

## APPENDIX A

## Calculation of the Ayanamsa

There are two systems of Astronomy in India—namely, the *Nirayana* and the *Sayana*. The former traces observations of planets to a fixed zodiac, while the latter considers the moving zodiac commencing from the shifting, vernal equinox. It is certain that the greatest Hindu Astrological writers referred to the fixed zodiac for predictions. And this fact is borne out by experience.

The increment between the beginning of the "fixed" and the "moveable" zodiacs or the *Nirayana* and *Sayana* positions is referred to as *Ayanamsa* which increases about 50-1/3 seconds every year. Western astronomy is based upon the *Sayana* system so that it considers the moving zodiac commencing from the shifting vernal equinox as has already been said above. This, if we deduct this *Ayanamsa* from the positions of planets and cusps of the houses obtained according to the Western system, we will arrive at the Hindu positions.

When exactly the two zodiacs were in the first point is doubted by a number of astronomers and accordingly the *Ayanamsa*—precessional distance—varies from 19° to 23°. I do not wish to enter into explaining the complicated processes of astronomy at large which centre attention on the discussion of the exact nature of *Ayanamsa*, but merely confine myself to giving a suitable and simple method for determining the *Ayanamsa*.

First of all, cast the horoscope of birth according to the European manner and convert it into the terms of Hindu zodiac by the following process :

- (1) Subtract 397 from the year of birth (A.D.).
- (2) Multiply the remainder by 50 1/3 seconds; and reduce the product into degrees, minutes and seconds.
- (3) Subtract this number of degrees, minutes and seconds from the cusps of the houses and the planets' positions in the European figure of birth and the figure thus obtained will be according to the Hindu system.

Example :—

Determine the *Ayanamsa* for 1912 A.D.

$$1912 - 937 = 1515 \times 50\frac{1}{3}'' = 76255''.$$

$$76255'' = 21' 10' 55''$$

This is the *Ayanamsa* for 1912 A.D.

determine the various sources of strength and weakness of planets and discover other details that are within the reach of mathematical astrology and thus clear the way for making correct predictions, we do not, propose to lay any further stress on this question of Ayanamsa.

The Longitudes of the Houses (Bhava Sphutas), Rasimanas (Oblique Ascensions) and other important calculations are all computed for Sayana Rasis. From these the Ayanamsa is subtracted and thus the Nirayana Bhavas, etc., are obtained. In other words, every one of the Hindu astrological calculations which is at first based upon the Sayana Rasis, is eventually subjected to Nirayana reduction. All these indicate the absolute necessity for Ayanamsa.

49. **Determination of (Approximate) Ayanamsa.**—(1) Subtract 397 from the year of birth (A.D.)

(2) Multiply the remainder by  $50\frac{1}{3}''$  and reduce the product into degrees, minutes and seconds.

*Example 1.*—Determine the Ayanamsa for 1912 A.D.

$$1912 - 397 = 1515 \times 50\frac{1}{3}'' = 76,255''$$

$$76,255'' = 21^\circ 10' 55''.$$

*Example 2.*—Find the Ayanamsa for 1918 A.D.

$$1918 - 397 = 1,521 \times 50\frac{1}{3}'' = 76,557'' = 21^\circ 15' 57''.$$

The slipping back of the movable zodiac in a year is so small that for odd days, we can conveniently neglect it. But the Ayanamsa for the moment can be determined by considering the precession for the odd days also.

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