools and subsystems (like Vimsottari, gochara etc.) For instance, the branch of Vedic Indian astrology dealing with only Muhurtams or determining auspicious time for doing any important activity is followed extensively for starting important activities.. Like wise, marriage compatibility is a separate branch in Indian astrology and many parameters dealing with compatiability of prospective groom and bride are analyzed. All these subsystems in Indian Astrology are based on complex calculations from birth particulars.

Predictions based on Vedic astrology are more accurate and specific than those based on sun sign or moon sign. All these sign based predictions are generic. For example- using Nirayana Sun Signs, all persons born between 15/2 to 14/3 fall into the sign of Aquarius. They would have a certain set of traits or characteristics. However, while using moon signs two persons though born on 15/2 in the same year but at different times may have different birth stars. Predictions based on Vedic astrology are accurate. Here lagna is first determined. Further Lagna varies in every two hours and also with place of birth. This gives very different, traits/personalities and unlike Sun signs makes it possible to categorize the traits of every individual in depth.

The personality traits for a person born between 21/3 and 20/4 using SUN SIGNS predictions is given below for one sign as a typical example.

A typical example for Sun Sign- ARIES

Physical Appearance: A strong, muscular physique with largish bones characterizes most of you. Your features are usually regular and your teeth tend to be even and symmetrical. Of medium height and stocky, you tend to develop a paunch easily.

Personality: You possess strong pioneering instincts and are generally enterprising and industrious. In crunch situations, you are forceful and courageous and refuse to give up until you have achieved your targets or at the least put in your best. Like a true sports person, you like to play for the challenge and enjoyment and at one level, winning or losing is not so important. What matters more to you is giving a good account of yourself.

Curiously, you often prefer to prove yourself to yourself instead of to others. In your speech and approach, you are direct and forthright and abhor dissembling in any form. However, calling a spade a spade doesn't always make you popular and even though you're fully aware of this, you couldn't really careless. You don't like pressures being on you and value an easy going, free style of functioning. You're generally easy to get along with but you can be very self-assertive indeed when the situation so demands.

More Information on names of stars is provided in appendices.

APPENDIX 1- 12 signs with Indian and western astronomical names.

- 1.Mesham or Aries
- 2.Vrushabham or Taurus
- 3.Mithunam or Gemini
- 4.Karkatakam or Cancer
- 5.Simham or Leo
- 6.Kanya or Virgo
- 7.Tula or Libra
- 8.Vruschikam or Scorpio
- 9.Dhanus or Sagitarius
- 10.Makaram or Capricornus
- 11.Kumbham or Aquaris
- 12.Meenam or Pisces

APPENDIX 2 -Names of Stars

SI No	Sanskrit Name	Astronomical Name
1.	Aswani	Beta Arietis
2.	Bharani	35 Arietis
3.	Kruttika	Eta Tauri
4.	Rohini	Aldebaran
5.	Mrugasira	Lambda Orionis
6.	Arudra	Alpha Orionis
7.	Punarvasu	Beta Geminorium
8.	Pushyami	Delta Cancri
9.	Asleesha	Alpha Hydroe
10.	Makha	Regulus
11.	Pubba	Delta Leonis
12.	Uttara	Beta Leonis
13.	Hasta	Delta Corvi
14.	Citta	Spica Virginis -Vegus
15.	Svati	Arcturus
16.	Visakha	Alpha Libroe
17.	Anuuraadha	Delta Scorpio
18.	Jyeshtha	Antares
19.	Muula	Lambda Scorpio
20.	Poorvashaadha	Delta Sagittari
21.	Uttaraashadha	Sigma sagittari
22.	Sravanam	Alpha Aquiloe
23.	Dhanishtha	Beta Delphinum
24.	Satabhisham	Lambda Aquarius
25.	Poorvabhaadra	Alpha Pegasi
26.	Uttarabhadra	Gama Pegasi
27.	Revati	Zeta Piscum

APPENDIX 3 -Average Time Taken for Movement of Planets through One Rasi

Planet	Average Time in one Rasi
Sun	One Month
Moon	2.25 Days

Mars	45 Days
Budha (Mercury)	30 Days
Sukra (Venus)	30 Days
Guru (Jupiter)	12 Months
Sani (Saturn)	30 Months
Rahu (Dragons Head)	18 Months
Ketu(Dragons Tail)	18 Months

APPENDIX 4 - ASTRONOMICAL DATA ABOUT PLANETS

One tropical (civil) year equals 365.242 mean solar days
 One sidereal year is equal to 365.265 solar days
 Sun - Sideral period of rotation 25.38 days
 Sun - Period of rotation w.r.t earth 27.28 days Latitude 16 degrees
 Moon - Mean synodical or lunar month 29.531 mean solar days
 Moon - Sideral period of moon about earth 27.32 mean solar days
 Distance from Sun 1.496×10^{11} m
 Mercury - Sideral period (SP) 87.97 days
 Mercury - Rotational period (RP) 58.7 days
 Distance from Sun 5.791×10^{10} m
 Venus - SP 224.7 d
 Venus - RP 243 days
 Distance from Sun 1.082×10^{11} m
 Earth - SP 365.3 d
 Earth - RP 23.93 hrs.
 Distance from Sun 1.496×10^{11} m
 Mars - SP 687 d
 RP 24.6 hrs. (Satelites 2)
 Distance from Sun 2.279×10^{11} m
 Jupiter - SP 11.86 years
 RP 9.9 hrs. (12 satelites)
 Distance from Sun 7.78×10^{11} m
 Saturn - SP 29.46 Years
 RP 10.2 hrs. (Satelites 10)
 Distance from Sun 1.427×10^{12} m
 Uranus - SP 84.02 years
 RP 10.7 hrs. (Satelites 5)
 Distance from Sun 2.869×10^{12} m
 Neptune - SP 164.8 years
 RP 15.8 hrs. (2 satelites)
 Distance from Sun 4.498×10^{12} m
 Pluto - SP 248 years
 RP 6.3 days
 Distance from Sun 5.900×10^{12}

