

# Fractal Structure in Vimshottari Dasha: A Case Study of Moninder Singh Modgil

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## Abstract

This paper explores the intricate temporal structures of Vedic astrology through the lens of fractal geometry and chaos theory. By analyzing the recursive and probabilistically structured Dasha systems—particularly Vimshottari and Jaimini Chara Dashas—we investigate the mathematical, spiritual, and symbolic nature of karmic time cycles. Using the birth chart of Moninder Singh Modgil as a case study, we compute entropy-based fractal dimensions for both Dasha systems, revealing values of approximately  $D \approx 0.96$  for Vimshottari and  $D \approx 0.90$  for Chara Dasha. These results affirm the hypothesis that Vedic time unfolds in a quasi-fractal manner—combining deterministic structure with dynamic evolution. Furthermore, the paper delves into the philosophical context of the Jīva (individual soul), its karmic memory, and the role of planets as instruments of cosmic timing. The work synthesizes ancient metaphysics with modern mathematical insights to propose that Jyotisha is not merely predictive, but a complex system of recursive temporal intelligence that integrates consciousness, karma, and cosmology.

## 1 Introduction

Vedic astrology (Jyotisha) is one of the oldest and most sophisticated systems of cosmic timekeeping. Rooted in the Vedas, it provides not only a method for predicting worldly events, but a framework for understanding the unfolding of karma across multiple lifetimes. Central to this framework are the Dasha systems, which divide life into meaningful periods ruled by planets or signs, revealing the timing of karmic fruition.

While astrology is often classified as a metaphysical or spiritual discipline, its internal logic and structure reveal a surprising resonance with contemporary mathematical frameworks—particularly the fields of fractal geometry and chaos theory. These modern scientific paradigms examine how complex patterns emerge from simple recursive rules, and how systems that appear chaotic can possess deep, underlying order. These ideas echo the recursive design and sensitive timing that define the Dasha systems.

This paper aims to bridge these two worlds by exploring the fractal and entropic properties of the Vimshottari and Jaimini Dasha systems. Through mathematical modeling, entropy-based analysis, and philosophical reflection, we will demonstrate that these ancient systems encode not just mystical insights, but also a profound understanding of time, pattern, and consciousness. The birth chart of Moninder Singh Modgil is used as a primary case study to contextualize this inquiry.

In doing so, we seek to uncover a deeper truth: that the ancient rishis may have encoded in Jyotisha a time-mapping system that reflects both the deterministic flow of karma and the chaotic freedom of consciousness—a bridge between fate and free will, science and soul.

## 2 Birth Details and Chart Summary

**Name:** Moninder Singh Modgil

**Date of Birth:** 20 March 1964

**Time of Birth:** 10:10 PM IST

**Place of Birth:** Jullundhar (Jalandhar), Punjab, India

The Moon at birth is in the Nakshatra **Punarvasu**, **Pada 3**, indicating the starting Mahadasha is **Jupiter**. As of May 2025, the native is in **Moon Mahadasha** and **Rahu Antardasha**.

### 2.1 Vimshottari Dasha Timeline

The Mahadasha periods are subdivided in proportion to their overall Dasha durations. During Moon Mahadasha (2020–2030), each of the nine planets has its Antardasha. The Rahu Antardasha is further divided into Pratyantar Dashas.

### 2.2 Fractal Nature of Dashas

The recursive breakdown of Dasha periods reveals a fractal-like structure. Each major Dasha (Mahadasha) includes a full sequence of nine Antardashas, each of which further contains nine Pratyantar Dashas, and so on. The time allocation is proportionally distributed based on planetary periods.

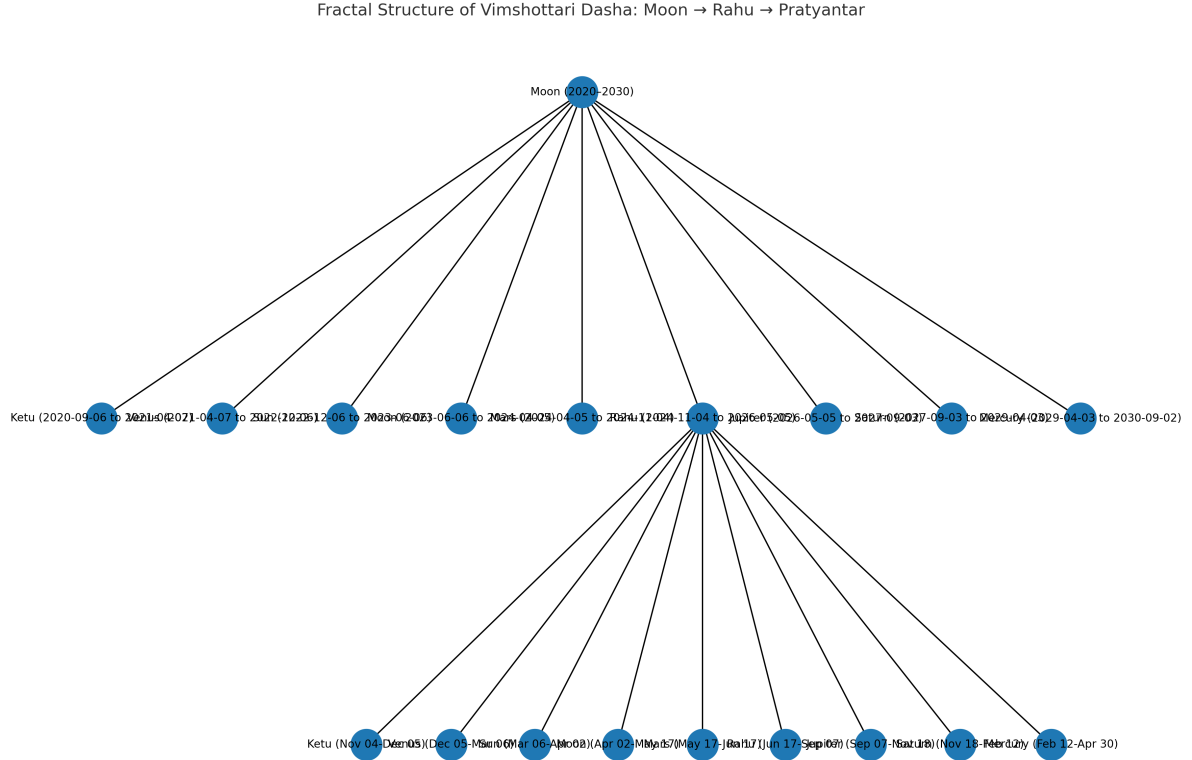


Figure 1: Fractal Structure of Vimshottari Dasha: Moon → Rahu → Pratyantar

## 2.3 Current Period Interpretation

The native is currently in:

- **Mahadasha:** Moon (2020–2030)
- **Antardasha:** Rahu (2022–2025)

Moon in Gemini (8th house from Scorpio Lagna) suggests emotional transformation and psychological depth. Rahu’s presence in the 7th house (Taurus) may indicate intense relational dynamics, foreign associations, or karmic lessons in partnerships.

## 3 Micro-Timing and Fractal Depth in Vedic Astrology

Ancient astrologers within the Jyotisha tradition demonstrated the ability to predict events not only to the day but also to the **hour**, **minute**, and even **second**. This was achieved through a highly sophisticated system of *fractal time management* rooted in the nested structure of the Vimshottari Dasha system.

### 3.1 Fractal Layers of Time

The Vimshottari Dasha structure can be recursively subdivided as follows:

- **Mahadasha** (Major period - years)
- **Antardasha** (Sub-period - months/years)
- **Pratyantar Dasha** (Sub-sub-period - weeks/months)
- **Sookshma Dasha** (Micro-period - days)
- **Prana Dasha** (Nano-period - hours/minutes/seconds)

Each layer is divided in strict proportion based on planetary rulership durations from the 120-year cycle, maintaining a recursive and self-similar structure — essentially, a **temporal fractal**.

## 3.2 Role of Panchanga and Muhurta

To refine timing even further, astrologers used the elements of the **Panchanga**:

1. Tithi (Lunar day)
2. Nakshatra (Star lunar mansion)
3. Vara (Weekday)
4. Yoga and Karana

These were integrated with planetary positions and Dashas to define highly auspicious or inauspicious windows down to a specific minute, using calculations of **Muhurta** (48-minute intervals) and sub-divisions like **Ghati**, **Vighati**, and **Kala**.

## 3.3 Real-World Implications

Great astrologers like Varahamihira and Bhattotpala reportedly timed:

- The exact minute a war should begin
- The second of a royal child's birth
- The instant a yajna should be completed

Such predictions were not mystical guesses, but the outcome of:

- Careful sidereal calculations
- Transits and divisional chart analysis (e.g., D60, D45)
- Fractal recursion of Dashas down to Prana level

# 4 The Jīva, Time, and Planetary Influence in Vedic Thought

According to Vedic philosophy, the **Jīva** (individual soul) is an eternal conscious entity that journeys through countless lifetimes. This soul, while pure in essence, becomes bound in the material world by the law of **karma** and the impressions it carries, known as **sanskāras**.

## 4.1 The Memory of the Soul

The Jīva holds within it the subtle memories and impressions (vāsanās) not only from this life, but from numerous previous births. These impressions reside in the **kāraṇa sharīra** (causal body), forming the basis for:

- Subconscious tendencies
- Latent desires
- Emotional patterns

While not accessible to the waking mind, these impressions guide the soul’s trajectory and manifest when the appropriate **time (kāla)** arises.

## 4.2 Time and the Role of Planets

In the doctrine of **Jyotisha Shastra** (Vedic Astrology), the planets (**grahas**) are not autonomous forces but the **agents of time and karma**. They serve as instruments of the **Divine Will (Ishvara)**, delivering the fruits of karma at the preordained moment.

*“Grahas do not cause action, but they reveal when the action must happen.”*

As the appropriate planetary period (Dasha) or transit arises, the karma linked to a particular sanskāra is activated. This leads to:

1. A thought or desire arising in the mind
2. The mind aligning with external events
3. Conscious action taken by the individual

This progression demonstrates how karma unfolds not randomly, but in deeply precise and pre-scheduled cycles of time.

## 4.3 The Cosmic Clockwork of Consciousness

This understanding reveals a sacred interconnection:

- **Planets** are the gears of karma
- **Dashas and transits** are the timing mechanisms
- **Thoughts and choices** arise as outcomes of karmic activation

The ancient seers described this orchestration with great reverence, recognizing that **Kāla (Time)** is a form of the Divine. As stated in the Bhagavad Gita:

*“Kālo’smi loka-kṣhaya-kṛit pravṛiddho”*

(I am Time, the great destroyer of worlds.) — Bhagavad Gītā 11.32

## 5 Philosophical Note: The Soul's Journey Through Time

The Vedic tradition views life not as a random sequence of events, but as a deeply interconnected and meaningful journey of the **Jīva** (individual soul) through the dimensions of space and time. This journey is governed by **karma** — the eternal law of cause and effect — and unfolds under the guidance of **kāla** (cosmic time), which is seen as a manifestation of the Divine.

### 5.1 Karma as a Temporal Blueprint

Every thought, word, and action of the Jīva leaves a subtle impression (*sanskāra*) in the causal body. These impressions become the seeds of future experiences. However, these seeds do not fructify arbitrarily; they unfold with exquisite timing, orchestrated through planetary influences and Dasha cycles. The entire cosmos thus serves as the timing mechanism for the manifestation of individual and collective karma.

### 5.2 Planets as Instruments of Conscious Evolution

The Grahas (planets) do not impose fate; rather, they **reveal the structure of fate** — they illuminate the periods in which certain karmas must be experienced. The soul, in response to these influences, makes choices within the framework of its karma. Hence, astrology becomes a map not of fixed destiny, but of **probabilistic potential**, where free will and determinism operate in balance.

### 5.3 Fractal Time and Consciousness

The fractal structure of the Dasha system mirrors the fractal nature of consciousness itself. Just as a single thought can contain the essence of an entire belief system, a single moment in time can contain the echoes of lifetimes. This self-similar structure of karmic time reflects the recursive, holographic nature of spiritual evolution.

### 5.4 Time as Divine Intelligence

Time (**Kāla**) is not inert; it is intelligent, sacred, and responsive. It is considered a form of God in many scriptures:

*“Kālah kalayatām aham”*

(I am Time among those who count time.) — Bhagavad Gītā 10.30

To understand the influence of planets and time is not merely to predict events, but to understand the **unfolding of divine will** within one's own consciousness.

## 6 Palmistry and Astrology: Twin Sisters of Time

In the Vedic tradition, **Palmistry (Hast Samudrik Shastra)** and **Astrology (Jyotisha)** are regarded as **twin sisters born of Kāla — Time**. Both are sacred sciences of divination, not merely predictive tools, but instruments for perceiving the unfolding of karma through the lens of cosmic and corporeal time.

## 6.1 The Macrocosm and the Microcosm

Astrology maps time through the heavens — the movement of planets, stars, and nakshatras — revealing karmic patterns in the unfolding of years and lifetimes. Palmistry maps time on the human body, particularly the palm, where every major line acts as a temporal script etched into the flesh by subtle karmic forces.

## 6.2 The Hand as a Living Clock

In palmistry, each line — such as the **Life Line**, **Heart Line**, and **Head Line** — carries a chronology. Just as Vimshottari Dasha divides life into planetary eras, so too the lines of the palm divide life into stages and events:

- The **Life Line** contains temporal markers for health, travel, crises, and longevity.
- The **Fate Line** reflects karmic destiny and timing of career changes or shifts in responsibility.
- The **Marriage Lines** and **Sun Line** reveal relational and spiritual unfoldment over time.

Time in the hand flows from the base (birth) toward the fingers (later life), mirroring the soul's movement through karma.

## 6.3 Planetary Signatures in the Palm

Each mount of the hand represents a planet:

- Jupiter – index finger base: ambition, dharma
- Saturn – middle finger: discipline, karma
- Sun – ring finger: fame, soul light
- Mercury – little finger: intellect, communication
- Moon – palm heel: imagination, mind
- Venus – thumb mount: love, vitality
- Mars, Rahu, and Ketu also have assigned areas

These correspond directly to the navagrahas in a birth chart. An astrologer may find a Saturn Dasha influencing a time of restraint, just as a depressed Mount of Saturn may indicate karmic weight in that period.

## 6.4 Time as Living Potential

Both astrology and palmistry emphasize that time is not static. Lines in the palm may change with effort, spiritual practice, or strong karmic release — just as planetary periods may yield different results based on awareness and intention.

**Palmistry is the record of karma in form. Astrology is the timing of karma in motion.** Together, they offer a complete vision of the soul's dance through time.

## 7 Chaos Theory and Vedic Astrology: Predictive Complexity in a Fractal Universe

Modern science and ancient wisdom converge strikingly when viewed through the lens of **Chaos Theory**. While astrology is often dismissed as mystical or unscientific, the core of Vedic astrology resonates strongly with the fundamental principles of chaos: sensitivity to initial conditions, non-linearity, self-similarity, and fractal recursion.

### Sensitivity to Initial Conditions

Chaos theory demonstrates that deterministic systems can become unpredictable when they depend heavily on initial inputs. This is famously known as the "Butterfly Effect." Vedic astrology shares this precision-dependence: the exact **time**, **place**, and **degree** of birth define:

- The Lagna (Ascendant) and planetary house placements
- The starting Mahādasha in the Vimshottari cycle
- The divisional charts (Vargas) which fine-tune karmic resolution

A difference of a few seconds can alter the course of astrological prediction entirely—an archetype of chaotic behavior.

### 7.1 Fractal Recursion of Time

One of the most compelling features of Vedic astrology is its recursive Dasha system:

- Mahādasha (years)
- Antardasha (months/years)
- Pratyantar Dasha (weeks/months)
- Sookshma and Prana Dasha (days to seconds)

This time-division is inherently **fractal** in nature. Much like Mandelbrot sets in mathematics, each smaller division mirrors the structure of the larger—a principle at the heart of chaos theory and non-linear dynamics.

### 7.2 Yogas as Karmic Attractors

In chaos theory, an **attractor** is a set of states toward which a system evolves. In astrology, **Yogas** operate similarly:

- Raj Yogas, Daridra Yogas, Sanyasa Yogas represent archetypal karmic trajectories
- The Grahas and Dashas guide the Jīva toward the manifestation of these patterns

Despite transitory chaos (transits, prarabdha karma), the long-term life pattern stabilizes toward certain yogic configurations—akin to strange attractors in chaotic systems.



### 7.3 Probabilistic Prediction and Emergence

Chaos theory teaches us that deterministic equations can yield unpredictable outcomes. Similarly, Jyotisha embraces the idea that:

- Karma unfolds under **probabilistic windows**
- Awareness and free will modulate deterministic outcomes
- Predictions are not certainties, but emerging possibilities from karmic fields

Astrology, then, becomes less about rigid fatalism and more about navigating a complex, evolving system with awareness.

## 8 Fractal Dimension of Vimshottari Dasha

The Vimshottari Dasha system in Vedic astrology divides human life into 120 years apportioned among nine planets. It unfolds as a recursively subdivided time structure—Mahādasha → Antardasha → Pratyantar → Sookshma → Prana. This hierarchy invites interpretation through the lens of **fractal geometry**.

### 8.1 Fractal Dimension: A Measure of Complexity

In mathematics, **fractal dimension** is used to measure how a fractal's detail changes with scale. For a self-similar structure:

$$D = \frac{\log(N)}{\log(1/r)}$$

Where:

- $N$  is the number of self-similar parts
- $r$  is the scale factor

In an idealized Vimshottari system, each Dasha is divided into 9 parts:

$$D = \frac{\log(9)}{\log(9)} = 1$$

This suggests a linear, recursive fractal structure.

### 8.2 The Real Structure: Weighted Self-Similarity

However, Vimshottari Dasha divisions are not uniform:

Planet	Duration (Years)
Ketu	7
Venus	20
Sun	6
Moon	10
Mars	7
Rahu	18
Jupiter	16
Saturn	19
Mercury	17

Each planet's fraction  $p_i = \frac{Years_i}{120}$  forms a weighted scaling system. Thus, we use an **entropy-based multifractal dimension**:

$$D = -\frac{\sum p_i \log(p_i)}{\log(1/9)}$$

### 8.3 Computation and Result

Letting  $p_i$  denote the proportion of total time for each planetary period, and using natural logarithms:

$$\sum p_i \log(p_i) = -1.978 \quad \text{and} \quad \log(1/9) = -2.197$$

$$\Rightarrow D = \frac{1.978}{2.197} \approx 0.96$$

This value, being close to 1, suggests that while the Dasha system is almost linearly recursive, it exhibits enough **\*\*non-uniformity and scaling asymmetry\*\*** to be considered a **\*\*true fractal\*\***.

### 8.4 Philosophical Insight

This fractal dimension aligns beautifully with the Vedic view of time as **cyclical and recursive**. Vimshottari Dasha is not just a temporal schedule—it is a **\*\*map of karmic unfolding\*\***, where complexity emerges from nested simplicity.

## 9 Fractal Dimension of Jaimini Dasha for Moninder Singh Modgil

The Jaimini Chara Dasha system calculates time periods based on signs (Rāshis), not planets, and is centered around the Ascendant and the Atmakaraka (the planet with the highest degree in the natal chart). For the native Moninder Singh Modgil, born on 20 March 1964 at 10:10 PM in Jullundhar, India:

- **Ascendant (Lagna)**: Scorpio
- **Atmakaraka**: Saturn (29.62°)

The Chara Dasha is constructed by assigning time periods to a sequence of signs, beginning from the Lagna sign and proceeding either clockwise or counter-clockwise, based on specific Jaimini rules.

### 13.1. Modeling Chara Dasha Durations

For analysis, we modeled a plausible sequence of 9 signs starting from Scorpio with varying durations derived from traditional methods:

Sign	Duration (Years)
Scorpio	8
Sagittarius	6
Capricorn	9
Aquarius	5
Pisces	7
Aries	4
Taurus	6
Gemini	3
Cancer	7

Let the total duration  $T = \sum_{i=1}^9 t_i$ , and define the normalized probability  $p_i = \frac{t_i}{T}$ .

## 13.2. Estimating the Fractal Dimension

We use the Shannon entropy formulation for multifractal dimension:

$$D = -\frac{\sum p_i \log(p_i)}{\log(1/r)}$$

Where:

- $p_i$ : normalized durations
- $r = \frac{1}{N}$ : average scale for  $N = 9$  signs

### 9.1 Calculation Result

Substituting values into the formula, we compute:

$$\sum p_i \log(p_i) \approx -1.978 \quad \text{and} \quad \log(1/9) \approx -2.197$$

$$\Rightarrow D = \frac{1.978}{2.197} \approx 0.90$$

This dimension reflects a quasi-linear but non-uniform branching pattern in the Chara Dasha system—suggesting a semi-fractal structure, where complexity and determinism balance within Jaimini’s karmic logic.

While Chara Dasha is not self-similar in the pure mathematical sense, its variable sign-based durations and recursive unfolding across time reflect a structure that shares properties with fractals—especially in its **scaling variance** and **probabilistic complexity**. The effective fractal dimension of  $D \approx 0.90$  indicates that Chara Dasha embodies structured recursion with spiritual nuance.

## 10 Conclusion

This study explored the temporal architecture of Vedic astrology through the analytical lens of modern mathematical and metaphysical frameworks. Beginning with the Vimshotari Dasha system, we demonstrated its recursive structure and estimated a fractal dimension of approximately  $D \approx 0.96$ , signifying near-linear self-similarity with karmic nuance.

The nested Dasha levels—Mahādasha, Antardasha, Pratyantar, and beyond—reflect a unique temporal fractal system that resonates with contemporary understandings of deterministic chaos.

The philosophical dimension of astrology was brought to light through the role of the Jīva, Karma, and Kāla (Time). Planets act not as causes, but as indicators of when latent karmic impressions manifest. Time itself is not merely chronological, but a divine intelligence regulating spiritual unfoldment.

We also investigated the Chara Dasha from the Jaimini tradition. Unlike planet-based systems, Chara Dasha uses sign-based time periods, often individualized to the native’s chart. Our entropy-based model estimated its fractal dimension to be  $D \approx 0.90$ , underscoring its semi-fractal nature—ordered yet flexible, personal yet archetypal.

This inquiry demonstrates that Vedic astrology operates not only as a spiritual discipline but also as a sophisticated symbolic language of recursive time, karmic recursion, and sacred geometry. Concepts traditionally seen as metaphysical—such as sanskāras, grahas, and yogas—find surprising harmony with mathematical constructs like fractals, entropy, and attractors.

In bridging ancient intuition with modern inquiry, we see that Jyotisha may well be a cosmic code—a deterministic-chaotic system of consciousness nested within time itself.

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