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## Ancient Sanskrit text of Vālmīki Rāmāyaṇa unravels the late heavy bombardment of meteorites on early earth

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### Abstract

In this article we describe an amazing similarity between India's ancient Sanskrit texts and current scientific research about an aspect of initial evolution of earth, specifically the hypothesis of Late Heavy Bombardment (LHB). The ancient Sanskrit texts go even beyond the current scientific discussion on LHB—they also reveal its root cause, and provide a glimpse into earth's future evolution as well. LHB theory posits that about 3.8 billion years ago, huge amounts of meteorites showered on earth. The massive impacts initiated gigantic thermal convection currents, which in turn led to significant evolution of the planet earth.

An esoteric legend "The Union of Śiva with Umā and Her Curses" has been narrated by Sage Viśvāmitra in Vālmīki Rāmāyaṇa which is the most ancient Sanskrit epic of India. The text of the legend is allegorical. It is embedded with ancient history and science. The text of the legend has been decoded by interpreting the meanings of the key Sanskrit words and the symbolism of the divinities in their respective attributes and contexts. Such decoding unravels a description of massive bombardment of early earth by meteorites (smaller asteroids). According to the text of the legend, massive impact event on the surface of earth was preceded by specific super-cosmic interactions in outer space and followed by gigantic geothermal event on earth. The text of the legend indicates occurrence of a series of super natural events that shaped dynamic evolution of early cosmos and of the early planet earth.

This massive impact by shower of meteorites event was caused by specific cosmic interactions between the two giant celestial entities (symbolized by शिव Śiva and उमा Umā). In the first cosmic interaction, the two super giant celestial entities have come close to each other and formed a binary union in the cosmos for 100 divine years. This binary union brought the cosmos perilously close to destruction. Then, the second cosmic interaction occurred, in which the binary union ceased and the two celestial entities repositioned and migrated away from each other. The break-up of the binary union released super-colossal energy into the cosmos, which acted upon all the celestial entities and bodies in multiple ways. As a consequence, natural force fields re-configured and dynamically evolved the cosmos in multiple ways and carried out the greatest cleaning operation in outer space as trillions of smaller asteroids (meteorites) were induced to fall on earth and other planets. The impact of the bombardment of meteorites on earth was so massive that it triggered a gigantic geothermal event which assimilated all the showered asteroids (meteorites) into the earth's mantle. After the massive impact and gigantic geothermal events, the entire earth's surface was re-formed. The earth was enriched with asteroidal matter showered from the outer space with variety of substances including life sustaining molecules. As well, the text of the legend contains three crisp statements (symbolized by three curses of उमा Umā) which surprisingly provide an accurate picture of the evolution of planet earth over a vast geological time 3.8 billion years ago to present time.

The characteristics of earth described in the text of the legend were found to be consistent with the time line of the LHB. The text of the legend also supports a modern view that showered meteorites from the outer space brought life sustaining substances on the earth. Modern scientists have put forward several theories to explain the cause of LHB but none of them have been accepted universally. The ancient Sanskrit legend uses symbolism to describe a self-consistent and logically-linked chain of super-cosmic interaction events - the union between two giant celestial entities and its eventual termination as the root cause of the massive impact event. The text also describes the chain of events that followed: waves of molten magma and re-formation of earth's surface. In addition the text of the legend contains many perspectives, clues and insights that have significant potential to provide direction to the current research work related to LHB, the understanding of which continues to be a challenging frontier of earth and planetary sciences.

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Despite being allegorical, the entire text of the legend uses very precise words and reveals a consistent series of super-cosmic, massive impact and gigantic geothermal events which contributed significantly to the evolution of the early cosmos and of early earth. The legend is considered a masterly multi-layer Sanskrit text and a fine example of the ancient sciences being communicated to the mankind through an allegorical narration. The purpose of the article is confined to expose ancient science embedded in the legend which ought to be cross-examined by traditional Sanskrit scholars, earth and planetary scientists.

**Key words:** Vālmīki Rāmāyaṇa, Śiva, Umā,, Divinities, Celestial Entities, Cosmos, Earth, Late Heavy Bombardment (LHB), Asteroids, Meteorites, Life Sustaining Substances, Millions of years ago (mya)

### Introduction

Vālmīki Rāmāyaṇa is the most ancient epic of the India in Sanskrit language. Indian tradition holds it as the first poetic composition (आदि काव्यम् ādi-kāvyaṃ) and Vālmīki as the first poet (आदि कविः ādi-kaviḥ). Rāmāyaṇa is a compound of two words “Rāma” and “ayana” translating to “Gateway to Rāma”. Rāmāyaṇa narrates the glory and the inspiring life story of Rāma. The Vālmīki Rāmāyaṇa provides a vivid picture of the culture and civilization of the ancient India.

Vālmīki Rāmāyaṇa consists of 24,000 slokas (texts) arranged in following seven books (kāṇḍa):

- Book 1: Bālākāṇḍa (Book of Childhood)
- Book 2: Ayodhyākāṇḍa (Book of Ayodhya)
- Book 3: Araṇyākāṇḍa (Book of Forest Exile)
- Book 4: Kiṣkindhikāṇḍa (The Empire of Holy Monkeys)
- Book 5: Sundarakāṇḍa (Book of Beauty)
- Book 6: Lakṣṇākāṇḍa (Book of War in Lankā)
- Book 7: Uttarakāṇḍa (Book of Rama’s Rule)

The five episodes of the legend are summarized in the following block diagrams and discussed thereafter.



The dating of the Vālmīki Rāmāyaṇa remains an important subject of research. Based on the ancient textual evidences and continuing cultural traditions, the dating of the Vālmīki Rāmāyaṇa has to be posterior to the periods of Vedās and anterior to the period of Mahābhārata. The reference to the lost Saraswati River in the Vālmīki Rāmāyaṇa by itself is a strong textual evidence of its antiquity.

Several English translations of the Vālmīki Rāmāyaṇa are available.<sup>1-4</sup> For this study, text of the Śrīmad Vālmīki-Rāmāyaṇa, published by Gita Press, Gorkhpur, India has been adopted as a base reference.<sup>1</sup> For Roman Transliteration, the International Alphabet of Sanskrit Transliteration (IAST) has been used. In this study, numbering of each verse (text) is given in the format of ‘Book.Chapter.Verse’ corresponding to adopted base reference.<sup>1</sup>

### Episode 1: Binary Union (Event A)

Episode 1 of the legend is described in the texts of 1.36.5 to 1.36.11, as below:

The Bālākāṇḍa of the Vālmīki Rāmāyaṇa contains several legends narrated by Sage Viśvāmitra to Rāma on esoteric subjects. These legends are allegorical poetic text with ancient science hidden therein. Outwardly, these legends appear to be a lucid narrative of the acts and relationships between divinities in their personalized or manifested form. However, inwardly, these legends unravel an event or a series of events concerning evolution of the cosmos and planet earth. The divinities and their interactions are the symbols of the cosmic entities and galactic energies. The multiple meanings of the key Sanskrit words in these legends unfold attributes and properties of entities in their respective context, and reveal their inner meaning. The origin and evolution of the cosmos, solar system and planet earth continues to be one of the important subjects of research in the earth and planetary sciences. In this study, a legend namely “The Union of Śiva with Umā and Her Curses” in the Bālākāṇḍa of Vālmīki Rāmāyaṇa has been decoded to unravel a specific massive impact event<sup>5</sup> in the early history of earth’s evolution.

### Legend of the Union of Śiva with Umā and her Curses

Sage Vishvāmitra narrated an interesting and lucid legend related to the union of Śiva and Umā and Her Curses to Rāma in the Canto 36<sup>1</sup> of Bālākāṇḍa (Book1) of Vālmīki Rāmāyaṇa. The full text<sup>1</sup> of the legend is given in Appendix I for easy reference for readers to recognise and to marvel at the multi-layered nuances of this legend.

The legend is described and discussed in a series of five episodes which cover sequential acts or interactions (sub-events). We have described text of each episode and then decoded its embedded knowledge by understanding symbolisms of divinities, inner meanings of key Sanskrit words and contextual inferences.

Long time ago, after their marriage, Śiva and His consort Umā began their conjugal union for enjoying the moments of their nuptial bliss (मैथुनायोपचक्रमे *maithunāyopacakrame* in 1.36.6a). While being in their conjugal union, one hundred celestial years passed (दिव्यं वर्षशतं गतम् *divyaṃ varṣaśataṃ gatam* in 1.36.6b) but no offspring was born to them (तनयो न आसीत् *tanayo na āsīt* in 1.36.7a)

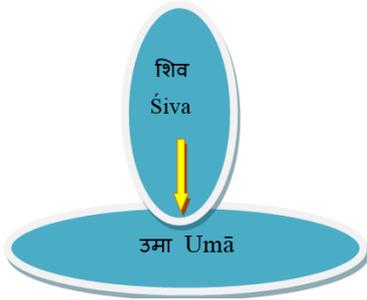
The divine union of Śiva and Umā created a grand chaos in the entire cosmos. All the divinities including the super divinity Brahmā (who are responsible for governing the cosmos) got alarmed and assembled to mull-over how to save the cosmos (सर्वदेवाः समुद्युक्ताः पितामह पुरोगमाः *sarve devāḥ samudyuktāḥ pitāmaha purogamāḥ* in the text of 1.36.7b). The main concern of the divinities was यदिहोत्पद्यते भूतं कस्तत् प्रतिसहिष्यते *yadihotpadyate bhūtaṃ kastat pratisahiṣyate* (in 1.36.8a) which means “who will be able to withstand the being that will be born from this union?”<sup>4</sup> All the assembled

divinities ardently appealed to Śiva to terminate his conjugal union for the welfare and protection of the universe (त्रैलोक्यहितकामार्थं *trailokyahitakāmārtham*, रक्ष सर्वानिमाल्लोकान् *rakṣa sarvānimālllokān* in 1.36.11a).

Episode 1 of the legend has been decoded as follows:

We have decoded the legend by understanding the symbolism of the divinities. Super divinities Śiva and Umā are inferred to symbolise two giant celestial (astronomical) entities in the cosmos. Assembled divinities are inferred to symbolise various types of governing natural force fields that maintain order and harmony in the cosmos. This legend contains a few key Sanskrit words and phrases which have multifold meanings or specific contextual inferences. Specifically, the Sanskrit word 'तेजः *tejah*' has multifold meanings such as son, semen, effulgence, and natural potent energy.

This part of the legend reveals a specific cosmic interaction (Event A) in which two giant celestial entities (symbolized by Śiva and Umā) formed a binary union by their natural forces of attraction (मैथुनाय *maithunāya* in 1.36.5b). The Sanskrit words *upacakrame* (उपचक्रमे in 1.36.5b) and *saṅkriḍmānasya* (संक्रिडमानस्य in 1.36.6a) are inferred to indicate that the both giant celestial entities while being in union were also orbiting around each other in synchrony. This dynamic binary union continued for a period 36000 human years (which is equivalent of 100 divine years). An oversimplified visualisation of the union of the two giant celestial entities in the cosmos (symbolized by Śiva and Umā) by their natural forces of attraction as depicted in the legend is shown in Figure-1.



**Fig 1:** A binary union between the two giant celestial entities

This dynamic binary union between the two giant celestial bodies disturbed the order and harmony in the cosmos. This union have also posed an imminent risk of induction of a new celestial body (symbolised by *tanayaH* in 1.36.7a, *bhuutam* in 1.36.8a, *tejah* in 1.36.10a) in the cosmos that was already in a chaotic state. The entire cosmos have become catastrophically unstable and was moving close to complete destruction (नालोकं कर्तुमर्हसि *nālokaṃ kartumārhasi* in 1.36.10b).

The binary union between two giant celestial entities was a rare type of specific super-cosmic interaction as it had created a big chaos in the entire cosmos and solar system. The timeline of this super cosmic event is qualitatively indicated in the text of the legend by the Sanskrit word "पुरा *purā*" in 1.36.5a which has been translated "long ago"<sup>4</sup>. The "long ago" gets further clarified in the text 1.36.15b which confirms the timeline of the legend corresponds to the early history of earth, explained in Episode 2 and 5.

The binary union as inferred from this legend can be considered scientific as several binary star systems<sup>6</sup> in which two stars orbit around each other are known to exist in the cosmos. According to Indian traditions a binary star system -

Arundhati (Alcor) -Vashishta (Mizar) symbolizes the marriage. The collisions between celestial entities or bodies are considered a central part of the most hypotheses or theories related to the dynamic evolution of the cosmos and solar system. The description of binary union revealed by this legend presents a challenge to modern science to hypothesize a super-cosmic interaction that is capable to cause an extreme disorder in the entire cosmos.

### Episode 2: Break-up of the Binary Union (Event B)

Episode 2 of the legend describes an event of break-up of the binary union in the texts of 1.36.12 to 1.36.16a, as below:

Śiva's prompt acceptance of the request made by divinities (in 1.36.12b) implies that the break-up of the union was an instant necessity to save the cosmos which have come perilously close to destruction. Before ceasing the union, Śiva had a brief dialogue with assembled divinities to explain the cosmic implications of termination of binary union. This dialogue consists of three statements by Śiva (in 1.36.13 and 1.36.14) and one statement by the assembled divinities (in 1.36.15). The dialogue texts contain a key word 'तेजः *tejah*' which has multifold meanings. The outer meaning of key word 'तेजः *tejah*' has been translated<sup>1-4</sup> as 'semen', which is an aspect of a conjugal union and makes the legend lucid. In the text 1.36.13, Śiva comforted and assured the divinities, that while breaking his conjugal union, with the help Umā, he would firmly restrain his 'तेजः *tejah*' (semen) inside his body. Then, Śiva in the text 1.36.13 also points out to the assembled divinities, a part of his तेजः *tejah* (semen) dislodged from its place is irrestrainable i.e. it will have to be released. Śiva in the text 1.36.14 asked the assembled divinities who in the cosmos would be able to withstand the great force of its release. Thereupon, all the divinities urged Śiva in the text of 1.36.15 to release his dislodged semen (तेजः *tejah*) upon earth. Thereafter, Śiva instantly terminated his conjugal union.

This Episode 2 has been decoded as follows:

Episode 2 has been studied in two parts. The first part explains the potential implications and the second part refers to the process of break-up of the union between the two giant celestial entities (symbolised by Śiva and Umā).

The first part of Episode 2 has been decoded by inferring the key word तेजः *tejah* to mean "natural potent energy". Based on this understanding of the word 'तेजः *tejah*', Śiva's dialogue with divinities in the texts of 1.36.13, 1.36.14 and 1.36.15 has been interpreted as follows:

The first statement of Śiva in the text 1.36.13a was "धारयिष्याम्यहं तेजस्तेजस्येव सहोमया *dhārayiṣyāmyahaṃ tejastejasyeva sahomayā*". The essence of this statement is that the break-up process (repositioning and migration) will be accomplished smoothly and a small part of the total natural energy that is possessed in the state of binary union will be released. This implies repositioning and migration of two giant celestial entities shall be smooth and celestial entities would not suffer any break-outs (i.e. physical splits).

The second statement of Śiva in the text 1.36.14b was "यदिदं क्षुभितं स्थानान्मम तेजो ह्यनुत्तमम् *yadidaṃ kṣubhitam sthānātmama tejohyanuttamam*". It means that termination of the union would involve repositioning and migration (क्षुभितम् स्थानात् *sthaanaat kṣubhitam*) and this process would release an unsurpassable super colossal energy (तेजो ह्यनुत्तमम् *tejohyanuttamam*) which will have enormous effects in the entire cosmos.

The third statement is a specific question raised by Śiva to the divinities- ‘who would be able to endure the consequences of the release of this super colossal energy and natural force fields in the cosmos?’ (“धारयिष्यति कः तत् मे ब्रुवन्तु सुर सत्तमाः dhārayiṣyati ka’ tat me bruvantu sura sattamāḥ” in the text 1.36.14).

The response of the divinities to Śiva in the text 1.36.15 was “यत् तेजः क्षुभितम् हि अद्य तद् धरा धारयिष्यति yet tejaḥ’ kṣubhitam hi adya tad dharā dhārayiṣyati”. It means that the earth has now (अद्य adya) sufficient strength to withstand the consequences of the release of the super colossal energy and natural force fields into the cosmos. The word ‘अद्य adya’ has a great geological significance and it indicates that although, the earth was at an early stage of evolution, it would be able to withstand the impacts from the outer space. It implies that the earth has now sufficiently cooled and reasonably developed a strong solidified surface (solid crust).

The second part of Episode 2 describes the process of break-up of the union between the two giant celestial entities in the text 1.36.16a, as follows:

एवमुक्तः सुरपतिः प्रमुमोच महाबलः  
evamukth surapatiḥ pramumoca mahaabalaḥ.

The various translations<sup>1-4</sup> of the text 1.36.16a conveys the meaning that Śiva released his dislodged semen upon earth. The phrase is like a sūtra (aphorism) and needs a deeper analysis. The inner meaning of the phrase ‘सुरपतिः प्रमुमोच महाबलः surapatiḥ pramumoca mahaabalaḥ’ has been interpreted by the following syntax:

सुरपतिः महाबलः शिवः प्रमुमोच तेजो ह्यनुत्तमम्  
surapatiḥ mahaabalaḥ Śivaḥ pramumoca tejohyanuttamam

This syntax contains three key superlative words - ‘महाबलः mahaabalaḥ’, ‘प्रमुमोच pramumoca’ and तेजो ह्यनुत्तमम् tejohyanuttamam. The word ‘महाबलः mahaabalaḥ’ is an adjective, and it refers to Śiva who is the most powerful. The word ‘प्रमुमोच pramumoca’ is a verb with ‘प्र pra’ prefix that makes it a pārdi-samās. Thus, the word ‘प्रमुमोच pramumoca’ gives a superlative degree to an action ‘मुमोच mumoca’ (means released). The word ‘तेजो ह्यनुत्तमम् tejohyanuttamam’ means the unsurpassable or incomparable natural energy. This sūtra therefore refers to a superlative cosmic action (i.e. प्रमुमोच तेजो ह्यनुत्तमम् pramumoca tejohyanuttamam) consummated by the most powerful super-divinity (सुरपतिः महाबलः शिवः surapatiḥ mahaabalaḥ Śivaḥ). The three superlative words signify the break-up of the union was the most powerful cosmic event which released the unsurpassable i.e. super-colossal energy (तेजो ह्यनुत्तमम् tejohyanuttama) and created natural force fields of different types and magnitude in the cosmos. It was a kind of a fix from the creator which acted in multiple-ways (अत्यर्थम् atyartham) for the overall welfare of the universe (त्रैलोक्य हित trailokya hita).

This part of the legend reveals a cosmic interaction which involved process of repositioning and migration of the two giant celestial entities away from each other. This process released super-colossal energy (तेजो ह्यनुत्तमम् tejohyanuttamam) which created natural force fields needed to bring the order in the cosmos that was in a state of extreme disorder (न अलोकम् कर्तुम् na alokam kartum). As a consequence, all the natural

forces fields in the early cosmos got re-configured in multi-ways (अत्यर्थम् atyartham). It is inferred that specific super cosmic interaction (Event B) carried out possibly the grandest re-adjustments of the gravitation interactions and interplanetary forces and brought order in the early cosmos. It was perhaps the greatest expansion and dynamic evolution step of the early cosmos.

An oversimplified visualisation of break-up the union of the two giant celestial entities in the cosmos (symbolized by Śiva and Umā) under the influence of external fields (symbolized by the assemblage of divinities) and release of a super-colossal natural energy into the cosmos is shown in Figure-2



Fig 2: Break-up of the binary union

Thus, Episodes 1 and 2 of the legend reveal two super-cosmic interactions (Event A and Event B). The union between the two giant celestial entities brought the early cosmos perilously close to destruction. The break-up of the union between the two giant celestial entities dynamically adjusted the clockwork of all of the celestial entities and bodies in the cosmos. Event A caused an extreme disorder in the cosmos. Event B brought the cosmos in a state of harmony and new order from a state of an extreme disorder. The above two super-cosmic events are linked by cause-and-effect and exhibit dynamic evolution of early cosmos and solar system. The key concepts of two super-cosmic events revealed in this legend provide a broader and deeper framework and a testable hypothesis for further study.

### Episode 3: Massive Impact Event on Earth (Event C)

Episode 3 describes the massive impact event upon earth that occurred after the twin super-cosmic interactions (Event A and Event B) in the text 1.36.16b, as follows:

तेजसा पृथिवी येन व्यासा सगिरिकानना  
tejasā pṛthivī yena vyāptā sagirikānanā

Episode 3 of the legend has been decoded by understanding the meaning of two key Sanskrit words तेजसा tejasā and कानना kānanā’ as follows:

The Sanskrit word ‘तेजसा tejasā’ in verse 1.36.16b has been translated<sup>1-4</sup> as ‘semen’ relating it to the outer lucid story of the legend. Alternately, at a deeper level, ‘तेजसा tejasā’ can also be inferred to mean asteroidal matter with radiant shining. This is a very apt word for meteorites as they look like radiant fire balls when they fall on earth.

The Sanskrit word कानना *kānanā* has been translated <sup>[1-4]</sup> as 'forests'. In our view, however, Vālmīki Rāmāyaṇa has used only two words for forests: - 'वन *vana*' or 'अरण्य *aryna*'. The word 'कानना *kānanā*' has been used at a few places in the Vālmīki Rāmāyaṇa to describe terrain of the land. For example, verse 4.66.32 <sup>[1]</sup> describes the earth terrain as consisting of शैल वन कानना *śaila vana kānanā*. Based on textual evidence found within the Vālmīki Rāmāyaṇa and in the context of the verse 1.36.16b, we interpret the word 'कानना *kānanā*' as low-land areas (depressions) in contrast to high-lands areas (i.e. गिरि hills).

We translate the text 1.36.16b as follows:

"The entire earth with its high-lands (गिरि hills) and low-lands (कानना *kānanā*) were filled with that radiant asteroidal matter (तेजसा *tejasā*)".

The above text clearly refers to deluge of the entire surface of the earth with showered radiant asteroids (meteorites) from outer space. The shower of asteroids (meteorites) was so extensive that it fully covered and filled the entire surface of earth including all of its high and low lands areas. The falling asteroidal matter is also referred by a Sanskrit word महातेजो *mahātejo* in the text of 1.36.17b, which means that showered asteroids were glowing with high level of radiance, brightness and lustre. This description of the asteroids fully matches with meteorites which heat up due to friction, pressure and chemical interactions with the atmospheric gases when they enter the earth's atmosphere and thereby radiate energy.

The decoding of this part of the legend reveals that the earth was heavily impacted by massive shower of asteroids (meteorites) from outer space. The massive impact event was caused by super-cosmic interactions between the two giant celestial entities in outer space (Event A and Event B). It is inferred that termination of the binary union released super-colossal energy and natural force fields, which in turn acted upon all astronomical bodies in the early cosmos. This super colossal cosmic fix re-established the order and harmony in the cosmos by re-configuring the interplanetary natural forces and fields in multiple ways (अत्यर्थम् *atyartham* in the text of 1.36.20a). This super-cosmic fix also carried out the greatest cleaning operation in the cosmos by acting upon the trillions of orbiting smaller asteroids or debris causing them to fall upon many planets including earth.

Figure-3 presents an oversimplified artistic view of heavy bombardment of meteorites on early earth's surface.

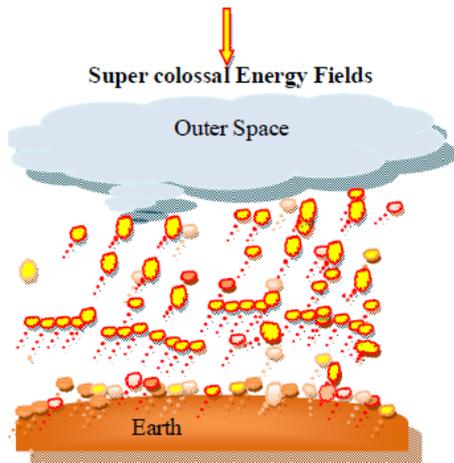


Fig 3: Heavy bombardment of meteorites on earth's surface

This part of the legend is amazingly congruent with modern science which fully recognises a specific massive impact event on early earth and calls it "Late Heavy Bombardment (LHB)" <sup>7</sup>. It is thought to have occurred about 3.8 billion years ago. The LHB is a one of the fundamental hypotheses in the Earth and Planetary Sciences. <sup>[7, 8]</sup> Most of the scientists believe showered meteorites were thrown out from the main asteroidal belt located between the orbits of Mars and Jupiter. LHB formed impact craters which are still visible on Moon's surface. LHB also formed impact craters on earth's surface but these are not visible because they become eroded, destroyed or transformed by tectonic action over a vast span of time. The showered meteorites brought huge quantities of asteroidal matter upon the earth's surface from outer space. How it actually happened is still a matter of debate, whether it was just a prolonged gentle showers or whether the whole mass of the meteorites came down in one or two big massive impacts. This legend suggests that all the entire massive meteorite bombardment occurred in one go. What caused LHB still remains a challenging frontier in the contemporary science?

#### Episode 4: Gigantic Geothermal Action for Saving the Earth (Event D)

Episode 4 describes a gigantic geothermal event that happened after the massive bombardment of radiant meteorites from outer space (Event C).

Earth got severely impacted by massive bombardment of the radiant asteroids (meteorites) from outer space. It was a cataclysmic event that brought earth close to destruction. In the text of 1.36.17b divinities instructed the Fire-God to save earth quickly from its destruction, as follows:

आविश त्वं महातेजो रौद्रं वायुसमन्वितः

*āvīṣa tvam mahātejo raudraṃ vāyusamanvitaḥ*

The meaning of the above phrase is explained below:

The assembled divinities instructed the Fire-God to assume the most ferocious form (the word 'त्वं *tvam*' refers to 'हुताशनम् *hutāśanam* in 1.36.17a) and consume (आविश *āvīṣa*) all the highly radiant asteroidal matter (meteorites) filling the entire surface of the earth by deploying all of his and powers of the Wind-God (वायुसमन्वितः *vāyusamanvitaḥ*). The phrase त्वं वायुसमन्वितः *tvam vāyusamanvitaḥ* is a masterly technical description of thermal convection currents inside the earth which are combined form (समन्वितः *samanvitaḥ*) of हुताशनः *hutāśanaḥ* (enormous heat energy inside earth) and वायु *vāyu* (energy movement by gases within molten magma inside earth).

Thus, this part of the legend reveals a gigantic geothermal event which was triggered by severe impacts. The massive impact by meteorites on the earth was so severe that it accentuated thermal convection currents (हुताशनम् वायुसमन्वितः *hutāśanam vāyusamanvitaḥ*) inside earth. This caused eruption of ferocious molten magma waves all over earth surface. The erupted molten magma waves with their tremendous force swept all of the showered meteorites inside the earth. In this manner, all the showered asteroidal materials became as an integral part of earth mass. So to say, it was the 'आविश *āvīṣa*' action carried out by thermal convection currents in their fiercest forms.

This gigantic geothermal action stabilised and saved earth from being destroyed. All the showered asteroidal matter was assimilated inside earth. The end of this gigantic geothermal

action is precisely described by the phrase “तदग्निना पुनर्व्याप्तं *tad Agnihñā punar vyāptam* in the text of 1.36.18a” which means the fire was contained and stabilized along with the showered asteroidal matter inside Earth’s mantle.

After the gigantic geothermal action, the earth’s surface was re-formed. The text of the legend highlights formation of Mount Crystal (संज्ञातः श्वेतपर्वतः *saṃjātaḥ śvetaparvataḥ* 1.36.18) which was a high mountain, perhaps the most prominent new feature on the reformed surface of earth after end of the Event D.

After passing of these cataclysmic events on early earth, divinities breathed a sigh of relief and expressed their gratitude to Śiva and Umā as these events stabilized and dynamically evolved cosmos and planet earth in multiple-ways beyond the imagination of the divinities (अत्यर्थम् पूजयामासुः *atiartham puujayamaasuḥ* in 1.36.20). It seems that divinities now understood the deeper reasons behind the occurrence of the super-cosmic event of the union be Śiva and Umā (Event A). The Śiva Lingam is perhaps a mark or emblem of respect to celebrate the super-cosmic event of union of two giant celestial entities which dynamically evolved early cosmos and kick-started life on earth.

### Episode 5: Evolution of Early Earth

The text of the legend refers to earth by word धरा *dharā* (in 1.36.15b) which means that “holds everything” and ‘पृथिवी *prthivī*’ (in 1.36.16b and 1.36.23) which means “the vast one”. The text of the legend reflects that super-cosmic interactions and impact events that have shaped the evolution of earth in multiple ways.

It has already been shown that the massive impact (Event C) and gigantic geothermal action (Event D) as described in the ancient legend have amazingly congruence with the Late Heavy Bombardment (LHB)<sup>7</sup> and Late Veneer Hypothesis<sup>8</sup>, thought to have occurred in the history of earth at approximately 3.8 billion years ago. The text of the legend states, that all the events had occurred long ago<sup>3</sup> (पुरा *purā* in 1.36.5a) and at a time when earth had sufficiently cooled and developed solid crust (a geological inference from the texts 1.36.15b and 1.36.16 b).

Earth scientists have long been concerned with deciphering the history of planet earth. The history of earth prior to massive impact event is discussed as below:

According to modern understanding, earth was formed approximately 4.6 billion years ago<sup>10</sup> at about the same time

as the rest of the solar system. The earth was created by a process of “accretion”. A vast cloud of gases and dust coalesced to form meteorites and small planets. The small bodies crashed with each other and formed bigger bodies. The bigger bodies came together by their gravitation forces and made proto-earth planet orbiting around the Sun<sup>10</sup>.

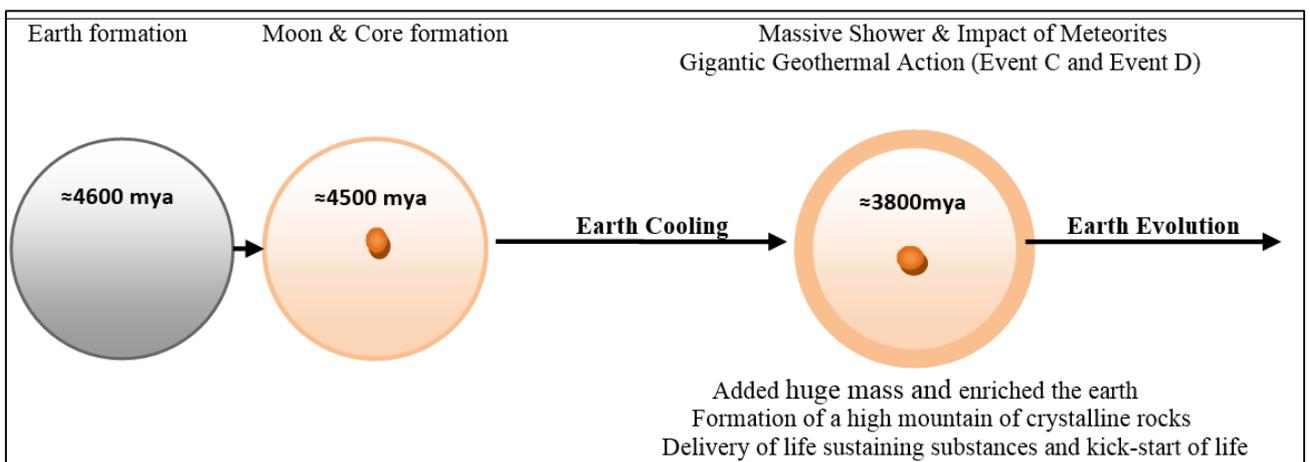
The proto-earth was jolted by strike of a planet-sized body at about 4.45 billion years ago. This major impact event broken the earth and tilted the axis of the earth. The break outs of the planet earth formed the Moon<sup>10</sup>. At this stage, the early earth was largely molten spherical body heaved with volcanoes. The denser material sank toward the center and formed earth’s core made mostly of iron. The evolution of the earth at this stage corresponds to Hadean Eon from 4.567 to 4 billion years ago<sup>12</sup>.

After the formation of moon, over the time earth cooled, causing formation of solid crust of light materials containing compounds of silicon, aluminum, iron, calcium, magnesium, potassium and sodium with oxygen. It was about this stage, earth was subjected to cataclysmic event of massive shower of asteroids (meteorites). The texts of this legend shed light on some aspects of earth evolution such as terrain and topography, atmosphere and origin of life which further verifies the time line of the events revealed by this ancient legend.

At the time of impact of massive shower of the asteroids (meteorites) from outer space, the text of the legend clearly describes the terrain of earth as consisted of hills and valleys (पृथिवी सगिरिकानना *prthivī sagirikānanā* in 1.36.16b). This terrain of earth implies that at the time of massive impacts (Event C), the earth had already cooled, and its surface had developed a solid crust confirming that it was an early period in the history of earth as visualised for the Archeon Eon (4 - 3.6 billion years ago). Therefore it can be safely assumed that the timeline of the massive impact event revealed by the legend is the same as that of LHB.

At the end of cataclysmic massive impact and gigantic geothermal events, meteorites were integrated inside the mass of earth. Earth’s surface was re-formed. At the end of this fiery event, a high mountain of crystalline rocks (Mount Crystal) was formed (संज्ञातः श्वेतपर्वतः *saṃjātaḥ śvetaparvataḥ* in 1.36.18) as a prominent feature on earth surface. This impact event added a huge mass and enriched earth with right ingredients for initiating gradual geological, chemical and biological changes over a vast span of geological time.

The history of earth from its formation stage to the stage of massive shower and impact of meteorites and gigantic geothermal action (Event C and Event D) is shown in a simplified diagram as below:



The massive impact and gigantic geothermal events made earth stronger and suitable for the emergence of life. Even though the legend is allegorical, it is significant to note that the text of the legend clearly establish that earth at this stage was not sustaining any type of life. A total absence of life on earth also confirms that the atmosphere on earth was devoid of oxygen. However, primordial atmosphere was formed around earth from accumulation of expelled vapor and gases trapped in the interior of early earth (the existence of vapor and gases is symbolised by 'वायु *vāyu*' element in 1.36.17 b on planet earth).

The broad framework of the evolution of earth derived from the text of the legend fits very well into the history of the earth as visualised for the Eoarchean Era of Archean Eon (4 to 3.6 billion years ago)<sup>12</sup>. Therefore, it can be inferred that the timeline of the massive impact event revealed by the ancient text of the legend is the same as that of LHB. The formation of a high mountain of crystalline rocks (called Mount Crystal श्वेतपर्वतः- *śvetaparvataḥ*) as a prominent feature on the earth surface after the impact and geothermal action has yet not been specifically visualised in Eoarchean Era. The formation of the Mount Crystal (श्वेतपर्वतः- *śvetaparvataḥ*), however, may have geological significance. This was perhaps the first high mountain of crystalline rocks that was formed by

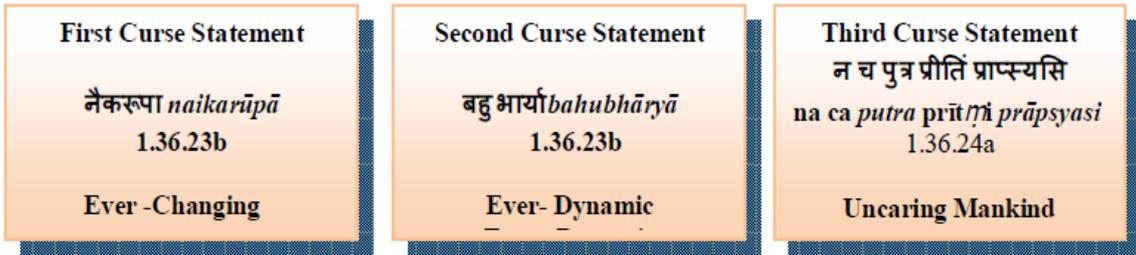
the occurrence of gigantic geothermal process on early earth without any plate tectonics.

The massive shower of the meteorites delivered life sustaining substances (such as carbon, nitrogen, and the amino acid) to the earth from outer space. This is inferred from the verse 1.36.18b which predicted that the earth would be able to sustain the long grasses such as Reeds (शरवणम् *śaravanam*) in future (when Sun-like effulgent entity Kārtikey would be born in 1.36.19a). The meteorites impact event was thus one of the key milestones in the evolution of earth as it provided the right ingredients to kick-start life on the earth.

The history of life on earth remains a subject of intense research. It is believed that life on earth got started from alien molecules delivered via impacts of meteorites and comets. According to modern understanding life in the form first simple cells (prokaryotes) started on the earth about 3.8 billion years ago<sup>13</sup>. Thus the legend supports a modern view that life sustaining substances were delivered to earth by shower of huge quantities of meteorites from outer space.

After passing of cataclysmic events, Umā expressed her anger on divinities and earth for causing break-up of Her conjugal union with Śiva. The ireful Umā gave three curses to Earth. The curse statements forecasts how earth would evolve in the future (भविष्यसि *bhaviṣyasi* in 1.36.23b).

The three curse statements are described in the following block diagrams and discussed thereafter.



The first statement is that earth shall never retain one appearance (नैकरूपा *naikarūpā* in 1.36.23). This means that earth shall be in a perpetual state of change. The earth over the period of billions of years has evolved to a highly diversified surface consisting of mountains, valleys, forests, desserts, lakes, rivers, ocean, forests, diverse type of life and climates. Its appearance and eco-system always keep changing. There have been several mass extinctions of life forms, islands have arisen and submerged, and climates have changed drastically. Earthquakes rip along plate boundaries and volcanoes throw up fountains of molten lava. Mountain ranges and seabed are constantly created and destroyed. The earth has seen numerous warm periods and ice ages. Thus, the change is perhaps the only constant in the long history of earth.

The second statement is that the earth would have many consorts (बहुभार्या *bahubhāryā* in 1.36.23). This statement is traditionally interpreted that earth will be ruled by many kings. In our view, the word 'बहुभार्या *bahubhāryā*' has a deeper geological meaning. This statement geologically implies that one landmass will become many land masses. These land masses (continental plates) would collide, unite and break by forces of plate tectonics that make the earth ever dynamic and in continual mode of reshaping. Plate tectonics keep the earth in perpetual turmoil i.e. an active planet due to the motion of its tectonic plates. The interactions at the boundaries of the plates are known to be a driving force behind earthquakes,

volcanic eruptions, the formation of mountains, and the slow drift of continents over earth's surface. It is significant to note that continental plates in earth were formed after the timeline of the massive impact event.

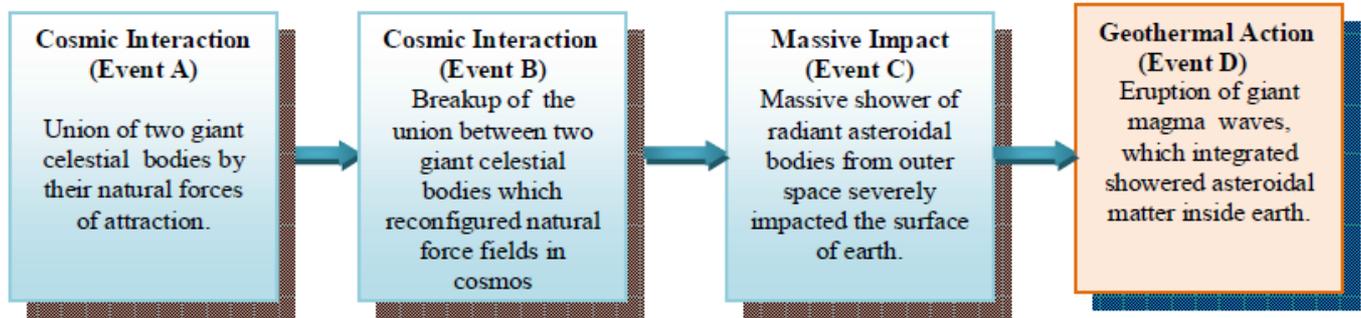
The third statement is that Earth would not get any joy from her children (न च पुत्र प्रीतिं प्राप्स्यसि *na ca prītiṃ prāpsyasi* in 1.36.24). Human beings are the children of earth. The statement implies that human beings will not provide any joy to their mother earth. The earth has undergone tough geological history of billions of years to make it suitable for sustaining human life. Human beings, now grown to 6.5 billion are increasingly damaging land, sea, mountains and atmosphere of the mother earth. They have become over consumer of the resources of earth. They have disturbed sensitive environment of earth by technology, drilling, mining, settlement, cutting of forests, oil spills, overharvesting, overfishing, species extinction and pollution of all sorts. They have contributed to carbon emission and global warming. The globe is warming at a faster rate than it ever has before. The average temperature of earth is continuously rising year after year. If atmospheric heating continues, sea level could rise as much as three feet in the next century. On-going heating of earth could melt the ice in the polar region. This creates a possibility of great deluge and destruction of earth.

The legend thus surprisingly provides a broad picture of earth evolution over a vast geological span of time which includes environmental concerns of the modern times. As discussed

above, decoding of this esoteric legend revealed massive meteorites impact (Event C) on early earth. This impact event was caused by series of rare type of super-cosmic interactions

(Event A and Event B) in outer space and followed by a gigantic geothermal action (Event D) on earth.

All these events were linked with cause-and-effect relationships as shown in the block diagrams, below:



The massive impact (Event C) and gigantic geothermal action (Event D) are amazingly similar to the currently accepted scientific hypotheses known as Late Heavy Bombardment (LHB)<sup>7</sup> and Late Veneer Hypothesis<sup>8</sup>. The tungsten- isotopic analysis of 4.4 billion year old Greenland rocks provides the most significant evidence for the LHB and Late Veneer Hypothesis<sup>9</sup>. It is estimated that LHB added about 0.5 % of additional material to the Earth's mass<sup>10</sup>. This works out to about 20 billion billion tons<sup>10</sup> of additional material to earth mass from outer space. The possible cause of the LHB event remains a challenging frontier of the current research work. Nice model<sup>11</sup> proposes migrations of the giant planets in the early history of the cosmos from an initial compact configuration into their present positions and in the process small asteroids were flung all over inner solar system including earth. The Nice model<sup>11</sup> has not yet found universal acceptance in the community of modern scientists. The super-cosmic interactions (Event A and Event B) as revealed by this ancient legend provide a broader and deeper conceptual framework which deserves to be treated as propositions or hypotheses for further study.

### Summary and Conclusions

The legend is a masterly multi-layer text. It is embedded with ancient science related to the evolution of early earth when it had already developed its solid crust and primordial gaseous atmosphere but was not sustaining any type of life. Then at this early history of earth, it was massively and severely impacted by bombardment of asteroids (meteorites) from outer space. The severe impacts on earth triggered a gigantic geothermal event which assimilated all the showered the asteroidal matter (meteorites) as an integral part of earth mass. The massive showers of meteorites from outer space also delivered life sustaining substances and kick-started life on earth.

The text of the legend unravels a consistent series of specific cosmic, impact and geothermal events; all consistently linked with their cause-and-effect relationships. The massive impact and the gigantic geothermal events as revealed by the legend are amazingly in congruence with the fundamental hypotheses of Earth and Planetary sciences known as "Late Heavy Bombardment (LHB)" and "Late Veneer Hypothesis". These hypotheses have yet not fully explained the cause of the bombardment of meteorites from outer space. The ancient Sanskrit legend uses symbolism to describe a self-consistent and logically-linked chain of super-cosmic interaction events as the root cause of the massive impact event. The first super

cosmic interaction was formation of a binary union between the two giant celestial entities by their natural forces of attraction. The second super-cosmic interaction was termination of the union; the celestial entities migrated away from each other. These super-cosmic interactions re-configured the natural force fields which acted upon all the celestial entities and bodies in multiple-ways and dynamically evolved the early cosmos and early earth. LHB is thought to have occurred about 3.8 billion years ago which corresponds to Eoarchean Era of Archean Eon of earth's history. The general description of earth inferred from the text of legend matches quiet well with the description of earth as visualised for the Eoarchean Era of Archean Eon by modern understanding. Thus, the timeline of the legend corresponds to the early history of the earth posit to be 3.8 billion years ago. Late Heavy Bombardment (LHB) remains a challenging frontier of current research work in the modern science. The text of this legend is ingrained with significant scientific clues, ideas and deep insights which are considered relevant to the studies of LHB. This legend has potential to open more vistas and doors for inter-disciplinary study and research. It is suggested that key concepts of the two super-cosmic interactions revealed by this ancient legend be considered as a testable hypothesis or model for checking its validity by using advanced knowledge and techniques of the contemporary science.

### Acknowledgements

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### References

1. Śrīmad Vālmīki- Rāmāyaṇa. Gita Press, Gorakhpur, 1998; 944:97-99.
2. Valmiki Ramayana. 2008: <https://www.valmikiramayan.net>
3. Vālmīki Rāmāyaṇam. 2002: <https://www.valmiki.iitk.ac.in>
4. Goldman Robert P. The Rāmāyaṇa of Vālmīki : An Epic of Ancient India: Bālākāṇḍa. Princeton University Press, Princeton. 1994, 191-193.
5. Impact Event. [https://en.wikipedia.org/wiki/Impact\\_event](https://en.wikipedia.org/wiki/Impact_event)
6. Binary System. [https://en.wikipedia.org/wiki/Binary\\_star](https://en.wikipedia.org/wiki/Binary_star)

7. Late Heavy Bombardment. [https://en.wikipedia.org/wiki/Late\\_Heavy\\_Bombardment](https://en.wikipedia.org/wiki/Late_Heavy_Bombardment)
8. Primitive Mantle. [https://en.wikipedia.org/wiki/Primitive\\_mantle](https://en.wikipedia.org/wiki/Primitive_mantle)
9. Willbold M, Elliott T, Moorbath S. The tungsten isotopic composition of the Earth's mantle before the terminal bombardment. Nature. Sept. 2011; 477:195-198.
10. Kremer William. Does Gold Comes From Outer Space, BBC News Magazine, 19 Sept (2013).
11. Nice Model. [https://en.wikipedia.org/wiki/Nice\\_model](https://en.wikipedia.org/wiki/Nice_model)
12. Biological and Geologic Timeline of the Earth. Retrieved from [www.scientificpsychic.com/etc/timeline/timeline.html](http://www.scientificpsychic.com/etc/timeline/timeline.html)
13. BBC Nature-History of Life on Earth. Retrieved from [www.bbc.co.uk/nature/history\\_of\\_the\\_earth](http://www.bbc.co.uk/nature/history_of_the_earth)

## APPENDIX-I

Vālmiki Rāmāyaṇa -Bālākāṇḍa-Chapter 36 : The Legend of Union of Śiva and Umā and Her Curses		
Verse	Sanskrit Text	IAST Transliteration
1.36.1a 1.36.1b	उक्तवाक्ये मुनौ तस्मिन्मुनौ राघवलक्ष्मणौ   प्रतिनन्द्य कथां वीरावूचतुर्मुनिपुंगवम्	uktavākye munau tasminnubhau rāghavalakṣmaṇau   pratinandya kathāṃ vīrāvūcatuṛmunipuṅgavam
1.36.2a 1.36.2b 1.36.2c	धर्मयुक्तमिदं ब्रह्मन्कथितं परमं त्वया   दुहितुः शैलराजस्य जयेष्टाय वक्तुमर्हसि   विस्तरं विस्तरज्ञोऽसि दिव्यमानुषसंभवम्	dharmayuktamidaṃ Brahmānkathitaṃ paramaṃ tvayā   duhituḥ śailarājasya jyeṣṭhāya vaktumārhasi   vistaraṃ vistarajñō 'si divyamānuṣasaṃbhavam
1.36.3a 1.36.3b	त्रीन् पथो हेतुना केन पावयेल्लोकपावनी    कथं गङ्गा त्रिपथगा विश्रुता सरिदुत्तमा	trīnpatho hetunā kena pāvayellokapāvanī    kathāṃ gaṅgāṃ tripathagā vīśrutā sariduttamā
1.36.4a 1.36.4b 1.36.4c	त्रिषु लोकेषु धर्मज्ञं कर्मभिः कैः समन्विता   तथा ब्रुवति काकुत्स्थे विश्वामित्रस्तपोधनः   निखिलेन कथां सर्वाभूमिमध्ये न्यवेदयत्	triṣu lokeṣu dharmajñā karmabhiḥ kaiḥ samanvitā   nikhilena kathāṃ sarvām ṛṣimadhye nyavedayat    tathā bruvati kākutsthe vīśvāmitras tapodhanaḥ
1.36.5a 1.36.5b	पुरा राम कृतोद्वाहः शितिकण्ठो महातपाः   दृष्ट्वा च भगवान् देवीं मैथुनायोपचक्रमे	purā rāma kṛtodvāhaḥ śitikaṅṭho mahātapāḥ   dṛṣṭvā ca bhagavān devīṃ maithunāyopacakrame
1.36.6a 1.36.6b	तस्य संक्रिडमानस्य महादेवस्य धीमतः   शितिकण्ठस्य देवस्य दिव्यं वर्षशतं गतम्	tasya saṅkriḍmānasya mahādevasya dhīmataḥ   śitikaṅṭhasya devasya divyaṃ varṣaśataṃ gatam
1.36.7a 1.36.7b	न चापि तनयो राम तस्यामासीत् परंतप   सर्वे देवाः समुद्युक्ताः पितामहपुरोगमाः	na cāpi tanayo rāma tasyām āsīt paraṃtapa   sarve devāḥ samudyuktāḥ pitāmahapurogamāḥ
1.36.8a 1.36.8b	यदिहोत्पद्यते भूतं कस्तत् प्रतिसहिष्यते   अभिगम्य सुराः सर्वे प्रणिपत्येदमब्रुवन	yadihotpadyate bhūtaṃ kas tat pratisahiṣyate   abhigamya surāḥ sarve praṇipatyedam abruvan
1.36.9a 1.36.9b	देवदेव महादेव लोकस्यास्य हिते रत   सुराणां प्रणिपातेन प्रसादं कर्तुमर्हसि	devadeva mahādeva lokasyāsyā hite rata   surāṇāṃ praṇipātena prasādaṃ kartum arhasi
1.36.10a 1.36.10b	न लोका धारयिष्यन्ति तव तेजः सुरोत्तम   ब्राह्मेण तपसा युक्तो देव्या सह तपश्चर	devadeva mahādeva lokasyāsyā hite rata   brāhmeṇa tapasā yukto devyā saha tapaḥcara
1.36.10a 1.36.10b	त्रैलोक्यहितकामार्थं तेजस्तेजसि धारय   रक्ष सर्वाणिमल्लोकान् नलोकं कर्तुमर्हसि	trailokyahitakāmārthaṃ tejas tejasi dhāraya   rakṣa sarvāṇimāllokān nālokaṃ kartumārhasi
1.36.12a 1.36.12b	देवतानां वचः श्रुत्वा सर्वलोकमहेश्वरः   बाढमित्यब्रवीत् सर्वान् पुनश्चेदमुवाच ह	devatānāṃ vacaḥ śrutvā sarvalokamaheśvaraḥ   bāḍham ity abravīt sarvān punaśche dam uvāca ha
1.36.13a 1.36.13b	धारयिष्याम्यहं तेजस्तेजसैव सहोमया   त्रिदशाः पृथिवी चैव निर्वाणमधिगच्छतु	dhārayiṣyāmyahaṃ tejastejasyeva sahomayā   tridaśāḥ pṛthivī caiva nirvāṇamadhigacchatu
1.36.14a 1.36.14b	यदिदं क्षुभितं स्थानान्मम तेजो ह्यनुत्तमम्   धारयिष्यति कस्तन्मे ब्रुवन्तु सुरसत्तमाः	yadidaṃ kṣubhitaṃ sthānānmama tejo hyanuttamam   dhārayiṣyati kas tan me bruvantu surasattamāḥ
1.36.15a 1.36.15b	एवमुक्तास्ततो देवाः प्रत्युचुर वृषभध्वजम्   यत्तेजः क्षुभितम् हि अद्य तद् धरा धारयिष्यति	evamuktāstato devāḥ pratyūcur vṛṣabdhvajam yattejaḥ kṣubhitaṃ hi adya tad dharā dhārayiṣyati

1.36.16a 1.36.16b	एवमुक्तः सुरपतिः प्रमुमोच महाबलः   तेजसा पृथिवी येन व्याप्ता सगिरिकानना	evamuktaḥ surapatiḥ pramumoca mahābalaḥ   tejasā pṛthivī yena vyāptā sagirikānana
1.36.17a 1.36.17b	ततो देवाः पुनरिदमूचुश्चापि हुताशनम्   आविश त्वं महातेजो रौद्रं वायुसमन्वितः	tato devāḥ punaridamūcuścāpi hutāśanam   āvīśa tvaṃ mahātejo raudraṃ vāyusamanvitaḥ
1.36.18a 1.36.18b	तदग्निना पुनर्व्यासं संजातम् श्वेतपर्वतम्   दिव्यं शरवणं चैव पावकादित्यसंनिभम्	tadAgniḥḥnā punarvyāptaṃ saṃjātam śvetaparvatam   divyaṃ śaravaṇaṃ caiva pāvakādityasaṃnibham
1.36.19a 1.36.19b	यत्र जातो महातेजाः कार्तिकेयोऽग्निसंभवः   अथोमां च शिवं चैव देवाः सर्षिगणास्तथा	yatra jāto mahātejāḥ kārtikeyo'gnisaṃbhavaḥ   athomāṃ ca śivaṃ caiva devāḥ sarṣigaṇāstathā
1.36.20a 1.36.20b	पूजयामासुरत्यर्थं सुप्रीतमनसस्तदा   अथ शैलसुता राम त्रिदशानिदमब्रवीत्	pūjayāmāsuratyarthaṃ suprītamanasasda   atha śailasutā rāma tridaśān idam abravīt
1.36.21a 1.36.21b	समन्युराशपत् सर्वान् क्रोधसंस्कलोचना   यस्मान्निवारिता चाहं संगता पुत्रकाम्यया	samanyuraśapat sarvān krodhasaṃskaločanā   yasmānnivāritā cahaṃ saṃgatā putrakāmyayā
1.36.22a 1.36.22b	अपत्यं सवेषु दारेषु नोत्पादयितुमर्हथ   अद्यप्रभृति युष्माकमप्रजाः सन्तु पत्नयः	apatyaṃ sveṣu dāreṣu notpādayitumarhatha   adya prabhṛti yuṣmākam aprajāḥ santu patnayaḥ
1.36.23a 1.36.23b	एवमुक्त्वा सुरान् सर्वान् शशाप पृथिवीमपि   अवने नैकरूपा त्वं बहुभार्या भविष्यसि	evamuktva surān sarvān śaśāpa pṛthivīmapi   avane naikarūpā tvaṃ bahubhāryā bhaviṣyasi
1.36.24a 1.36.24b	न च पुत्रकृतां प्रीतिं मत्क्रोधकलुषीकृता   प्राप्स्यसि त्वं सुदुर्मेधे मम पुत्रमनिच्छति	na ca putrakṛtāṃ prītiṃ matkrodhakaluṣīkṛtā   prāpsyasi tvaṃ sudurmedhe mama putramanicchatī
1.36.25a 1.36.25b	तान् सर्वान् पीडितान् दृष्ट्वा सुरान्सुरपतिस्तदा   गमनायोपचक्राम दिशं वरुणपालिताम्	Tān sarvān piḍitān dṛṣṭvā surānsurapatistadā   gamanāyopacakrāma diśaṃ varuṇapālitaṃ
1.36.26a 1.36.27b	स गत्वा तप आतिष्ठत् पार्श्वे तस्योत्तरे गिरेः   हिमवत्प्रभवे शृगे सह देव्या महेश्वरः	sa gatvā tapa ātiṣṭhat pārśve tasyauttare gireḥ   himavat prabhave śṛṅge saha devyā maheśvaraḥ
1.36.27a 1.36.27b	एष ते विस्तरो राम शैल पुत्र्या निवेदितः   गंगायाः प्रभवम् चैव शृणु मे सहलक्ष्मण	eṣa te vistaro rāma śaila putryā niveditaḥ   gangāyāḥ prabhavam caiva śṛṇu me sahalakṣmaṇa