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Significance of the number 'Eleven' in Sri Rudram of Krishna Yajurveda Taittiriya Samhita

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Abstract:
Eleven *Rudras* areenumerated in '*Matsya Purāṇa*', who are called '*Gaṇeśvarā*' (गणेश्वराः); they are the 'leaders of hosts'. It is described that 84 crores of 'Guardian - spirits' sprang forth from them. The notion that the *Rudras* are 'eleven' in number is so well-known that the word '*Rudra*' (रुद्रः) itself is taken to represent the number 'eleven' in *bhūta-saṃkhyā-paddhatiḥ* (भूतसंख्या-पद्धतिः). The *Taittirīya-Saṃhitā* of *Krishṇa-Yajurveda* praises this all-pervading deity '*ŚrīRudra*' through eleven '*Anuvākas*' (or chapters) consisting of several hymns. This paper attempts to reveal the mathematical significance of the number 'eleven' associated with these *Rudra* mantras in the first *anuvāka* of *ŚrīRudram*, using the Vedic Numerical Code (or *Kaṭapaya- saṃkhyā - paddhati*).

Keyword: *ŚrīRudram*, divisibility by 11, *Kaṭapaya- saṃkhyā - paddhati,* Vedic Numerical Code.

Introduction
The notion that the *Rudras* are 'eleven' in number is so well-known that the word '*Rudra*' (रुद्रः)in Sanskrit is used to represent the number 'eleven' in the coding system called *bhūta-saṃkhyā-paddhatiḥ* (भूतसंख्यापद्धतिः), which means 'objects representing numerals'.

'*MatsyaPurāṇa*', enumerates 'eleven' *Rudras;* each is called a '*Gaṇeśvara*' (गणेश्वरः) in the text, meaning 'leader of hosts'. The text further describes the emerging of 84 crores of 'Guardian - spirits' from these eleven *Rudras.*

Aṃśumad-āgamaḥ (अंशुमदागमः) of Saiva-cult elaborates the iconographical details of these *Rudras;*they symbolize the five '*Karmendriyas*' (Organs of action), the five '*Jñānendriyas*' (Organs of cognition) and the '*Manas*' (Mind) as the common organ to all beings.

The portion of *ŚrīRudram* of *TaittirīyaSaṃhitā* of *KrishṇaYajurveda* also contains only eleven *Anuvākas* (or chapters). When these Vedic *Mantras* in Sanskrit are decoded using the well-known '*Kaṭapaya- saṃkhyā - paddhati*' (or Vedic Numerical Code), we are amazed and wonder-struck to see the algebraic concept of divisibility by 11 in the decoded numbers. It speaks volumes for the fact that our Ancient Sages over a period of five millenniums have contributed to some of the greatest achievements in Science, contrary to European beliefs.

Kaṭapayasaṃkhyāpaddhati (Vedic Numerical code)
In this system,
i)   the consonants (vyanjanas) beginning with ka (क), ta (ट), pa (प) and ya (य) referred the digits from 1 to 9 (i.e. letters from ka (क) to jha (झ), from ṭa (ट) to dha (ध), denote 1 to 9;
ii) pa (प) to ma (म) stand for 1 to 5;
iii) letters from ya (य) to ha (ह) represent the digits 1 to 8;
iv) the nasals ña (ञ) and na (न) denote 0;
v) in the case of conjunct consonants, the number denoted only by the last consonant is taken;
vi) the vowels following consonants have no value;

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vii) the vowels not preceded by any consonant represent 0;

viii) the arrangement of the digits is from right to left as per the rule ankānaṃ vāmato gatiḥ (अङ्कानाम् वामतो गतिः);

ix) the letter ḷa (ऴ), peculiar to the Dravidian languages, represent 9.

The rule is:

'kādi nava, ṭādi nava, pādi panca, yādyashtau'

1. 'Kādi nava' means ka and the following eight letters
2. 'Ṭādi nava' means ta and the following eight letters
3. 'Pādi pañca' means pa and the following four letters
4. 'Yādyashtau' means ya and the following seven letters
5. 'Ksha' represents zero.

To make this more clear and understandable, the notation is given by the following table:

Table 1: Vedic Numerical Code (Katapayādi system)

Category	1	2	3	4	5	6	7	8	9	0
Kādinava	क	ख	ग	घ	ङ	च	छ	ज	झ	ञ
	ka	kha	ga	gha	ńa	ca	cha	ja	jha	ña
Ṭādinava	ट	ठ	ड	ढ	ण	त	थ	द	ध	न
	ṭa	ṭha	ḍa	ḍha	ṇa	ta	tha	da	dha	na
Pādipañca	प	फ	ब	भ	म					
	pa	pha	ba	bha	ma					
Yādyashtau	य	र	ल	व	श	ष	स	ह	ऴ	क्ष
	ya	ra	la	va	śa	sha	sa	ha	ḷa	ksha

Hence

a) The Vowels are not included in the list.
b) They are exempted because, only the consonants with vowels are assigned numbers.
c) In conjunct consonants, the last consonant alone is to be coded.

Opening Mantra of ŚrīRudram

The opening mantra of *ŚrīRudram*, when decoded using Vedic numerical code yields a 32-digit number divisible by 11. For this, refer the following link:
https://www.anantaajournal.com/archives/?year=2021&vol=7&issue=1&part=C.

A couple of Mantras of ŚrīRudram

The second and third *Mantras* taken together of *ŚrīRudram* when decoded using Vedic numerical Code yields a 68-digit number which is exactly divisible by 11. For this, refer https://www.anantaajournal.com/archives/2021/vol7issue1/PartH/7-7-73-108.pdf.

a Triple of Mantras of ŚrīRudram

The triple *Mantras* 4, 5 and 6 extracted from *ŚrīRudram,* which forms a part of *Taittirīya-saṃhitā* (तैत्तिरीयसंहिता)of *Kṛṣṇayajurveda* (कृष्णयजुर्वेदः) are as below:

Mantra:

यामिषुं गिरिशंतं हस्ते
बिभर्ष्यस्तवे।
शिवां गिरित्र तां कुरु
माहि ᳵसीःपुरुषं जगत्॥

शिवेन वचसा त्वा
गिरिशाच्छा वदामसि।
यथा नः सर्वमि-
ज्जगदयक्ष्म ᳵ सुमना असत्॥

अध्यवोचदधिवक्ता
प्रथमो दैव्यो भिषक्।
अही ᳵश्वसर्वाञ्जंभयन्-
त्सर्वाश्च यातुधान्यः॥ (श्रीरुद्रम्1 - 4, 5 & 6)

Transliteration:

Yāmiṣuṃ giriśaṃta haste
bibharṣyastaveꞁ
Śivāṃ giritra tāṃ kuru
mā hi Ꞌsīḥ puruṣaṃ jagatꞁꞁ

Śivena vacasā tvā
Giriśācchā vadāmasiꞁ
Yathānaḥ sarvam-
ijjagadayakṣma ꞁ sumanā asatꞁꞁ

Adhyavocad-adhivaktā
Prathamo daivyo bhiṣakꞁ
Ahī Ꞌśca sarvāñ jaṃbhayan-
Tsarvāśca yātudhānyaḥꞁꞁ (ŚrīRudram 1 - 4, 5 & 6)

Meaning:

My Lord who dwells on Mount Kailas and confers gladness to all! You, who fulfills your vow of protecting all who serve you and take refuge in you; that arrow of yours which you hold ready to let fly, withhold it and make it tranquil and auspicious.

Lord of Mount Kailash of the Vedas! We pray to attain you by our auspicious words. We ask that for all our days, this entire world will be free from ills and discord, and that we may live in amity and concord.

Let Him intercede on my behalf and speak in my favor, even Rudra, that foremost one, held high in honor by the gods, the physician. Let him annihilate the enemies of mine like scorpions, snakes, and tigers, and the unseen enemies like the Rakshasas, spirits and demons. (*ŚrīRudram1 - 4, 5 & 6*)

Since we are going to deal with only the mathematical aspects of the *mantras*, an elaborate explanation of the above *mantras* is not presented here.

Table2: Vedic Numerical Coding of the Verse ŚrīRudram 1 - 4, 5 &6

Line 1	1	5	6	3	2	5	6	8	6		
Line 2	3	4	1	6	4						
Line 3	5	4	3	2	2	6	1	2			
Line 4	5	8	3	7	1	2	6	8	3	0	
Line 5	5	4	0	4	6	7	4				
Line 6	3	2	5	7	4	8	5	7			
Line 7	1	7	0	7	4	5					
Line 8	8	3	8	1	5	3	7	5	0	0	7
Line 9	0	1	4	6	8	9	4	6			
Line 10	2	7	5	8	1	4	6				
Line 11	0	8	0	6	7	4	8	4	1		
Line 12	7	4	6	1	6	9	1				

The word *pāpa* (पाप) is decoded as the number 11 using Vedic numerical code. When *ŚrīRudrasvarūpa* is described as *apāpakasini* (अपापकाशिनी), meaning 'remover of Sins', the mathematical concept of 'divisibility by 11' is suggested as an indication.

Working
The 96-digit number obtained by decoding the couple of *mantras* in the direct orderis as below

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156325686341645432261258371268305404674325748571707458
38153750070014689462758146080674841746169
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Here
- The digit '0' is introduced at the end of each *mantra* to segregate the two *mantras*.
- The unique syllable ' ᳶ '(pronounced as 'गुम्')found in the recitation of *mantras* is assigned number '3' as per the pronunciation.

The unique syllable ' ꣲ '(pronounced as 'गॄ') found in the recitation of *mantras* is assigned number '0' as per the pronunciation,

- **For Example,**
- In line 4, माहि ᳶसी:(*mā hi ᳶsīḥ*) is decoded as 5837 in direct order.
- In line 8, यक्ष्म ᳶ (*yakṣma ᳶ*) is decoded as 153 in direct order.
- In line 11, अही ꣲश्च (*Ahī ꣲśca*) is decoded as 0805 in direct order.

A = Sum of the digits at odd places of the above number = 57 + 70 + 74 = 201
B = Sum of the digits at even places of the above number = 68 + 72 + 72 = 212

Using the criterion for divisibility by 11, we see that

| A - B |=| 201 - 212|= 11.

Hence, the 96-digit number obtained by decoding the triple of *mantras* is exactly divisible by 11.

Conclusion
While we should try to be at the acme of current Scientific Research, we should always be aware that our Ancient Rishis and Sages of India were far ahead of their times, establishing the foundations of many branches of Science through the Vedic hymns.

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