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Demystified Secret of Brahma Prastara, Sri Chakra and the Universe

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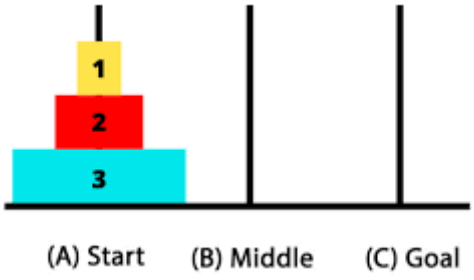
A B S T R A C T

Brahma Prastara is also commonly known as the Tower of Hanoi which has a paramount significance in Vedic Sciences. The Tower of Hanoi governs the establishment of Meru Prastara Sri Chakra Maha Yantra. The Tower of Hanoi can be shown in un-directed graphs. The un-directed graph represented Tower of Hanoi can be illustrated as Sierpinski triangles. In 3-Dimentional format Sierpinski triangles becomes Sierpinski tetrahedron. These Sierpinski tetrahedron has the same properties such as Pyramid. Sierpinski tetrahedron is none other than Meru Prastara Sri Chakra Maha Yantra. But Sierpinski tetrahedron also exhibits orthographic projections also. Therefore Ancient Kundalini raising Yoga Sadhana is intended to know the Geometry of Universe is has the Spatial geometry model with an unbounded hyperbolic space. Any spatial section of the universe of a constant age will have a negative curvature.

Keywords: Brahma Prastara , Tower of Hanoi, Vedic Sciences, Meru Prastara Sri Chakra Maha Yantra, Un-directed Graphs, Sierpinski Triangles, Sierpinski Tetrahedron, Pyramid, Orthographic projections, Geometry of Universe, Spatial geometry model, Unbounded hyperbolic space

1. Introduction

Brahma Prastara, commonly known as the Tower of Hanoi, was invented by a French mathematician, Douard Lucas, who was inspired by the Kashi Vishweshwara temple in India and decided to bring the problem to the West. To solve the problem, we must adhere to three basic principles and arrive at a number (the number of steps) at the end of the procedure. If the problem can be solved analytically or by computer, this method will reveal a recurrence in the phases that can be dealt using iterations.



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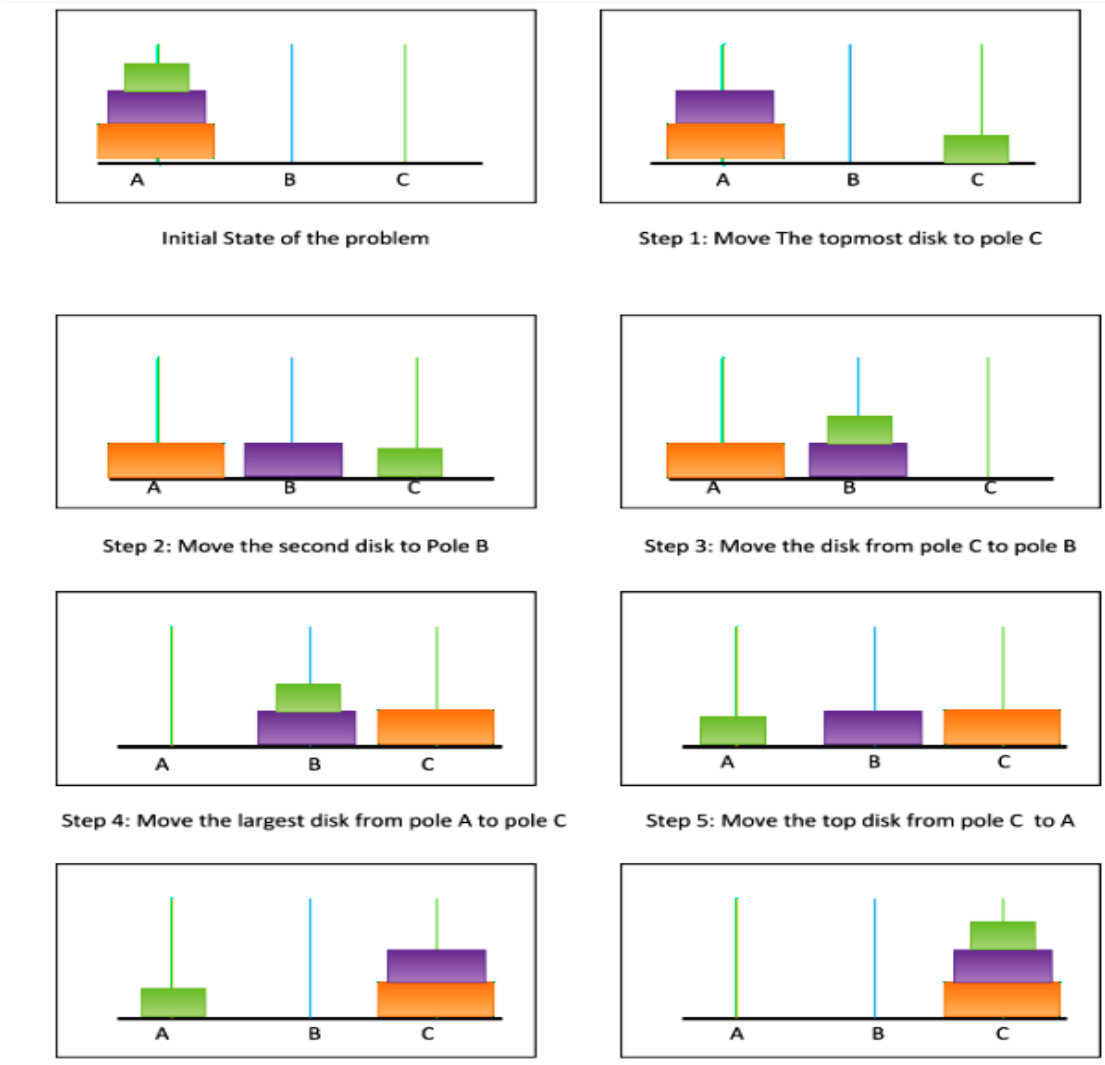

Fig. 1 - Tower of Hanoi and solving it

It consists of three rods and an unknown number of discs, each with a different size and shape, arranged in ascending order on the first rod. Rules state that a disc may be put on top of another disc that is smaller than it or on top of an empty rod. We may finish the game with as little as one move, depending on the amount of discs we utilize.

There are a number of regulations that must be followed in order for the stack to be completed: We can only move one disc at a time. It is necessary to remove the top disc from one stack and then place it on top of another stack or on an empty rod in order to complete a transfer. A smaller disc cannot be put on top of a larger one. Using three discs, the problem may be completed in seven moves. A Tower of Hanoi problem may be solved in as few as 2^n-1, where n is the number of discs.

With 64 golden discs around a big space at an Indian temple of Kashi Vishweshwara, there is a fascinating story to be told. Brahmin priests have been rotating these discs in line with Brahma's unchanging principles since that time, according to an ancient prophesy. Because of this, the puzzle is also known as Brahma Prastara (Brahma's Tower). After all the moves have been made, according to folklore, everything will end.

Even if the narrative is accurate, and the priests were able to move discs at the pace of one per second, utilizing the least amount of movements, it would take them around 585 billion years, or 42 times the current age of the universe, to complete.

The narrative of how the Tower of Brahma came to be
When the Devtas and Asuras clashed in the Rugveda, the Devatas went to see Lord Shiva about the difficulty the Asuras were making. When Lord Shiva inquired about this, Lord Brahma came up with an answer. Three Lokas should be created —

Swarga Loka is the home of the Devatas
A human settlement in Martya Loka
A place where Asuras may live in Paathala Loka.

In each Loka, Lord Brahma put a diamond tower, and in the Aakash Loka, he placed 64 golden discs. For their part, Devtas were given the duty of transporting the disc to Paatla Loke in accordance with the same guidelines. As a result, the LordBrahma cycle comes to an end.

Fig. 2. Swarga , Marthya and Paathaala Lokas Illustration

2. Existing Solutions for the Tower of Hanoi

In an Iterative solution for the toy problem, an easy solution is to alternate movements between the smallest and non-smallest pieces in an iterative approach. Always move the smallest piece in the same direction while repositioning it (to the right if the starting number of pieces is even, to the left if the starting number of pieces is odd). Instead of going in a certain way, try the other end first and then return to where you were going in the proper direction.

In an Equivalent iterative solution the discs are numbered from 1 to n. (largest to smallest). Peg A to Peg C is the initial move if n is odd. A move from peg A to B occurs first when the number of pegs n is even. Here are a few more rules: Directly on an odd disc, no odd disc is allowed. Directly on top of an even disc is not permitted. Occasionally, there will be two pegs: one with discs, and one without. Put the disc on the peg that isn't empty. Disks should never be moved more than once in a row. There is only one permitted move after the first turn because of those restrictions.

In a Recursive Solution approach we must understand that an issue may be broken down into a series of smaller sub-problems, to which the same basic solving process that we are looking applies, and the whole answer is then discovered from those sub-problems' solutions. Having "smaller" difficulties creates a higher probability of resolving the original problem.

Then, for Hanoi's Towers: The discs are numbered from 1 (the smallest, uppermost) through n (the total number of pegs) (largest, bottom-most). Assuming that all n discs are distributed among the pegs in legal configurations, and if a source peg has m top discs and that all other discs are bigger than m, it is possible to transport m discs from a source peg to a destination peg using a spare peg without breaking the rules: Use the same basic solution approach to move m 1 discs from the source to the spare peg. The presumption is that rules are not broken. This leaves disc m as the source peg's top disc.

You only need to move the disc m one peg, which is assured to be a legitimate move because of the assumptions. In order to avoid breaking the regulations, move the m 1 discs from the spare to the target peg in the same manner as the m discs, using the same general solution approach. Steps 1 and 3 may be skipped if no discs are moved, which is the default circumstance and so does not break the requirements. Once the n discs have been moved from source peg A to target peg C, the Tower of Hanoi solution may be completed by employing spare peg B. When teaching programming, this strategy is often used as an example of recursion since it can be mathematically proven by mathematical induction.

Now we will use the Recursive Approach make an algorithm,
Start
Tower of Hanoi (disk, source, destination, auxiliary)
If disk == 1, then
move disk from source to destination
else
Step 1----Hanoi (disk - 1, source, auxiliary, destination)
Step 2----move disk from source to destination
Step 3----Hanoi (disk - 1, aux, destination, source)
end if
end Tower of Hanoi
Stop

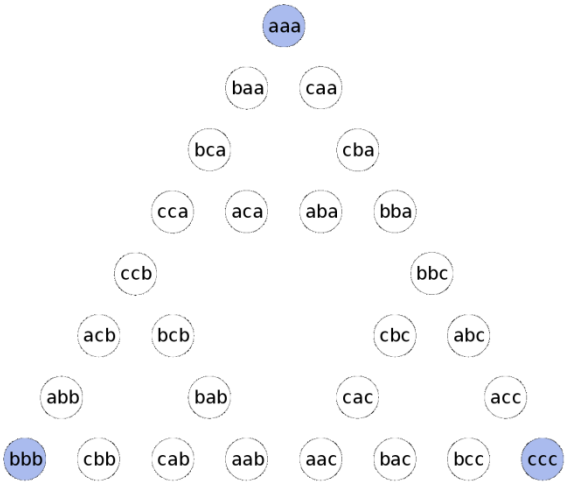

Fig. 3 - Tower of Hanoi with 3 disks and 3 rods using un directed graphs

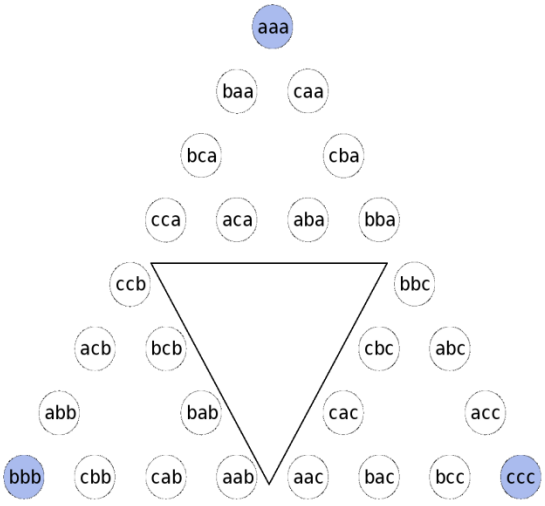

Fig. 4 – Inside increasing space we can see as a Triangle

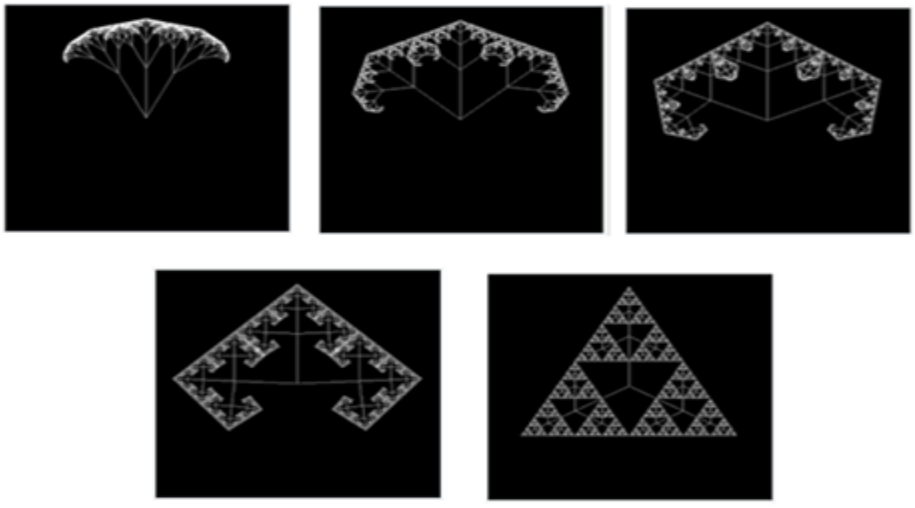

Fig. 5 – Sierpinski triangles increasing step by step

The Sierpinski triangle is the name given to it. Fractal fixed sets having the overall form of an equilateral triangle are split into smaller equilateral triangles in the Sierpinski triangle. At first, this was formed as a curve, one of the most fundamental instances of self-similar sets—that is, it is a mathematically generated pattern that can be reproduced at any scale. Sierpiski's name has been attached to the pattern, yet it has been used as a decorative design for centuries before his work was ever completed. The nature of spreading can be make it visualized using the below figures,

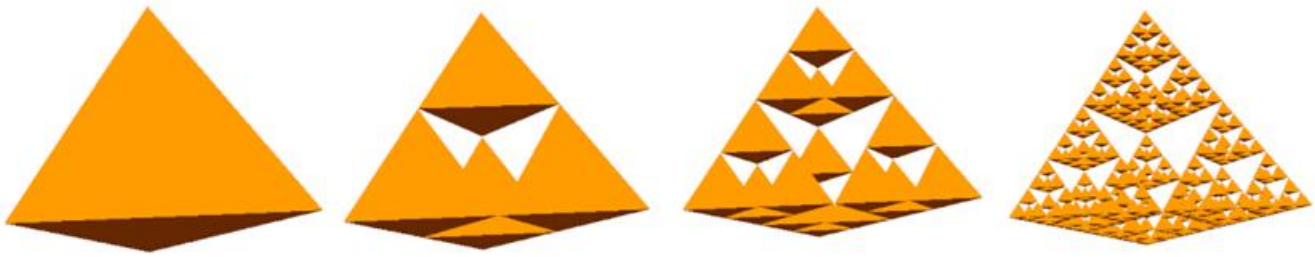

Fig. 6 – Sierpinski tetrahedron

Formed by continually decreasing tetrahedron to half its original height, then arranging four copies together with their corners touching, and then repeating this procedure, the Sierpinski tetrahedron is the three-dimensional equivalent of the Sierpinski triangle. If this is animated as like rotating level-4 Sierpinski tetrahedron shows how some orthographic projections of a Sierpinski tetrahedron can fill a plane as shown below,

Fig. 7 – Sierpinski tetrahedron orthographic projections

It has the similarities with Sri Chakra is a religious geometrical drawing. Sri Chakra is a common yantra. Sri Chakra is an esoteric symbol that embodies significant philosophical and yogic themes. "Kundalini is another word for Atma, self, or Shakthi," Sri Ramana Maharshi explains. Sri Chakra is made up of numerous polygons that are connected by multiple triangles.

When the devotee reaches the center, the reservoir of all knowledge and the final goal of his journey. But the spiritual awareness generated within him during his penetration to the central essence makes him realize that this point is nothing but the center of his own heart, the innermost realm of his being. This realization is the ultimate aim of the yantra.

When Koulinee reaches Sahasraara energy is mixed with energy or energy is submerged with energy. That is nothing other than Bhairavee reached Bhairava thereby Bhairavee has left her identity and she got unified with Bhairava. Both of them pulsate slowly and their pulsating reaches a peak stage where both of them end pulsating and blissfully evolve as a singular and unified point called Bindhu.

Bhairavee and Bhairava pulsating are called as dance. Their cosmic dance has more significance. Bhairavee‟s rhythm of dance is called as Lasya and Bhairava‟s rhythm of dance is called as Tandava. When both of them are unified and perform such dance is called Laya. When Laya is attained it is the final point. Such final point is seen in Meru Prastara.

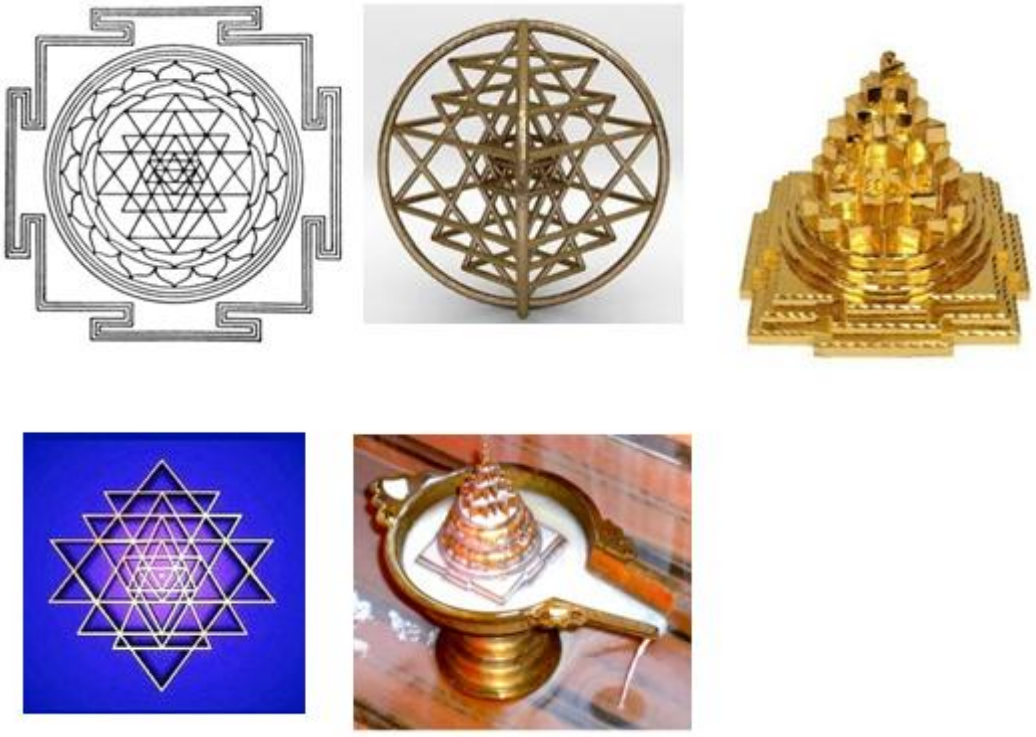

Fig. 8 – Sri Chakra in different forms

If the observable universe is less than the total universe, we will be able to observe only a portion of it, and we may not be able to ascertain its global geometry by measurement. It is currently unknown if the observable universe is similar to the global universe, or is several orders of magnitude smaller, based on experiments. In certain dimensions, the cosmos may be small, but not in others analogous to the way a cuboid is longer in the dimension of length than it is in the dimensions of width and depth. To see if a mathematical model adequately reflects the universe, scientists look for novel implications of the model — what are some events in the universe that we haven't seen before but must exist if the model is valid — and create tests to see if those phenomena occur. If the cosmos is a small closed loop, for example, several representations of an item in the sky should be visible, though not necessarily of the same age.

Cosmologists typically deal with a set of co-moving coordinates, a space-like slice of space time for which the existence of a preferred set is possible and commonly acknowledged in modern physical cosmology. The backward light cone (all places within the cosmic light horizon, given time to reach a certain observer) is the section of space time that may be perceived, while the related phrase Hubble volume can be used to describe either the past light cone or co-moving space up to the surface of last scattering. From the perspective of special relativity alone, speaking of "the shape of the universe (at a point in time)" is ontologically naive: due to the relativity of simultaneity, we cannot speak of different points in space as being "at the same point in time," and thus of "the shape of the universe at a point in time." However, by employing the time since the Big Bang (measured in the reference of CMB) as a distinct universal time, the co-moving coordinates (if well-defined) provide a precise sense to those.

Fig. 9 – Sri Chakra with Nata Raja and Lord Shiva in Samadhi Sthithi and a man activating his Kundalini to reach Sahasrara

The local geometry of the universe is determined by whether the density parameter Ω is greater than, less than, or equal to 1. From top to bottom: a spherical universe with Ω > 1, a hyperbolic universe with Ω < 1, and a flat universe with Ω = 1. These depictions of two-dimensional surfaces are merely easily visualizable analogs to the 3-dimensional structure of (local) space.

Global structure covers the geometry and the topology of the whole universe—both the observable universe and beyond. While the local geometry does not determine the global geometry completely, it does limit the possibilities, particularly a geometry of a constant curvature. The universe is often taken to be a geodesic manifold, free of topological defects; relaxing either of these complicates the analysis considerably. A global geometry is a local geometry plus a topology. It follows that a topology alone does not give a global geometry: for instance, Euclidean 3-space and hyperbolic 3-space have the same topology but different global geometries.

As stated in the introduction, investigations within the study of the global structure of the universe include:

whether the universe is infinite or finite in extent,

whether the geometry of the global universe is flat, positively curved, or negatively curved, and,

whether the topology is simply connected like a sphere or multiply connected, like a torus.

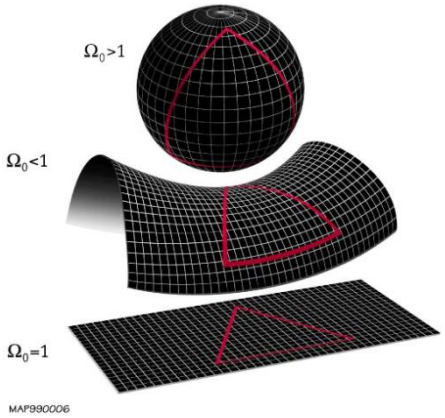

Fig. 10 –Geometry of the universe

If one applies Minkowski space-based special relativity to expansion of the universe, without resorting to the concept of a curved spacetime, then one obtains the Milne model. Any spatial section of the universe of a constant age (the proper time elapsed from the Big Bang) will have a negative curvature; this is merely a pseudo-Euclidean geometric fact analogous to one that concentric spheres in the flat Euclidean space are nevertheless curved. Spatial geometry of this model is an unbounded hyperbolic space. The entire universe in this model can be modelled by embedding it in Minkowski spacetime, in which case the universe is included inside a future light cone of a Minkowski spacetime. The Milne model in this case is the future interior of the light cone and the light cone itself is the Big Bang.

For any given moment t > 0 of coordinate time within the Milne model (assuming the Big Bang has t = 0), any cross-section of the universe at constant t' in the Minkowski spacetime is bounded by a sphere of radius c t = c t'. The apparent paradox of an infinite universe "contained" within a sphere is an effect of the mismatch between coordinate systems of the Milne model and the Minkowski spacetime in which it is embedded.

This model is essentially a degenerate FLRW for Ω = 0. It is incompatible with observations that definitely rule out such a large negative spatial

curvature. However, as a background in which gravitational fields (or gravitons) can operate, due to diffeomorphism invariance, the space on the macroscopic scale, is equivalent to any other (open) solution of Einstein's field equations.

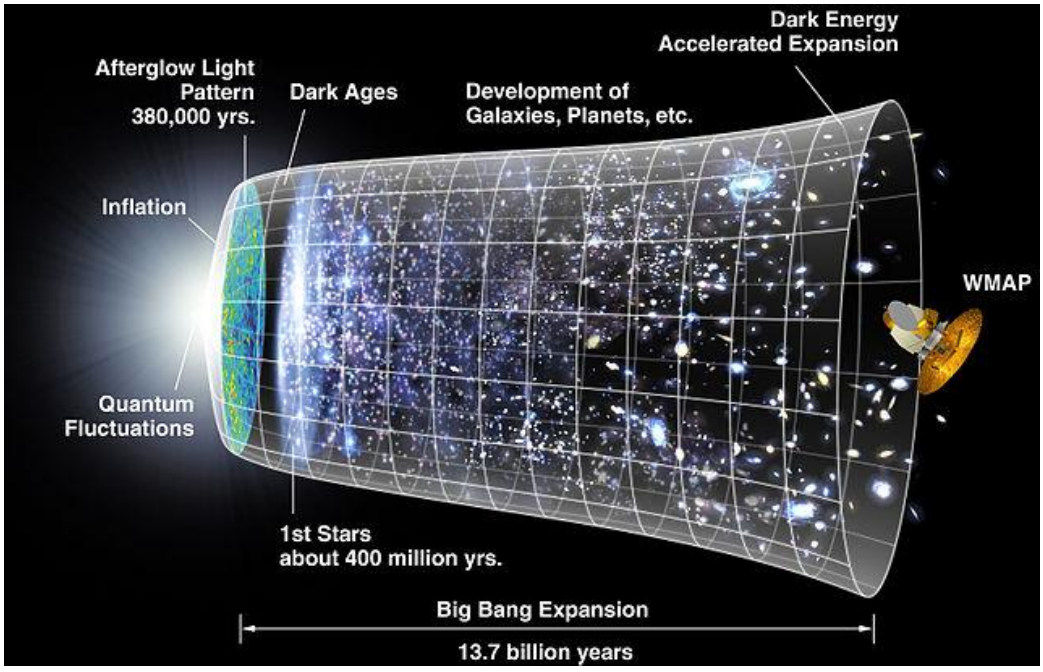

Fig. 11 Shape of the Universe

2. Koula dharma and Cosmic connection establishment

As per Koula Dharma Trikona itself is adorable and needs to worship. When Koulini preaches instantly he/she would attains Moksha. Therefore one who follows Koula dharma are also called “Kshana Mukta”. In Koula Dharma Koulinee is also called as Bhairavee. When Bhairavee is awaken she approaches to Sahasraara. Sahasraara is the place Bhairava resides. Eventhough Bhairava has no much significance in Koulinee tradition, Union of Bhairavee and Bhairavas is given much significance. When a Triangle is added to a Cylinder it makes Spherical Triangle. It is the real Geometry of this Universe. If the Universe is considered to be in the form of a Sphere, then it is possible to have our below assumptions. If the Universe is Spherical then only all our assumptions of forces and their equilibrium factor comes into an effect. The cylinder symbolizes equilibrium factor.

A spherical triangle is a figure formed on the surface of a sphere by three great circular arcs intersecting pair wise in thr ee vertices. The spherical triangle is the spherical analog of the planar triangle.

Let a spherical triangle have angles A, B, and C (measured in radians at the vertices along the surface of the sphere) and let the sphere on which the spherical triangle sits have radius R. Then the surface area Delta of the spherical triangle is

Delta=R^2[(A+B+C)-pi]=R^2E,

where E is called the spherical excess, with E=0 in the degenerate case of a planar triangle. The sum of the angles of a spherical triangle is between pi and 3pi radians (180 degrees and 540 degrees). The amount by which it exceeds 180 degrees is called the spherical excess and is denoted E or Delta, the latter of which can cause confusion since it also can refer to the surface area of a spherical triangle. The difference between 2pi radians (360 degrees) and the sum of the side arc lengths a, b, and c is called the spherical defect and is denoted D or delta. On any sphere, if three connecting arcs are drawn, two triangles are created. If each triangle takes up one hemisphere, then they are equal in size, but in general there will be one larger and one smaller. Any spherical triangle can therefore be considered both an inner and outer triangle, with the inner triangle usually being assumed. The sum of the angles of an outer spherical triangle is between 3pi and 5pi radians.

At the beginning there is a point. It is grown up into a triangle. When the triangle has grown in size it could cover the sphere. This Phenomenon is explained with the help of Geometry using Legendre's theorem on spherical triangles. Therefore Spherical Triangles are much potential enough.

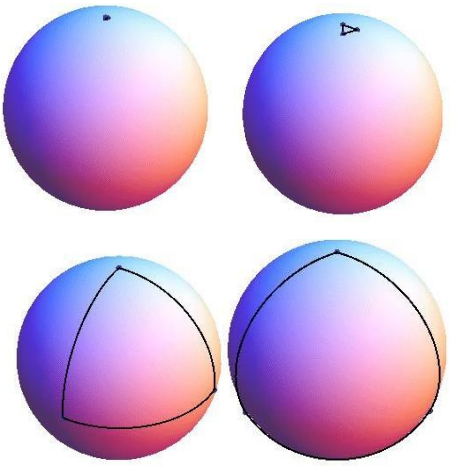

Fig. 12 - Spherical Triangle.

3. Conclusions

The Tower of Hanoi, which is often referred to as the Brahma Prastara, has a significant position in Vedic scholarship. The building of the Meru Prastara Sri Chakra Maha Yantra is subservient to the Tower of Hanoi. It is possible to illustrate the Tower of Hanoi using graphs that are not directed. Sierpinski triangles might be used in order to accurately illustrate the undirected graph of the Tower of Hanoi. Because of this change, the Sierpinski triangles that exist in three dimensions are now referred to as the Sierpinski tetrahedron. The Pyramid, which is also a Sierpinski tetrahedron, has properties that are similar to those that this shape has. Meru Prastara Sri Chakra Maha Yantra is the Sierpinski tetrahedron's underlying structure. But in addition to them, the Sierpinski tetrahedron also possesses orthographic projections. In accordance with these teachings, it is possible to acquire knowledge of the geometry of the cosmos by doing an ancient Kundalini rising Yoga Sadhana. All of the spatial parts of the cosmos will continue to remain curved for an unfathomably long period.

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