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Study of Proportion System using The Sri Yantra: A Case of Shiv Temple, Baijnath

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Abstract—*The construction of Hindu temple is not merely based on mythology but has very strong sense of scientific knowledge. The design is based on the proportion systems and that finally results in construction of a perfect temple that is not only structurally strong, but also aesthetically pleasing. The temple is a structure based on the rhythm of proportionate correlated measurements. In this paper the elevation of a case study temple Shiv Temple at Baijnath has been undertaken using The Sri Yantra.*

1. INTRODUCTION

A Hindu temple is a symbol or rather a synthesis of various symbols [1]. The temple is the adobe of God who is the spirit immanent in the universe. There is a concept of Organic unity Hindu temple architecture, as the various limbs of human body are applied in architectural text and finally in different parts of a temple structure [1]. The structure of a temple has been evolved as per the local needs and creedal requirements and subjects, to the interplay or exchange of thoughts and ideas [2]. The basic elements of the temple architecture are derived from *Vedic* or *puranic* sources, which has later on transformed to different styles and patterns during their diffusion from a Cradle centres of the great religion in north India to a wider area [2]. The temple is a structure based on the rhythm of proportionate correlated measurements. Hindu temples are mostly considered to be polytheism in nature i.e. belief in multiple deities [3].

2. PROPORTIONS OF ANCIENT HINDU TEMPLES

The Hindu temple architecture has been broadly examined and archived, but the investigation of the geometry of sanctuaries, overall arrangement, planning and the general frame is still in its underlying stages [4]. The study of proportions to analyse the geometry of a temple has not been extensively taken up. The studies related to the architectural planning and the geometrical principles of the Indian temples have lacked a focused and lucid approach to study its relation with the architectural form. There are a number of studies on analyzing the proportions of a Hindu Temple such as in [5-7]. In this paper, the proportions of elevations of Shiv Temple at Baijnath has been studied using The Sri Yantra [8]

3. PROPORTION SYSTEM: THE SRI YANTRA

The Sri Yantra also called Sri Chakra is a beautiful and complex sacred geometry used for worship, devotion and meditation. The Sri Yantra or Sri Chakra is a form of mystical diagram (yantra) used in the Shri Vidya school of Hindu tantra. It consists of nine interlocking triangles that surround a central point known as a bindu. Because of its nine triangles, Sri Yantra is also known as the Navayoni Chakra. The architecture of the ancient temples, unfortunately, is largely based upon the oral traditions. In case of Sri Yantra it strong tantric connotations has made most of the people dismiss it as incomprehensible but an unusually potent and powerful geometric composition popularly used by the aspirants for meditation activities for gaining higher levels of spiritual power. There are two types of Sri Yantras. Although the basic governing principle of both types is the same, the final result is quite different. Looking at Sri Yantra in figure 1 and figure 2, they apparently look the same. But they are quite different. The Sri Yantra in figure 2 is the one used for meditation purposes which can be encased in a circle or a square. The one demonstrated in figure 1 is applicable to temple design and planning.

Highlighting the differences between the two, in the Sri Yantra used for meditation, the angle of the enclosed triangle is varying dramatically (figure 2). In figure 3-4, we can note that the angles are 129°, 117°, 120° and 126°.

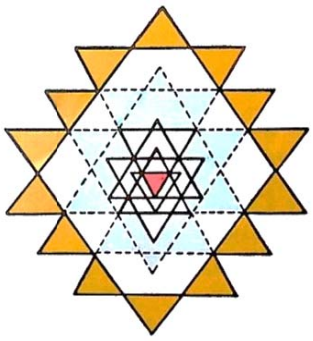

Figure 1 The Sri yantra applicable for temple design and planning

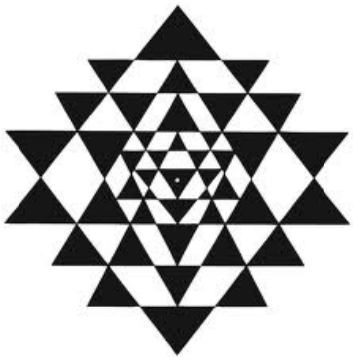

Figure 2 The Sri Yantra used for meditation purposes which can be encased in a circle or a square

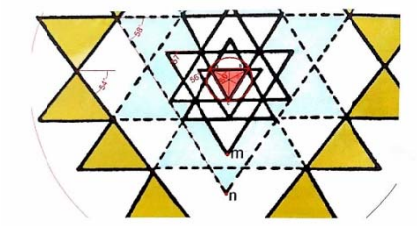

Figure 3 Sri Yantra, no variation in the angle of the enclosed triangle

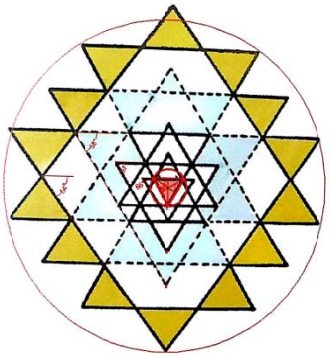

Figure 4 Approximately similar triangles of the Sri Yantra

Therefore, the lines of the triangle are not parallel to each other. The main reason for the variation is that the points 'm' and 'n' and all other similar apex points of the inverted triangles are touching the base of the straight triangles. Whereas in another case (figure 5), the angles of the triangle are same. All the triangles used for constructing the Sri Yantra are an equilateral triangle and should have their enclosed triangles at 60°. In figure 5-6, we can say that just incorrect drawings have resulted in slight errors in the angles of the triangles. This can be achieved only if the points 'm' and 'n' do not touch the base of the straight triangles (figure 6) and the sides of the triangle remain parallel to each other.

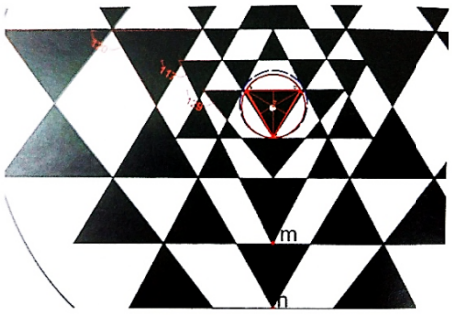

Figure 5 The triangles inside the Sri Yantra have variations in their angles

Figure 6 Sri Yantra, the angles of the enclosed triangles varying dramatically

The possibility that the first type of Sri Yantra is used for temple design is low because a temple plan is based upon symmetry. The plan's orthogonal characteristic is maintained at all times and therefore the diagonal grids can also be applied successfully. Hence, under these considerations, the second type of Sri Yantra which maintains its parallel lines at all time was adopted for the study. The derivations from this study are quite visibly convincing. Although the initial construction method is same in both the methods, the final output is different. Hence, the Sri Yantra that is applicable to the temple studies is elongated and rectangular in shape.

4. ANALYSIS OF SHIV TEMPLE, BAIJNATH, KANGRA

Baijnath is located in Kanga District of Himachal Pradesh and is famous for its Shikhar styled 13th-century temple dedicated Vaidyanath, 'the Lord Shiva'. It is a tower like conical formation built of stone and decorated with rich stone carvings. The top of shikhar has amalaka, the circular sun-disc having 64 petals. It has a mandap (porch), garbh-griha (sanctum sanctorum) and shikhar (tower).

Figure 7 View of Baijnath temple

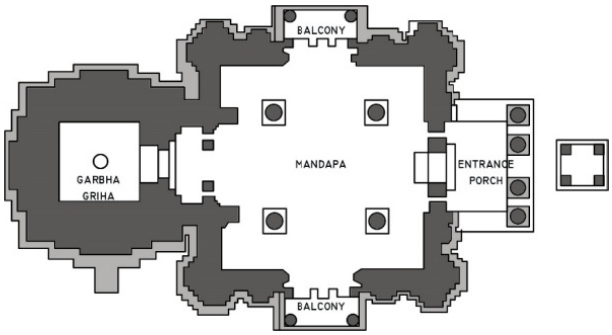

Figure 8 Floor plan, BaijnathTemple

Use of Sri Yantra to study the elevation

Elevation details are located by the means of the Sri Yantra. Aligning the building elevation with Sri yantra gives an approximate measure to locate the details in elevations. It proportionately divides the elevation into various parts like shikhara, adhisthana, the capital as shown in figure 9-10.

It also helps in locating the details like motifs and ornamentation.

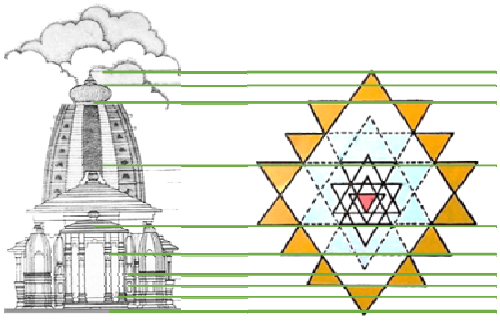

Figure 9 The study of proportion of front elevation in the temple

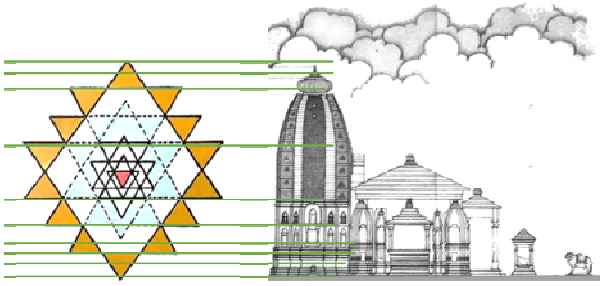

Figure 10 The study of proportion of side elevation in the temple

5. CONCLUSION

The Sri Yantra system is a proportion system that can be used to explain the elevations of a temple and its use is not limited to meditation only. The study also revealed that there exist a thoughtful design in Baijnath Temple, Kangra even in the older days and was based on sense of geometry. Further, this study is also useful in thoughtful designing of temple in modern days using Sri Yantra.

6. ACKNOWLEDGEMENTS

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