



Mathematical practice and number concepts in Vedic literature

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Abstract:

The Dawn of Indian history began with the Vedic age. It is true that the scientific practices, higher philosophical thinking and religious rituals of the Vedic age bestowed India with a place of excellence in the world assembly. Vedic literature is basically based on sacrifice. The sages attached great importance to the rules, principles and usefulness of sacrifice. In order to successfully perform various rituals of sacrifices, they used to review the positions of planets and stars, the division of day and night, the dates of New Moon and full moon etc. As a result, and unprecedented progress was made in astrology during the Vedic age. And in order to improve this astrology. They devoted themselves to the subtle study of mathematics. In addition, auspicious beginning of mathematics can be seen in Vedic literature, even in the various types of construction methods of sacrificial alters. Many Scholars believed that only the amount of mathematics that was necessary for the needs of sacrificial offerings is included in Vedic literature, and not more. However, this is wrong, the evidence that the Indian gave a separate status to mathematics is found in Vedic astrology.

Introduction:

The triumph of science is observed all over the world today. But where, when and how the initial triumph of science began is still unknown to the world. New Discovery and new ideas of science have set the chair of wheel of progress of Civilization in motion. Mathematics is such a controversial and discussed subject. The world of mathematics is illuminated today by the genuine and unprecedented Discovery and light of knowledge of scholars, Aryabhatta, Bhaskaracarya etc. However, there is still a difference of opinion Among Scholars about when mathematical thought began and where the seeds of mathematical practice originated. Some have identified Egypt, some Babylon, some India and some China as the birth place of mathematics. History of Chinese mathematics, Yoshio Mikami says in his book 'the development of mathematics in China and Japan' that mathematics was practiced sporadically in China in 2900 BC and that's some systematic

practice of mathematics began in 2700 BC. It is generally believed that the systematic practice of mathematics in China began in 152 BC.

Keywords:

Yajna Kund (Alter construction), Geometric design, Numerical computing, Vibrational energy, Naamank(namenumber).

Mathematics practice in Vedic Literature:

It is difficult to say when and where mathematical thought begin in India. Ideas about Mathematics developed during the Vedic period. The Civilization preceding this Vedic civilization was the Indus valley civilization. D Civilization emerge around 3500 BC. Excavations in the vast areas of Mohenjo Daro and Harappa have found cubes, perfect zars of various size, and pointed vessels of various lengths, looking at this system of Management it can be easily assumed that mathematics was practiced during the Indus valley civilization as well. Therefore, all though there is doubt as to weather, Indian mathematics can claim antiquity compared to others countries, it was not behind Egypt, Babylon, and China.

Some early discussion app mathematical practice is found basic literature. Such as Brahmin Aranyaka Sanhita and Upanishad. Infect Extensive discussions on mathematics can be found in the shulva-Sutra. These Sutras are the first systematically written the mathematical text in Indian mathematics. The two branches of mathematics are numerology and geometry. Arithmetic and algebra belong to numerology. The Aryans were experts in geometry since the Vedic era. They also left Behind new works in some areas of geometry. It was especially used to by the sages when they measured the place of the sacrifice. Various geometric figures are mentioned in the Sulva-sutras. For example:

GEOMETRY: *dividing a straight line of a certain length into a number of parts. * Divide a triangle into any number of equal and similar triangles. * Constructing a square with the same area as a rectangle* drawing a split line of the intersection of a straight line. * Drawing and isosceles trapezium with given height, base and front, therefore, while measuring land and various shapes like circular, semi-circular, triangular etc. File constructing various types of sacrificial alters etc. Geometric figures are mentioned in the Sulva Sutra. For this reason, the Sulva-Sutras are considered as the original text of Indian geometry. Until the discovery of the Indus valley civilization, the Vedic civilization was the most widely known Civilization as the oldest Civilization in India. While higher philosophical thoughts were expressed in the thoughts and thinking of the Vedic sages and various branches of knowledge and Science also began to flourish. Vedic society and civilization were centred on sacrifice. Performing sacrifice was an essential duty in daily activities. Vedic Sacrifices were five types: Homa, Isti, Pashu, Soma, and Sabhra. The timing of all these Yagna ceremony was different and the yagna alters were also of different sizes. If the yagna ceremony Could not be performed properly at the right time and if the alter was not built properly, on the one hand, the purpose of the sacrifice would remain elusive, and on the other hand, the priest and the priest performing the sacrifice would be guilty of sin. That is why, Vedic sages were aware of the astrological Sciences related to the position of the stars. They were also diligent in building the perfect alter. therefore, geometry the subtitle

principles of mathematics and astrology were applied to the sacrifice. As a result, the foundation of mathematics began to be laid gradually in the Vedic period.

ARITHMETIC:

Ancient Indian astronomers used to spread dust on the table and draw on it to solve difficult and complex problems of astrology. This method was called 'Dhulakama' by Scholars like Brahmagupta, Bhaskar Acharya. That is various topics included in Arithmetic were discussed in Vedic literature while practicing astrology. First, the use of fractions is widely observed in the Rig Veda and Sutra literature. The word Ardha, Tripod, Kustha, Shaf etc. are used in the Rg-Veda. Words denoting fractions such as Panchadasha, bhagwati, Saptabhag, Tri-Asta etc. are found in Vaidic literature. In the Vedanga Jyotisha written before 1200 AD, while expressing this fraction of 10-120 kala, it is said "kala dassabingshaNadiasyad" In addition, the following fractions are mentioned in the 'Sulva Sutra' when converting a circle into a square and a square into a circle.

$$a=b \quad (1-1/8+1/8.29-1/8.29.6+1/8.29.68).$$

Secondly, the Vedic sages used the 'karni Nirasana' method while constructing the 'SotramanikiVedi' sacrificial alters. The Vedi looks like an isosceles trapezium, its arms were $24\sqrt{3}, 30\sqrt{3}-\sqrt{36}\sqrt{3}$. Thirdly, Cooperative and permutations are a significant aspect of arithmetic. Please originated with Vedic rhythms. In his 'Chandasutra' Acharya pingal has discussed harmony and arrangement in the context of the discussion of Rhythm, harmony etc.

Fourthly, one of the topics of arithmetic is related to class or progress. Existed in the Vedic period as well. Its proof is Found in the 'Atharva Veda'. In the 11/66/2/3-5 mantras of the 'Atharva Veda', the numbers 99, 88, 77, 66, 55, 44, 33, 22, 11 etc. are mentioned. This is a parallel progression; its common Interval is 11. apart from these, many examples of this type of progression can be seen in the 'Taittiriya Samhita, Vajasanaya Samhita, and the Panchavinsha Brahmana.

Additionally the contribution of Vedic literature to the discussion of arithmetic, addition, subtraction, square, cube, instalment, profit and loss etc. is undeniable.

ALGEBRA:

The practice of algebra began in the era of Brahmanical literature in approximately 2000 BC. later, various principles of algebra have been discussed in the 'Sulva-Sūtras. The construction methods mentioned in the 'Sulva-Sūtras' in the context of the construction of 'Mahabedi' 'Gahapatya Bedi' and 'Garuda Chayan Chiti' have found their place in modern mathematics.

Therefore, when civilization had not yet emerged in other countries of the world, and advanced line of thought in mathematics could be observed in India during the Vedic period. Mathematicians who emerged later to advantage of that knowledge and further perfected the flow of mathematics. Concepts related to number in Vedic literature:

The need for numbers for arithmetic or calculation is very important. That is why numbers have emerged. In India, various information related to numbers was recorded even in the distant Vedic period. Especially important information about the origin of numbers, naming number writing method, and use of names and

numbers is stored in the literature developed around the Chaturvedi and the Vedas. Naming the numbers: The sages Of the Vedic period calculate very large numbers. The names and uses of the numbers formed by adding 18 zeros to the back of one are found in Vedic literature. Rishis like Medha tithi and Gautam were the compilers of all these numbers. The Rg -Veda's mantras, such as 1/15/4, 1/15/10, 8/22/32 mention various numbers from 1 to 10 and multiples of 10. The number 2,3,4,5 is mentioned in the Rg- Veda. There is also various information about 7,8,9 in the Rig Veda. There is also mention of numbers like hundred, thousand etc. In the Rig Veda various discussions about the naming of numbers are also found in the Atharvaveda. .Origin of Numbers and numeral writing system:

The Vedic literature Nirukta vedanga, sheds light on numbers. Acharya asks in his book has shown the origin of the numbers one, two etc. The word 'ek' is derived from the suffix 'Kon ' of the passive'e' the word 'dvi' from the passive'dru' the word 'tri' from the passive'tri' is derived from the suffix'di' the word 'Chaturang ' is derived from the suffix 'chal'. Acharya yasaka has similarly disguised the origin of the numbers five, six, seven, eight, nine, ten, twenty, thousand etc. In this context it is noted that one is the constant number, two are the fasted numbers, three are the most mobile numbers four are the most mobile.

Although it is no possible to reach an accurate conclusion about where and when the numeral writing system was introduced in India, evidence of the numeral writing system that was prevalent in the Vedic period is found in the Rig Veda, Yajurveda and Atharva Veda. At one point in the Rg Veda, it is said "Sahasrang me dadato astakya"10/62/7 I.e., Give me a thousand cows whose ears are like the number eight. Also, the Brahmana text have mention of the numeral writing system. Therefore, scholars are sure that the numeral writing system was in use in India during the Vedic period.

Nouns and their use in Vedic literature:

In Indian mathematical text, instead of mentioning the name of a number or using symbolic symbols the name of an object was written instead. The system is known as 'Sabda Sankhya' or 'Namasankhya'. The Namasankhya is used to write large numbers in small numbers.

It is said in the Rg- Veda " Sapta ksharanti shishabe Marutvate Pitre"(10/13/5). According to Acharya Sayan, the word 'sapta' in the context indicates Vedic rhythm. In the 'Atharvaveda' while explaining this verse, it speaks of 'Sapta River'. That is the word 'sapta' is a combination of two numbers, more uses of the noun number are found in the Rig Veda.

Apart from these, the use of nomenclature can also be observed in Vedic literature such as 'KatyayanaSautasutra', 'LatyayanaSautasutra' etc.

Conclusion:

Therefore, the treasure troves of Vedic literature Vedic literature is full of advanced thoughts of science. Needless to say, it is like a treasure trove of gems. The thoughts and ideas of the sages of this era are still a matter of Wonder to the people of the world. From the above discussion, it can be easily guessed that, all the topics of mathematical practice recorded in Vedic literature have provided resources for the development of new thoughts of the present mathematicians. As a result, New Horizons of mathematics have been opened all over the world and that stream is still following at the same speed. Vedic numerology apps as a holistic, 'Predictive tool' that Bridge ancient spiritual wisdom with the practical everyday life. It is not considered a hard, deterministic science but rather a Framework for understanding one's "Soul blueprint " its ultimate goal is to guide individuals towards self-awareness, personal growth, and harmony with cosmic energies, often through remedies like name corrections, Mantra, chanting and aligning with favourable dates.

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