ADV MATH
SCI JOURNAL

FRACTAL OBSERVATION OF PLANETS POSITION IN HUMAN HOROSCOPE

C. ANUSUYA[1], R. KAMALI, AND G. JAYALALITHA

ABSTRACT. Astrology is an ancient skill of understanding the Fractal nature of planets position in the human horoscope with respect of time. The planets position in the horoscope decides each and every activity of a person. These positions are differing from person to person. Hence an irregular approach is appeared which is observed through Fractals. Chaos Theory is applied to investigate these variations. As there is a rapid change among the movements of all planets but their pattern of rotation is repeated which can be plotted through graph. Further, these planets position are analyzed using $\bar{X}$-chart and R-chart.

1. INTRODUCTION

Fractals are a mathematical process that replicates particular patterns in the same order. Fractal Analysis is now widely used in all areas of science [2], especially in Astrology. Astrology is the guiding factor, as the study of planets in this all-encompassing the Solar space which bears on human life. Each person horoscope gives vital information about the placement and strength of various planets in different houses. The study of planets includes their placement and duration in specified houses of a horoscope. Each planet has their own effects since all of us are connected in the Universe and we are not only composed

---

of universal element but we live and breathe on this rotating revolving globe continuously and externally in cycle [3,4].

Each and every planet has different influence on our lives depending on their positions in the horoscope. The Figure 1 shows the position of the planetary bodies in two different person horoscopes. The continuous movement of the planets creates a fractal structure in the Universe. This leads to a cyclic motion of planets in the horoscope which is based on time [1]. Also this movement of planets forms a pattern that can be studied through Fractal geometry. Chaos Theory and Fractal Theory were very used to develop these patterns formed in the planets[5]. In fractal geometry, the fractal dimension, D, is a statistical quantity that gives an indication of how completely a fractal appears to fill space, as one zooms down to finer and finer scales [6].
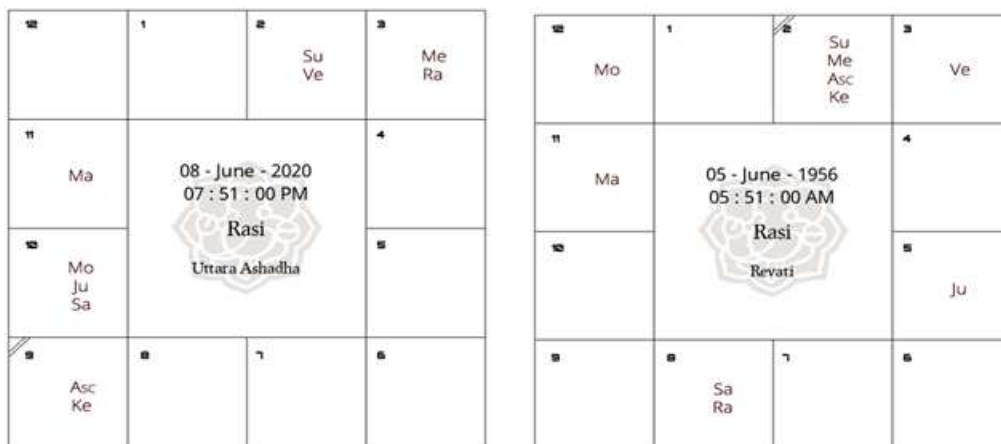

Figure 1. Horoscope of two different person

In additional the positions of planets are analyzed by using Statistical quality control charts like $\bar{X}$-chart, R-chart [7]. Due to this it is possible to examine how the planets are placed in one's horoscope and also the predictor can judge whether the planets position is beneficent or not throughout one's life time.

2. CHAOS THEORY IN PLANETS

Chaos theory is a scientific principle which is helpful in describing the unpredictability of systems. An Astrological data is calculated based on the date, time and place of birth of an individual. The position of the planets captured at that time is mentioned in the form of chart known as Natal Chart or Horoscope.

Planetary movements are a complex pattern of nature. These movements of each and every planet are continuous and create a cyclic motion. Each planet has their own effect which is influenced depending on their positions in the horoscope.
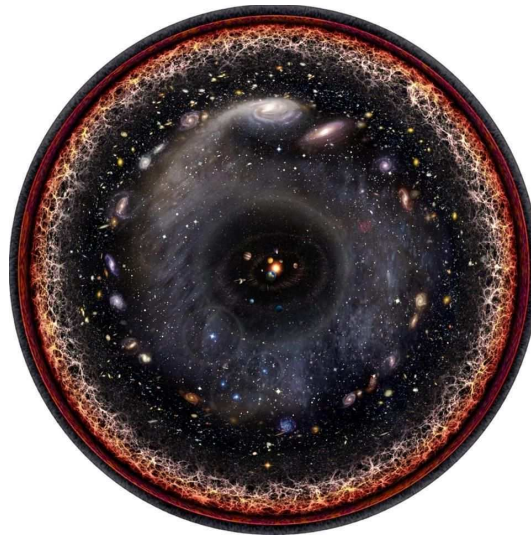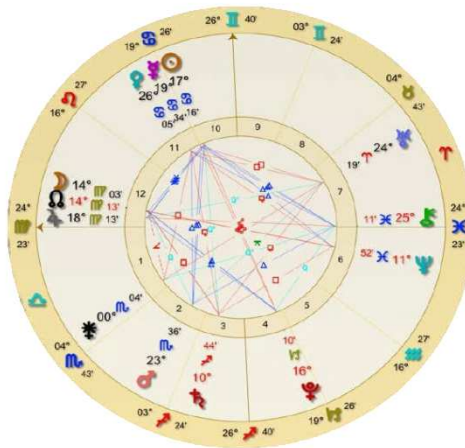

Figure 2. Chaotic behaviors of planets

Figure 3. Planet's Structure

In general, Chaos can be defined as aperiodic long-term behavior in a deterministic system that exhibits sensitive dependence on initial conditions. The fractal concept can be used to study complex geometric structures where Chaos provides the state of irregularity and divergence of paths which depend in the

nature of the dynamics as in Figure 2. The movement of planets creates irregular paths which regards the present state of the universe with effect from the past and cause the future. The effort of the celestial bodies in the universe with the time creates an uncertainty in the future predictions, just like the past would be present before the eyes.

Moreover it can be recognize that it gives only a probabilistic prediction but not a definite prediction. Thus the theory of deterministic chaos shows that they will never be prefect. The Figure 3 represents the planets structure in one horoscope; this structure is different for different persons. This is due to the placement of different combination of planets in different houses. This induces the presence of irregularity and leads to the fractal theory.

3. STATISTICAL QUALITY CONTROL IN PLANETS

The quality is defined as the totality of features and characteristics of a product that bears on its ability to satisfy given needs. The statistical techniques used in quality control are statistical process control and acceptance sampling. Statistical process control techniques uses graphical displays known as control charts to monitor a production process with the aim of determining whether the process can be continued or whether it be adjusted to achieve a desired quality level. The variations in the position of the planets are common to all and these variations are captured by control charts for measurements.

Control chart is nothing but a simple graphical device which will help to identify the presence of any transferable source. It indicates how well the effort is running i.e. when dealing with measurements, it is customary to exercise control over the average superiority of a planet as well as its variations. This is accomplished by plotting the means of periodic samples on a control chart for means of the planets position, an $\bar{X}$-chart. Variability is controlled by plotting the sample ranges on an R-chart respectively, depending on which statistics is used to estimate the planets positions.

In $\bar{X}$-chart is constructed on the basis of a series of samples drawn from a population. This is prepared under the assumption that the variation between the groups are due to chance causes while the variations within groups are due to assignable causes. An increase in process variability is controlled by R-chart based on the sample ranges.

The procedure for constructing $\bar{X}$-chart is as follows

Suppose N samples are given, each of size n, then

Step-1: Find the means $\bar{X}_1$, $\bar{X}_2, \bar{X}_3, ..., \bar{X}_N$ and the ranges $R_1, R_2, R_3, ..., R_N$ of the given N samples each of size n, where $\bar{X}_i$, R_i denote mean and range of i th sample respectively.

Step-2: Find the mean $\bar{\bar{X}}$ of the sample means and the mean of the sample range by the formula

$$(3.1) \qquad \bar{\bar{X}} = \frac{\sum_{i=1}^{N} \bar{X}_i}{N}$$

and

$$(3.2) \qquad \bar{R} = \frac{\sum_{i=1}^{N} R_i}{N}.$$

Step-3: The control chart values such as the central line, the Upper Control Limits (UCL) and Lower Control Limits (LCL) lines for an $\bar{X}$-chart are given by

$$Centralline = \bar{\bar{X}},$$

$$UCL = \bar{\bar{X}} + A_2 \bar{R},$$

$$(3.3) \qquad LCL = \bar{\bar{X}} - A_2 \bar{R},$$

where A_2 is control chart constants whose values depend on the sample size n and which are readily available in the table of control chart constants.

Step-4: On the ordinary graph sheet, the sample numbers are represented on the x-axis and the sample means on the y-axis.

Step-5: For drawing the mean chart, draw the three lines $y = \bar{\bar{X}}, y = \bar{\bar{X}} + A_2 \bar{R}$ and $y = \bar{\bar{X}} - A_2 \bar{R}$ which represent the central line, the UCL line and the LCL line. Also plot the points whose coordinates are $(1, \bar{X}_1), (2, \bar{X}_2), (3, \bar{X}_3)...(N, \bar{X}_N)$ and join adjacent points by line segments. Thus the graph obtained in the $\bar{X}$-chart.

The procedure for constructing R-chart is as follows

Suppose N samples are given, each of size n, then

Step-1: Find out $\bar{\bar{X}}$ and $\bar{R}$ by using equation (1) and (2).

Step-2: The control chart values such as the central line, the Upper Control Limits (UCL) and Lower Control Limits (LCL) lines for an R-chart are given by

$$Centralline = \bar{R} \quad UCL = D_4 \bar{R}$$

$$(3.4) \qquad LCL = D_3\bar{R},$$

where D_3 and D_4 are the control chart constants for various values of n.

Step-3: For drawing the range chart, draw the three lines $y = \bar{R}$, $y = D_4\bar{R}$ and $y = D_3\bar{R}$ which represent respectively the control line, the UCL and the LCL line. Also plot the points whose coordinates are $(1, R_1), (2, R_2), (3, R_3)...(N, R_N)$ and join adjacent points by line segments. Thus the graph obtained in the R-chart.

If the plotted points fall within the Lower Control Limits (LCL) and Upper Control Limits (UCL) lines, the variations between the samples is attributed to chance causes and the process is under control. When one or more plotted points lie outside the control lines, it is to be considered that the variations between samples are caused by assignable causes and the process is out of control.

Example: Let us consider the sample horoscopes of 10 different persons in which the position of the 9 planets (in degrees) are analyzed using $\bar{X}$-chart and R-chart.

Table 1. Planets placement in10 different Person's horoscope

Planets	Person 1	Person 2	Person 3	Person 4	Person 5	Person 6	Person 7	Person 8	Person 9	Person 10
Moon	242.62	65.86	324.56	340.81	31.41	305.14	355.32	129.49	267.91	218.73
Sun	166.60	187.37	50.85	66.78	117.90	118.74	165.89	326.06	94.41	43.30
Mars	210.07	213.59	307.58	120.19	200.33	67.98	114.81	302.38	24.85	3.47
Mercury	190.53	192.58	37.22	49.19	107.58	105.10	190.38	308.77	74.23	29.11
Jupiter	151.46	330.51	121.55	265.65	113.45	205.94	284.93	290.77	226.38	302.51
Venus	124.46	193.96	75.45	70.24	139.74	113.53	151.33	351.17	128.26	357.76
Saturn	157.86	166.64	215.15	129.76	348.68	110.58	268.73	144.25	120.65	141.03
Raghu	113.68	251.89	224.59	297.21	7.96	35.03	183.46	283.34	315.03	279.15
Ketu	293.68	71.89	44.59	117.21	187.96	215.03	3.46	103.34	135.03	99.15

Here sample, N = 10 and size, n = 9.

From Table-1 the value of $\bar{X}$ i.e. the mean values and the value of R i.e. the range values are calculated, which is mentioned in the Table-2.

Table 2. $\bar{X}$ and R values

	Person 1	Person 2	Person 3	Person 4	Person 5	Person 6	Person 7	Person 8	Person 9	Person 10
$\bar{X}$	183.44	186.03	155.73	161.89	139.45	141.9	190.92	248.84	154.08	163.8
R	180	264.45	279.97	291.62	340.72	270.11	351.86	247.83	290.18	354.29

From equation (1) and (2), the mean $\bar{\bar{X}}$ of the sample mean and the mean $\bar{R}$ of the sample range is calculated as

$$\bar{\bar{X}} = \frac{\sum_{i=1}^{N} \bar{X}_i}{N} = \frac{1726.1}{10} = 172.61$$

and

$$\bar{R} = \frac{\sum_{i=1}^{N} R_i}{N} = \frac{2871.2}{10} = 287.12.$$

Also the control chart values for $\bar{X}$-chart and R-chart i.e., the values of Lower Control Limits (LCL), Central Limit (CL) and Upper Control Limits (UCL) lines are calculated by the equation (3) and (4) and is mentioned in Table-3, where $A_2 = 0.337, D_3 = 0.184$ and $D_4 = 1.816$ are the values taken from the table of control chart constants.

Table 3. Control chart values for $\bar{X}$-chart and R-chart

	Central line	UCL	LCL
$\bar{X} - chart$	172.61	269.37	75.85
$R\text{-}chart$	287.12	521.41	52.83

For the values of $\bar{X}$ and R in Table-2, graphs are plotted as mentioned in the Figure 3 and Figure 4. All the points lies between the Upper control limit and the Lower control limit in both the $\bar{X}$-chart and R-chart. In such a case the variation between the samples is recognized to chance cause. This shows that the mean value of the placement of the planets positions and the range values of planets positions are in control.
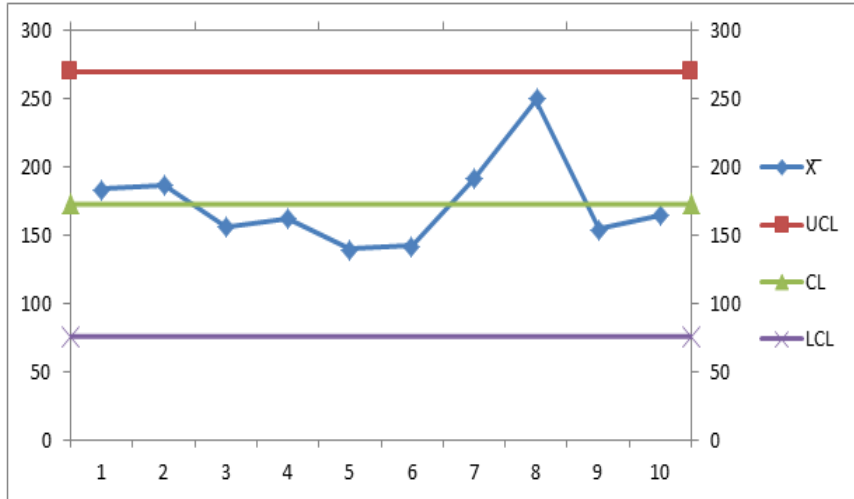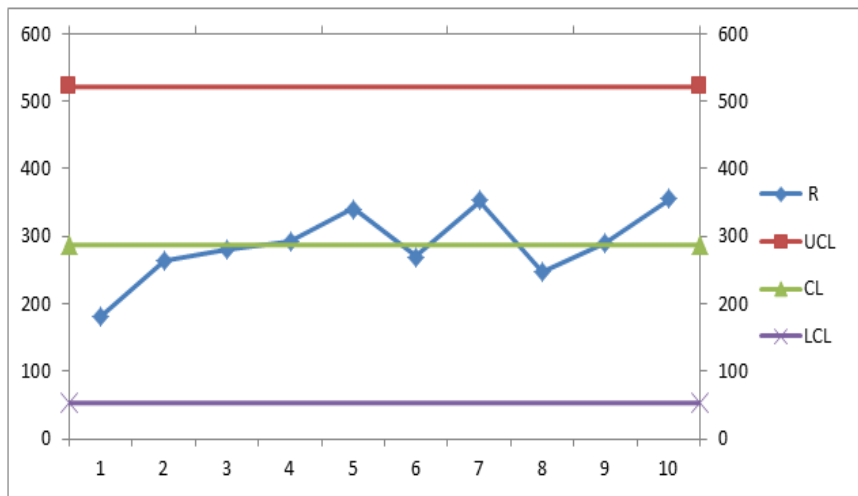
Figure 3. $\bar{X}$-chart

Figure 4. R-chart

4. CONCLUSION

Astrology endeavors to map these comfort zones and help us make informed decisions within our own limits. The urge or belief that impels a tendency can have multiple possible outcomes, which are decided and directed by the free will of the individual. By the statistical control test Astrologer's can identify the

underlying desires or beliefs and describe various potential outcomes based on the astrological configurations. Thus the individual is always presented with choices established by the planets position in their horoscope.

References

[1] M. Akhmet, M.O. Fen: *Unpredictable points and chaos,* Commun. Nonlinear Sci. Numer. Simulat., **40** (2016). 1-5.

[2] M.F. Barnsley: *Fractals Everywhere,* Academic Press, New York, 1998.

[3] K.S. Lau, S.M. Ngai, H. Rao: *Iterated function systems with overlaps and the self-similar measures,* J. London Math. Soc. **63** (2001), 99-115.

[4] B.B. Mandelbrot: *The Fractal Geometry of Nature,* Freeman, New York, 1983.

[5] H.-O. Peitgen, H. Jurgens, D. Saupe D.: *Chaos and Fractals,* 2nd ed. Springer-Verlag, NewYork, (2004).

[6] S. Sato, K. Gohara: *Fractal transition in continuous recurrent neural networks,* Int. J. Bifurcation and Chaos. **11**(2) (2001), 421-434.

[7] G. Haribaskaran: *Probability, Queuing Theory and Reliability Engineering,* 2nd edition, University Science Press, (2006).

Research Scholar,
Department of Mathematics,
VELS Institute of Science, Technology and Advanced Studies,
Chennai-600 117, Tamil Nadu, India

Assistant Professor,
Department of Mathematics,
VELS Institute of Science, Technology and Advanced Studies,
Chennai-600 117, Tamil Nadu, India
Email address: kamali_1883@yahoo.co.in

Professor,
Department of Mathematics,
VELS Institute of Science, Technology and Advanced Studies,
Chennai-600 117, Tamil Nadu, India
Email address: g.jayalalithamaths.sbs@velsuniv.ac.in