



## Critical Review of Acharya Gangadhar's *Jalpalkpataru* Commentary on *Charak Samhita Shareera Sthana*

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**ABSTRACT:** In Ayurveda, the *Shareera Sthana* of the *Charaka Samhita* is a rich repository of knowledge concerning human birth, development, and death. To understand these various aspects of life, it is essential to study anatomy and physiology. In the *Shareera Sthana* of the *Charaka Samhita*, there is comparatively a more detailed explanation of physiology than anatomy. In contrast to the applied approach of Acharya Chakrapani (the most popular commentator), Acharya Gangadhar's unique approach, as presented in his commentary *Jalpalkpataru*, is recognized for its spiritual, philosophical, and fundamental explanation of the text. Here, in the present study various concepts described in *Shareera Sthana* were collected and their unique clarification in the commentary of Gangadhar was studied and critically analysed (interpreted) as per the modern science literature. His commentary emphasizes the spiritual and philosophical explanation of the origin of *Purusha* (human beings), as well as a fundamental understanding of key concepts such as *Mahabhuta* (specially *Akasha Mahabhuta*), *Mana*, and *Indriya*. Additionally, it provides a fundamental and scientific perspective (including aspects comparable to genetics) on *Garbhotpattikar Bhava*, *Strikar Bhav* and *Purushkar Bhav* (sex-determining factors), and reproductive disorders due to chromosomal anomalies (*Beeja Dosha Vikara*).

**KEYWORDS:** *Charaka Samhita*, *Shareera Sthana*, *Jalpalkpataru Teeka*, *Mahabhuta*, *Indriya*, *Garbhotpattikar Bhava*, *Strikar Bhav*, *Purushkar Bhav*, *Beeja Dosha Vikara*.

### 1.1 INTRODUCTION

Critical analysis is not merely a compilation and translation but actually a proper interpretation. For proper interpretation we must have evidence which are may be in the form of any literature and lecture. The benefit of critical analysis is that it helps in thoroughly understanding the literature of that field, which enables us to establish its scientific relevance and also contributes to the expansion of the literature in that field. Many ancient classics are still unexplored. *Charaka Samhita* is one such classical text that is rich in fundamental concepts and medical science, though presented in a concise manner. *Charaka Samhita* is divided into 8 *Sthana* (Section) which are site of particular topic. In *Shareera Sthana*, there is a study of *Shareera* (Human Body) and knowledge of *Shareera* is important as *Shareera* (Human Body) is the base of any treatment or management. *Shareera Sthana* (section of *Charaka Samhita*) deals with the description of the body and the

organs present in it, which is essential for understanding human physiology and life processes. As *Charak Samhita* is medicine focused text, it's *Shareera Sthana* has more description on physiology as compared to anatomy. It's primary description on Human's origin and its subsequent development, *Mahabhuta* description, embryology, psychology, genetics, Prenatal care, Antenatal care, Child Care etc. makes it a complete text of medical science. Many commentators have attempted to explore these concepts and bridge the gaps. However, some of these commentaries are still not fully explored. In 19<sup>th</sup> century, Acharya Gangadhar wrote his commentary '*Jalpakkalpataru*'. The style and content of this commentary presented him as a philosopher, scientist and researcher as he used various text like *Upnishad*, *Purana*, *Smriti Grantha*, *Samhita* and *Darshan Grantha* for critical analysis. Apart from this, his own views on various topics are easily seen in his commentary. The philosophical and fundamental detailed explanation of various topics sets Acharya Gangadhar apart from other commentators. Started from the spiritual and philosophical explanation of human origin (including its content like *Mahabhuta*, *Indriya*, *Mana*, *Buddhi* etc) he has also scientifically explained the *Linga Nirdharaka Bhava* (sex determining factors) and *Beej Dosha Vikara* (reproductive anomalies due to chromosomal abnormalities), which shows his knowledge on genetics. He has also described in detail the features of *Akasha Mahabhuta*, which shows his strong grasp of elemental science.

## 1.2 AIM AND OBJECTIVE

To critically analyse the various concepts described and clarified by Acharya Gangadhar in his '*Jalpakkalpataru*' commentary on *Charak Samhita Shaareera Sthana*.

## 1.3 MATERIAL AND METHODS

Concepts from *Charak Samhita*'s '*Jalpakkalpataru*' Commentary of Acharya Gangadhar on *Shaareera Sthana* were compiled, translated, studied and critically analysed on the basis of modern science text including Books, Websites, articles etc.

Following book was used for this article-

- *Charak Samhita- 'Ayurvedadipika'* commentaries of Chakrapanidatta and '*Jalpakkalpataru*' Annotations of Mahamahopadhyaya Sri Gangadhar Kaviratna kaviraja, Edited and revised by Kaviraja Shree Narendranath Sengupta & Kaviraja Shree Balaichandra, 3<sup>rd</sup> part, Chaukhambha Publishers, Varanasi. 2018

Firstly, above book is translated from Sanskrit to English. Ancient texts like *Darshan*, *Upnishad*, *Purana*, *Smriti Grantha* etc were primarily used for translation purpose as this commentary is primarily based on above books.

For interpretation, various websites, articles etc were used.

In the present study, following concepts are explored and critically analysed-

- Evolution of '*Purusha*' (Human body)
- Manifestation of *Mana*, *Indriya* (*Gyanendriya* and *Karmendriya*) and *Buddhi* in Living body
- Activity of atomic mind.
- Concept of '*Akasha*' *Mahabhuta*'
- Genetics in the form of
  - ✓ *Linga nirdharak Bhav*
  - ✓ *Garbhottpattikar Bhav*
  - ✓ *Beeja Dosha Vikara* (reproductive disorders due to Chromosomal Abnormalities)

**1.3.1 Evolution of '*Purusha*'-** '*Purusha*' word refers to the live body containing different *Dhatu* (element) like *Atma* (conscious element), Mind, Sensory organs, *Mahabhuta* etc. Acharya Gangadhar explain the origin

of *Purusha* (Living being) and its composition with the help of different *Darshan*, *Purana*, *Upnishad* and *Smriti granthi* [1].

In the context of the *Brihad Mandukya Upanishad*, two out of the four states (quarters) of the (*Atma*) Self are described. First one is *Jagrita Avastha* (waking state) in which the individual is *Bahish-pragnya* (conscious of external objects), possesses seven limbs, and has nineteen mouths (i.e., the five sense organs, five organs of action, five vital airs, mind, intellect, ego, and consciousness). It experiences gross objects and is known as *Vaishvanara*, the first quarter of the Self. The second is the dream state or *Svapna Avastha* in which the individual is *Antah-pragnya* (conscious of internal objects or mental impressions), also having nineteen mouths (the five sense organs, five organs of action, five vital airs, mind, intellect, ego, and consciousness). It experiences subtle objects.

In the beginning, this (universe) was *Asat* (unmanifest, in the form of undifferentiated Brahman). From that *Asat*, *Sat* (the manifest world of names and forms) arose. (**Taitareeya Upanishad**)

By desired of Supreme Self, there was chain of formation occurs started from *Tejas* (fire/energy) *jala Anna/Prithvi Tatva*. From this mutual combination and folding of three *tatva*, entire universe got manifested with different forms and names. After creating it, Supreme Self (*Atma*) entered into it. Having entered into it, that Supreme Reality became both manifest and unmanifest; definable and indefinable; with support and without support; conscious and unconscious; and the empirical truth as well as untruth. (**Taitareeya Upanishad**) ‘Now, entering into these three deities (fire, water, and earth) along with this Self (individual soul), I shall differentiate names and forms and make each of them threefold. Then that Divine being entered into these three deities along with the Self and differentiated names and forms. It made each of them threefold. O gentle one, how each of these deities became threefold, learn that from me (*Chandogyopnishad*).

The red colour of fire is the colour of *Teja Mahabhuta*; the white colour is that of *Jala Mahabhuta*; and the black colour is that of *Prithvi Mahabhuta*. Similarly, the red colour of the sun is that of *Tejas*, the white of water, and the black of earth. The red colour of the moon is that of *Tejas*, the white of water, and the black of earth. Likewise, the red colour of lightning is that of *Tejas*, the white of water, and the black of earth. (*Chandogyopnishad*).

*Sankhya Darshan*'s *Upadana Niyam* states that that entire material world originated from *Prakriti* (Primal cause of material world) which is inseparable part of *Brahman*.

With the help of *Nyaya Darshan*, he explained that nothing can arise from absolute “nothingness” (*Abhava*). Every new entity is produced from some pre-existing cause. If it is said that a sprout emerges from a completely destroyed seed, this is not correct. The seed is not entirely destroyed; rather, its internal components undergo transformation. From this transformation, the sprout emerges. Destruction and production occur in sequence; however, creation does not originate from absolute absence.

With the help of *Vaisheshika Darshan*, he explained that “*Asat* (non-being) existed in the beginning.” It is said to be *Asat* because action (*kriya*) and qualities (*guna*) were not manifest or defined at that stage. *Sat* (being) becomes *Asat* in the sense that what previously existed, after being destroyed, comes to have absence. Thus, due to the non-manifestation of action and qualities, that *Sat* is regarded as another state, namely *Asat*. Both *Sat* and *Asat* are accepted. The *Asat* that is referred to here is the absence of one entity in another (*anyonyabhava*, mutual absence). This form of *Asat* has already been explained earlier.

According to the *Shwetashwataropnishad*, through meditation and yoga, it is understood that before creation there existed only a single power of *Brahman* known as ‘*Shakti*’. This *Shakti* was in an unmanifest state, devoid of activity (*kriya*) and qualities (*Guna*). From this one power arise all phenomena such as creation, existence, sustenance, and experiences of pleasure and pain; there is no other independent cause.

Although this power may appear manifold, in reality it is one and extremely subtle, comparable to space. Its essential aspect remains unchanging and unmodified, while its manifest aspect undergoes transformation. The primary subtle power remains unchanged, whereas its functional aspect evolves. *Brahman* and its power (*Shakti*) are not separate; they are one and the same. Thus, this single power of *Brahman* is both *Sat* (manifest) and *Asat* (unmanifest), and from it the manifest world arises.

Similarly, to describe this, Acharya Gangadhar cited other *Upanishads* and *Puranas*.

According to the *Shiva Purana*, the powerful Lord pervades the entire universe through his three kinds of *Shakti* (powers)—*knowledge (Gyana)*, *action (kriya)*, and *will (iccha)* and by the unity of *Shiva* and *Shakti*, whole universe gets manifested in the respective sequential manner- *Adinada* (Primordial sound)- *Bindu-Maheshwari-Sadashiv*.

Through these three powers—*knowledge*, *action*, and *will*—the generative power brings forth the entire universe to the fullest extent. By the union of this power, *Shiva* is called *Shaktiman* (the possessor of power). When endowed with *Shakti* (power), the universe is described as *Shaiva* and *Shakta*.

Just as a child cannot be born without both mother and father, similarly, the entire animate and inanimate universe cannot arise without ‘*Bhava*’ (*Shiva*) and ‘*Bhavani*’ (*Shakti*). *Shiva*, in the form of the male principle, is the father, and *Shakti*, in the form of the female principle, is the mother. Therefore, the entire universe is pervaded by *Shakti*. By the will of *Shiva*, the supreme power (*Parashakti*) attains unity with the principle of *Shiva*. Thereafter, from the possessor of power (*Shakti*), the dynamic power of action manifests.

From the agitation of that primordial *Shakti* (power), the primordial sound (*Adinada*) arose. From that sound, *Bindu* emerged, and from, from *Bindu* sound ‘*Om*’ manifested. This was named as *Maheshvari* (pure and Supreme knowledge), and from the mouth of *Maheshvari* in the form of letters *Sadashiva* arose.

Thereafter, with the involvement of the infinite, *Maya* produced *Niyati* (order), *Kalaa* (Arts, skill and creative manifestation), *Vidya* (knowledge), and *Kala* (time). From *Kalaa* arose *Raga* (attachment) and *Purusha* (individual self). From *Maya* emerged the unmanifest (*Avyakta*) composed of the three *gunas*—*Sattva*, *Rajas*, and *Tamas*—which pervade the entire creation. From the disturbance of these three *gunas*, the three forms (deities) manifested. In this sequence, the *Mahat* and other principles arose, and from them countless cosmic eggs (universes) were produced. That self-existent (*Svayambhu*) *Brahman*, who is *Sukrita* (self-created), blissful, and the supreme transcendental Self (*Paramavyoma Paramatman*), identified with *Shiva*, is the source (womb) of *Brahman*. Endowed with the three powers of the Lord—*knowledge (Gyana-Shakti)*, *will (iccha-Shakti)*, and *action (kriya-Shakti)*. He pervades the entire universe and remains present within it.

His power of knowledge functions as the determining intellect that comprehends all actions, purposes, causes, and instruments up to dissolution (*pralaya*). This knowledge operates through a single act of determination and is therefore eternal. It is not devoid of qualities such as *sattva* and others.

The will-power of *Mahesh (Shiva)* regulates action through the principle “this should be so, and this should not be so.” This regulation occurs once and is therefore eternal, and it too is not devoid of the qualities like *sattva*.

The power of action manifests according to the determination of knowledge and the regulation of will. Whatever is conceived is instantly brought into manifestation. This creative act also occurs once and is not repeated. No action-bearing entity functions in the world without the influence of *rajas*.

#### **Flow Chart 1. Evolution of Universe and Purusha (Living being)- Below**

From the *Shakti* (supreme power) known as *Gayatri* arises the eternal generative power (*prasava-dharmini kriya-Shakti*), which produces the entire universe.

From the *Shuddha Vidya* or *Maheshwari*, the goddess known in the world as *Sarasvati* is said to arise, associated with *Brahma*.

Through knowledge and action, this supreme power divides the universe (from space to earth) into 84 parts—10 in the upper realm (*Svarga*), 24 in the middle (*Bhuva*), and 50 in the lower (*Bhu*).

In the upper realm are described, according to the Vedas and Upanishads, the five *Brahma-purushas* associated with the four Vedas. These are symbolically located in five openings like those of the heart. In the upper opening resides *Sadashiva*, the first *Brahma-purusha*. Thereafter arise the Vedic forms—*Rigveda*, *Yajurveda*, *Samaveda*, and *Atharvaveda*—each associated with corresponding *Brahma-purushas* located in different directions or openings) like upward, east, south, west, and north. The five openings—upward, east, south, west, and north—are respectively governed by the five vital airs (*Vayus*): *Udana*, *Prana*, *Vyana*, *Apana*, and *Samana*.

In the human being, four of these *Vayus* (excluding *Udana*) are said to control four organs respectively, namely the eyes (*Chakshu*), ears (*Shrotra*), speech (*Vak*), and mind (*Manas*).

The Sun is described as the “honey” (*Devamadhu*) of the gods because it sustains and nourishes them by providing energy and life. From the Sun arise qualities such as brilliance, strength, vitality, and food along with its various tastes. Its rays, extending in five directions, are symbolically associated with the five *Brahma-purushas*, and the four Vedas are compared to flowers from which this “honey” (essence) is derived. Just as honey is obtained from flowers, knowledge and power are obtained from the Vedas. Different directional rays of the Sun are said to produce different types of tastes in food; Upward (*Urdhva*) → Sour (*Amla* taste), East (*Poorva*) → Salty (*Lavana* taste), South (*Dakshina*) → Pungent (*Katu* taste), West (*Pashchima*) → Bitter (*Tikta* taste), North (*Uttara*) → Astringent (*Kashaya* taste)

while its various colours are explained through the influence of the three *gunas*—*sattva*, *rajas*, and *tamas*.

**Flow Chart 2. 3 Types of Loka (realm)- Below**

**Flow Chart 3. 5 directions and their related originated Ras (Taste) - Below**

**Colour manifestation of Sun from *Satva*, *Raja* and *Tama*-**

- *Sattva* Predominance- White colour
- *Tamo Guna* predominant *Rajo Guna*- *Shyam Rupa* (Dark Blue colour)
- *Tamo Guna* Predominance- Black Colour

*Vayveeya Samhita* of *Mahashiv Purana* - Creation begins with *Kala-vidya* (*Maya*) and *Kalaa* (*Mahavishnu*), from which emerges *Vishnu* as the *Kshetragnya*, the conscious self of the nature of *Sat-Cit-Ananda* (existence, consciousness, and bliss). Initially, everything exists in a subtle state (*Paramavyoma*), from which the three *Gunas*—*Sattva*, *Rajas*, and *Tamas*—differentiate, giving rise to *Avyakta* (unmanifest nature), *Mahat* (cosmic intelligence), and *Ahankara* (ego). From *Ahankara* arise the five subtle elements (*Tanmatras*), which further evolve into the five gross elements (*Mahabhutas*): *Akasha*, *Vayu*, *Agni*, *Jala*, and *Prithvi*. Along with these, the ten sense organs and the mind are formed, together constituting the “nineteen-mouthed” being. Thus, the entire universe evolves progressively from *Maya* and *Kala* through the interplay of the three *Gunas* into the manifest world.

After this, Acharya Gangadhar explained that in this world the *Purusha* is of two types—*Samasta* (collective) and *Vyasta* (individual or separate). In its collective form, it is *Narayana*, and in its individual form, it exists as innumerable subtle bodies.

**Manu Smriti**- That subtle, unmanifest, eternal, inconceivable reality, beyond sensory perception and endowed with all beings, arose by itself. Desiring to create various kinds of living beings, it produced water from its own being and placed a seed within it. That seed became a golden egg, radiant like the sun. From that egg emerged *Brahma*, the grandsire of all the worlds.

Water is called *Nara* because it originated from the Supreme Being called *Nara*, and the Supreme Being is called *Narayana* because water was His resting place at the beginning of creation. From that eternal,

unmanifest reality—endowed with both *Sat* (being) and *Asat* (non-being)—arose that being who is known in this world as *Brahma*.

*Brahma* remained within the egg for one year and then divided it into two parts. From these two halves, he created heaven and earth; in between, he formed space, the eight directions, and the eternal abode of water (the ocean).

Thereafter, from the Self arose the mind, characterized by both being and non-being, and from the mind emerged ego (*Ahankara*), associated with the sense of individuality. Then arose *Mahat* (cosmic intelligence), the three *gunas*—*sattva*, *rajas*, and *tamas*—and the sense organs that perceive objects.

By combining the six subtle components (ego and the five subtle elements), *Brahma* created all living beings. Because these subtle components serve as the basis of the senses and the gross elements, this form of *Brahma* is called the body. The five great elements (*Mahabhuta*) and the mind enter into *Brahman* through their functions and subtle forms to give rise to all beings.

From these seven principles (ego and the five elements), through their subtle forms (*Tanmatras*), the perishable world is produced. Each successive element inherits the qualities of the preceding one. According to the Vedas, names and duties were assigned distinctly to all beings.

The Lord created both inert and conscious beings, the gods, and subtle celestial entities. From fire, air, and the sun, He produced the three Vedas—*Riga*, *Yajur*, and *Sama*—for the performance of sacrificial rituals. He also created time, its divisions, constellations, and planets, as well as rivers, oceans, mountains, and varied terrains. To initiate creation, He brought forth austerity (*tapas*), speech, desire, attachment, and anger. For moral discernment, He established *dharma* and *adharm*a, and associated beings with dualities such as pleasure and pain.

From the subtle, perishable atomic elements (*tanmatras*), the entire universe evolves gradually. Those beings whom *Brahma* assigned specific duties in the beginning continue to perform those duties repeatedly through successive creations. Qualities such as violence and non-violence, gentleness and harshness, righteousness and unrighteousness, truth and untruth were assigned at the beginning and naturally manifest in beings.

Just as the six seasons manifest their characteristics with the change of time, similarly embodied beings experience their respective actions (*karma*). For the growth of society, *Brahma* created the four social classes from his body: from his mouth the *Brahmana*, from his arms the *Kshatriya*, from his thighs the *Vaishya*, and from his feet the *Shudra*.

There, the Supreme Self (*Paramavyoma Paramatman*) is described as the *Tripada Purusha* (three-footed or threefold being), extending down to the fivefold earth (*Panchatmaka prithvi*). Among all the worlds up to the realm of *Mahavishnu*, the earth (*Bhu-loka*) is considered the foremost and constitutes the first quarter (*Pada*). The seven worlds are *Bhu*, *Bhuva*, *Sva*, *Maha*, *Jana*, *Tapa*, and *Satya-loka*.

*Satya-loka* is of two kinds: *Anrita-satya* and *Rita-satya*. From *Tapoloka* upwards, including *Brahmaloka*, *Vaikuntha*, *Kailasha*, and other subtle spiritual realms, these belong to *Satya-loka* and *Anrita-satya*, which are subject to dissolution during the *Prakrita Pralaya*. Above these lie the realms of *Pradhana*, *Kshetragnya*, and *Kala*, which constitute *Rita-satya*, as they remain stable even during cosmic dissolution.

*Bhu-loka* is the first realm; above it, in succession, are *Bhuva-loka*, *Sva-loka*, *Maha-loka*, *Jana-loka*, *Tapaloka*, and *Satya-loka*. Above *Satya-loka* is the realm of *Vishnu*, from which return (rebirth) is rare. Above that is *Kaumara-loka*, endowed with all perfections, and above it is *Rudra-loka*, which is the supreme state of liberation (*kaivalya*).

*Vishnu-loka* is the abode of the five *Brahma-purusha*, *Kaumara-loka* is superior, and *Bhuva-loka* is considered the second realm. Above that, *Rudra-loka* corresponds to *Sva-loka*. Thus, the *Tripada Purusha* is described through the great utterances (*Mahavyahritis*).

This *Purusha* is described in the *Purusha Sukta* as having a thousand heads, a thousand eyes, and a thousand feet. Encompassing the entire earth, He still extends beyond it by ten measures. His unmanifest body (*avyakrita deha*) in the form of the supreme space measures twenty-four units, and below it extends fifty units including the earthly realm. Above that, extending twenty-four units, lies *Bhuva-loka*, and further above, ten units correspond to *Sva-loka*, where the head and neck are situated.

His greatness extends infinitely, beyond even *Sadashiva*. Of this *Tripada Purusha*, two quarters consist of all beings in *Bhu-loka* and *Bhuva-loka*, while the third is *Sva-loka*, and the fourth is the immortal, luminous *Gayatri*.

According to the *Purusha Sukta*, the cosmic being has a thousand heads, eyes, and feet, covering the earth entirely and yet extending beyond it. One realm of Him constitutes all beings in the earthly realm, while three quarters remain in the infinite beyond.

From the right side of *Narayana* emerged the four-faced *Brahma* along with *Saraswati*, and from the left side appeared the four-armed *Vishnu* along with *Lakshmi*.

That Lord divided His cosmic body (in the form of the universe) into two parts. From one half emerged the male (*Purusha*), and from the other half the female. From that female was born *Virat* (the cosmic being representing the entire universe). That very *Virat Purusha*, through austerity (*tapas*), realized: “I alone am the creator of the entire universe.”

### 1.3.2 Manifestation of *Mana*, *Indriya* (*Gyanendriya* and *Karmendriya*) and *Buddhi* in Living body [2]-

From *Avyakta* (the unmanifest), *Mahat* (cosmic intelligence) is produced, and from *Mahat*, *Ahankara* (ego) arises. In the living body, the manifestation of *Atma* is from *Avyakta*; the manifestation of *Vidya Buddhi* (true knowledge/intellect) is from *Mahat* endowed with the three *Gunas*—*Sattva*, *Rajas*, and *Tamas*; and the manifestation of *Avidya Buddhi* (ignorance) is from *Ahankara*.

*Mana*, composed of the three *Gunas*—*Sattva*, *Rajas*, and *Tamas*—exists in an equilibrium (inactive) state within the *Sukshma Shareera*. When the *Sukshma Shareera*, along with *Mana*, enters the physical body, this equilibrium is disturbed, leading to the activation of the *Gunas* and the formation of an active mind in the living body predominantly governed by *Sattva*.”

“In the *Sukshma Shareera* (subtle body), when the *Ahankarika Indriyas* (ego-derived faculties) come into conjunction with their respective *Mahabhutas* (gross elements), the physical (*Bhautika*) sense organs of the living body are formed. Similarly, Physical *Karma Indriya* (Sense organs) are also formed in the living body. *Mind*; responsible entity for cognition- Even when the sense organs (*Gyan Indriya*), *Atma*, and objects (*Vishaya*) are present, the occurrence or non-occurrence of knowledge depends on whether the mind is present or not as the primary function of analysis is performed by *Mana* .

Acharya Gangadhar explained that why function ‘Cognition’ can’t be performed or originated by *Atma* and *Buddhi*. Due to its very rapid movement towards all sensory organs it performs this action. *Buddhi* can’t do this as ‘movement’ not occurs in *Buddhi*. Besides *Buddhi*, *Atma* is also unable to perform this function, as the *Sparsha Indriya* (organ of touch) cannot reach the *Atma*. Where the *Atma* resides, the tactile sense organ has no access. The domain of the tactile sense organ extends only from the skin (*Tvacha*) up to the mind.

### 1.3.3 Doubt Regarding the Activity of Atomic Mind (*Manas*)

Acharya Gangadhar clarified the doubt that how can the mind (*Manas*), being atomic (*Anu*), and one (*Eka*) be active, since activity is generally observed only in substances composed of parts?” He stated that Mind is not part less; it is considered to be composed of parts. Its atomic nature, due to the association of *Tajasa* and *Sattvika Ahankara*, makes it a composite entity.”

Doubt regarding the *Ahankarika* and *Bhautika* nature of *Gyana Indriya*- Acharya Gangadhar clarified this doubt with references of *Sankhya Darshan* and *Nyaya Darshan*. *Sankhya Darshan* opines that *Indriya* are

*Ahankarika* (Non-Physical) as *Vritti* (function/activity) is a distinct entity separate from the parts (components) and qualities of the sense organ. However, this *Indriya-Vritti* (functional activity of the sense organ), while residing in the sense organ as its substratum, extends up to the location of the object in order to establish contact between the sense organ and its object. *Nyaya Darshan* accepts *Bhautika* (Physical) as “by the contact between the rays of the eye (*Chakshu Rashmi*) and the object, near and distant, large and minute objects are perceived. But when these rays are obstructed, the object is not seen; hence, the eye is regarded as a physical sense organ.”

Collaborating these both opinion Acharya Gangadhar said that in the *Sukshma Shareera* it is accepted as *Ahankarika* (Non-physical) and in the living body as *Bhautika* (Physical).

**1.3.4 The concept of Akasha Mahabhuta-** *Akasha Mahabhuta* is very controversial element as many philosophers do not accept it as *Mahabhuta* (Element). In *Charak Samhita* it is described as *Mahabhuta* which is devoid of hardness, roughness (*khara*), liquidity (*drava*), mobility (*chala*) and heat (*ushna*). Acharya Gangadhar clarified its feature ‘*Apratighata*’ (Non-resistance). According to Acharya Gangadhar, the *Akasha Mahabhuta* does not exhibit transformation into other qualities and always remains a pure, unmixed element. In unmixed elements, qualities such as hardness and roughness (*khara*), liquidity (*drava*), mobility (*chala*), and heat (*Ushna*) remain unmanifest (not prominently expressed); therefore, their characteristics are not evident. When the *Mahabhuta* combine with one another, these qualities become manifest and are then recognized as characteristics. associated with direction (*disha*) and time (*kala*), *Akasha* possesses the property of non-obstruction (*apratighata*), which enables passage and entry. It can be interpreted as ‘Field’ (Such as magnetic, Quantum etc) where ‘a field represents empty space around an object where a non-contact force, like gravity or an electric force, could exist’ [3].

**1.3.5 Description of ‘Genetics’-** A detailed study of the *Shareera Sthana* of the *Charaka Samhita* along with the *Jalpalkpataru Teeka* reveals that Acharya Gangadhar possessed knowledge of genetics (*Anuvanshiki Vigyan*). Here are some glimpses of this knowledge-

**1.3.5.1 In the context of sex determining factor-** In Chapter 4 of the *Charaka Samhita*, factors determining the sex of the offspring are described as *Strikara Bhava* (female-producing factors) and *Puruṣakara Bhava* (male-producing factors). These are classified into two types: *Pradhana-ashrita* (primary-dependent) and *Guna-Ashrita* (quality-dependent). According to Acharya Gangadhar, *Pradhana-ashrita Bhavas* are those factors which, when present in a female, lead to the production of female offspring, and when present in a male, lead to the production of male offspring. In contrast, *Guna-ashrita Bhavas* are those factors which, when present in a female, result in the production of male offspring, and when present in a male, result in the production of female offspring. According to the science of genetics, two types of chromosomes are involved in sex determination: Allosomes (sex chromosomes) and Autosomes (non-sex chromosomes). Sex determination primarily occurs through the sex chromosomes, while autosomes, though not the direct cause, play a supportive role in the formation and development of reproductive organs and the development of secondary sexual characteristics. For example- SRY gene on Y chromosome encodes and responsible for formation of TDF (Testis determining factor). This TDF gets associated with the SOX gene located on autosome 17, which activates its function [4]. Thus, *Pradhana-ashrita Bhavas* can be interpreted as Allosomes (sex chromosomes), and *Guna-ashrita Bhavas* can be interpreted as autosomes.

**1.3.5.2 In the context of reproductive disorders due to Chromosomal Abnormalities (Beeja Dosha Vikara)-** Among the three types of *Beeja Dosha*—*Bandhya*, *Putipraja*, and *Varta*—the vitiation of *Garbhashaya Beejabhaga Avayava*, along with the *Strikara Beejabhaga Avayava* (responsible for

female characteristics), results in a condition termed *Varta*. In this condition, the individual presents with a female phenotype but is not biologically female.

In the commentary on *Strikara Beejabhaga Avayava/Ekadesha*, Acharya Gangadhar states “*Artavadhika Shukradinam Ekadesha*,” indicating that *Artava* is primarily vitiated, along with the involvement or vitiation of *Pitraja* (Paternal) factors.

On the basis of features, *Varta* can be correlated with ‘Androgen Insensitivity Syndrome’, a genetic disorder in which mutations occur in the androgen receptor gene located on the X chromosome. Additionally, paternal factors may also contribute through mutations in the sperm chromosomes. Approximately 30% of cases arise due to spontaneous (de novo) mutations, occurring either in the father’s sperm or during early embryonic development [5]. This interpretation gives about the commentary of Gangadhar that in *Varta* some proportion of *Pitraja Bhava* is also vitiated.

Unique physique, voice and complexion of Foetus- In *Charaka Samhita*, the unique physique, voice, and complexion of the foetus are described as *Atmaja Bhava* (features derived from the Atma). In the commentary *Jalpakaipataru*, Acharya Gangadhar states that the time of ejaculation of sperm and the quality (*Rasa*) of the sperm also play a role in determining these features [6]. However, there is no supporting evidence for this statement.

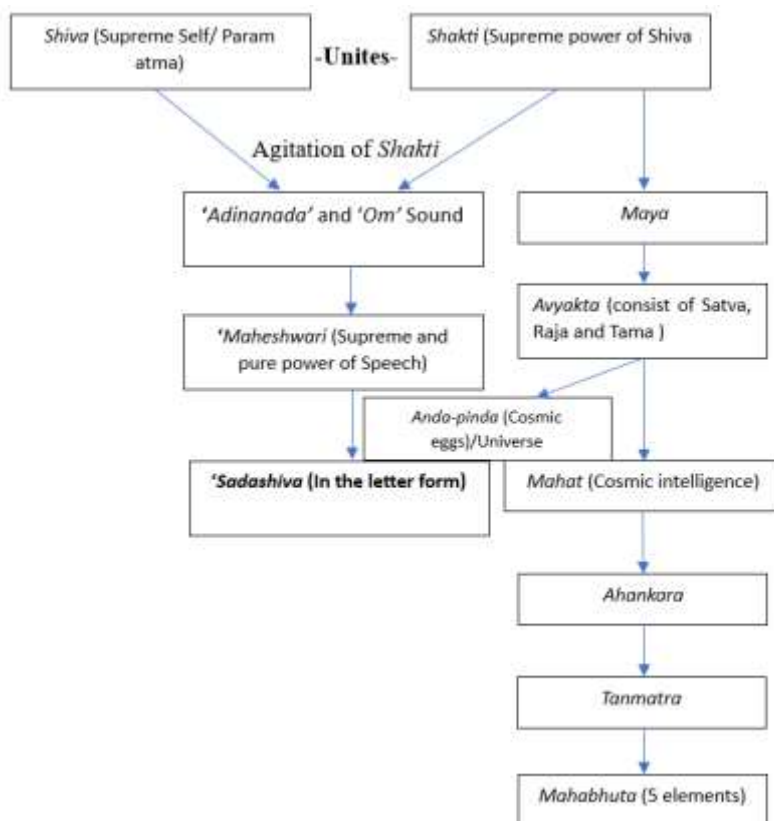
#### 1.4 DISCUSSION

“Here, the author has attempted to interpret and correlate Ayurvedic concepts with modern scientific texts, aiming to provide scientific validation of ancient knowledge. In most cases, this has been done successfully—for example, the concept of ‘*Akasha Mahabhuta*,’ genetic principles in the form of ‘*Linga Nirdharak Bhava*,’ ‘*Garbhottipattikar Bhava*,’ and ‘*Beeja Dosha Vikara*’ (reproductive disorders due to chromosomal abnormalities). However, no clear correlation has been established in the case of ‘*Garbhottipakar Bhava*’ (the materials responsible for the formation of the embryo and the organs that develop from it), possibly due to a lack of sufficient evidence and research.

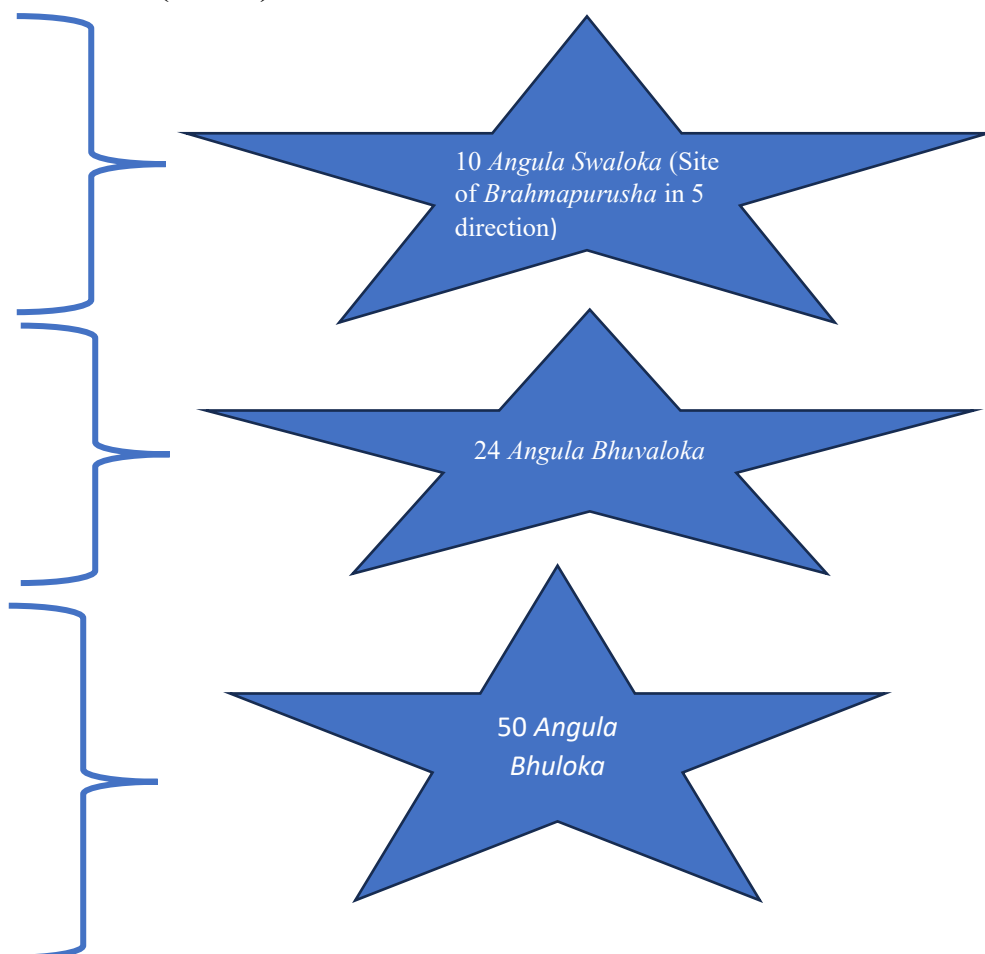
In the context of the ‘Evolution of *Purusha*’ described in ancient classics such as the *Upanishads* and *Puranas*, certain concepts offer further scope for literary research. For instance, the descriptions of ‘*Hridaya*’ and ‘*Devsushi*’ (*Chidra* or Orifice) may be correlated with cardiac valves.

**Conclusion-** Acharya Gangadhar is known for his unique philosophical and scientific explanations of *Charaka Samhita Shareera Sthana*. He has scientifically clarified many terms used in *Charaka Samhita*. He has elaborated on topics such as the evolution of *Purusha*, *Akasha Mahabhuta*, the functioning of the mind and *Buddhi*, *Linga Nirdharak Bhava*, and reproductive disorders due to chromosomal anomalies (*Beeja Dosha*) etc. With proper interpretation, these concepts can be clearly understood.

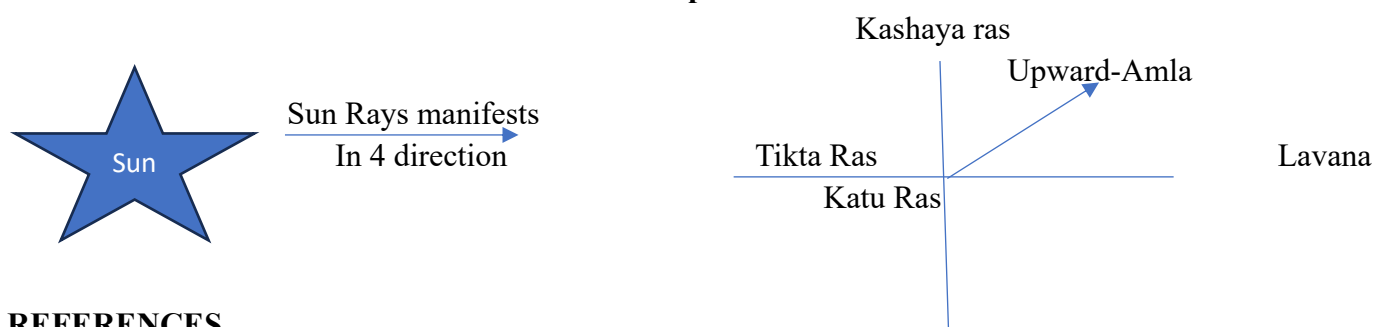
**Flow Chart 1. Evolution of Universe and *Purusha* (Living being)**



**Flow Diagram 2. 3 Loka (realms) of existence**



### Flow Chart 3. 5 Direction and location of their respective Taste



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