Zoroastrian Light Shrine

A Study in Sacred Geometry, Symbolic Systems, and Resonance-Based Design

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Abstract

The Zoroastrian Light Shrine is a contemporary contemplative structure designed to integrate sacred geometry, symbolic systems, and experiential architecture into a unified teaching environment. Constructed within the forested setting of the Vedanta Retreat in Scappoose, Oregon, the shrine serves as both a physical space and an instructional framework for exploring the Zoroastrian principle of *Asha*—truth, order, and alignment—through direct experience.

Rather than replicating traditional Zoroastrian fire temples, the shrine reinterprets the sacred fire as focused solar light. This light enters through a precisely defined pyramid glass skylight at the apex of the roof and converges upon a central altar, symbolizing the transmission of higher order into the material world.

The shrine serves as a vibrant setting that blends architecture, the natural environment, and ongoing participation from people to promote harmony and unity. Its design integrates core tenets of Zoroastrian thought—such as Good Thoughts, Good Words, Good Deeds—into both the physical layout and the experiential pathway of the participant. The structure incorporates recurring numerical patterns—including 3, 7, 9, 18, and 72—alongside golden ratio proportions and heptagonal geometry. By incorporating these elements throughout the spatial arrangement and overall design, it creates a space condition where a higher sense of order is achieved. While the structure implies an intriguing link between form, environment, and consciousness, it serves as a starting point for further investigation rather than offering definitive scientific proof.

This white paper documents the design principles, mathematical relationships, symbolic foundations, and experiential intent of the shrine, offering a foundation for further study into how built environments may support human alignment with higher order.

1 Introduction

In today's world, meaning is often fragmented, as science, spirituality, and personal experience are treated as separate and often disconnected domains. Ancient traditions, by contrast, frequently encoded knowledge simultaneously through symbol, structure, and lived practice, creating a more integrated understanding of reality.

The purpose of the Zoroastrian Light Shrine was to integrate these aspects into a single, cohesive system. Drawing from Zoroastrian philosophy, sacred geometry, science, engineering, and selected principles found in other traditional systems, the structure functions both as a physical space and as an embedded framework of relationships.

The goal is not to repeat history, but to express lasting principles in a way that people can experience and use in daily life.

2 Purpose and Intent

The goals behind the design of the Zoroastrian Light Shrine were as follows:

2.1 **To create a meditative and contemplative space**
The shrine provides a quiet, grounded environment where individuals can step away from distraction and engage in reflection, stillness, and focused awareness within a natural setting.

2.2 **To express core Zoroastrian principles through physical form**
Fundamental ideas like *Good Thoughts, Good Words, Good Deeds* are not only represented symbolically; they are integrated into the very fabric of the structure, inviting participants to engage with these principles in a hands-on, experiential way.

2.3 **To integrate symbolism directly into the architecture**
The design incorporates geometric forms, directional alignments, and inscriptions so that meaning is not separate from the structure, but inherent within it.

2.4 **Reimagining the sacred fire as concentrated sunlight representing the Amesha Spentas**
The altar has a seven-sided heptagonal shape, symbolizing the seven attributes of the Amesha Spentas. This setup represents the movement of light, which is seen as the ordering principles of the Amesha Spentas, from the higher realm (*Menog*) down into the physical realm (*Getig*), where it becomes

accessible for direct experience. This approach preserves the symbolic essence of fire while adapting it to a forest environment in a practical and sustainable way. Rather than using a conventional flame, sunlight enters through a pyramid-shaped skylight at the top and shines directly onto the central altar.

2.5 To bridge traditional wisdom with modern understanding

The shrine draws from ancient Zoroastrian and Magi traditions while integrating perspectives from science and engineering, creating a structure that can be understood across both traditional and contemporary frameworks.

Beyond symbolic reference, the design is organized through recurring geometric relationships and ordered sequences that shape how the space is experienced. Movement, orientation, and focal points are arranged to reflect progression rather than static form, allowing the participant to engage with the structure as an unfolding process rather than a fixed object.

These patterns are not unique to a single tradition, but appear across multiple systems of knowledge, some of which have historically been transmitted through oral teaching rather than formal documentation. While not presented here as definitive historical claims, the recurrence of similar numerical, geometric, and transformational structures suggests the possibility of a shared underlying framework expressed in different forms across time.

2.6 **To create a design that is simple, reproducible, and scalable**
Materials and construction methods were intentionally selected to allow the structure to be replicated in other locations without requiring specialized resources.

2.7 **To create a structure that is environmentally conscious**
The main framework was built using Western Red Cedar, which was obtained from reclaimed logs and milled to fit the necessary specifications. Reverence for nature is central to Zoroastrian tradition, with trees considered holy. Western red cedar also holds cultural and spiritual significance to the indigenous peoples of this region. A member of the local indigenous community officially blessed the shrine.

2.8 **To maintain openness and accessibility**
The shrine is designed as an open structure without enclosing walls, removing any physical separation between the interior space and the surrounding natural environment. This openness allows light, air, sound, and landscape to remain continuous with the structure itself.

Rather than creating a boundary between inside and outside, the shrine invites any visitor to enter, sit, and engage in a meditative experience. The absence of enclosure reflects the intention that space be directly accessible and experienced as part of the natural world, rather than set apart from it.

2.9 **To provide an educational and experiential framework**
Through inscriptions, symbolic elements, and spatial orientation, the shrine functions as a teaching structure that encourages reflection, understanding, and personal application of its underlying principles.

The shrine is situated within a forest environment, allowing nature itself to become an integral part of the experience. Light, sound, and natural surroundings interact with the structure, reinforcing its contemplative and integrative intent.

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3 Architectural System — From Ground to Apex

The Zoroastrian Light Shrine is organized as a vertically integrated structure, designed from the ground upward to create a continuous relationship between foundation, form, and light.

3.1 Base and Foundation

The structure begins with a grounded base designed for both stability and environmental integration. The foundation consists of four reinforced concrete footings, each 12 inches in diameter and extending 3 feet into the earth. These footings are reinforced with rebar and positioned in a square layout with 9-foot spacing between each point.

Surrounding the base is approximately 2,300 pounds of crushed rock and river rock, forming a stable and permeable ground layer. Encircling this base is a brick-lined water channel arranged in a square geometry, establishing a relationship between the solid structure and the dynamic presence of water. This interaction introduces a foundational balance between stability and flow at the ground level.

The entire structure is precisely aligned along the cardinal directions, with entry from the west and orientation toward the east, reinforcing the symbolic movement from darkness toward light.

3.2 Structural Frame and Seating System

Rising from the foundation are four primary structural posts constructed from 7.5” × 7.5” Western Red Cedar. These posts serve as the main load-bearing elements of the structure and define the spatial boundaries of the shrine.

Integrated into this framework are three benches positioned along the north, south, and east sides, providing seating for up to nine individuals. Each bench is constructed using a laminated configuration consisting of two 7-inch cedar planks with a 2-inch mahogany center strip, forming a 7:2:7 ratio. This layered construction provides both structural integrity and a repeating proportional relationship within the design.

Above the seating level, large 2” × 15” cedar panels connect the structural posts. These panels serve both a structural and symbolic function, incorporating carved elements and inscriptions derived from Zoroastrian teachings. At the western entry, the Faravahar symbol is prominently displayed, establishing an immediate point of orientation and meaning as one enters the space.

3.3 Central Altar

At the center of the structure is the primary focal element: a raised altar positioned directly beneath the apex opening. The altar is formed from a circular base approximately 21 inches in diameter, which has been geometrically transformed into a seven-sided polygon.

Each of the seven faces of the altar is carved with one of the Amesha Spentas in its original Avestan form:

- **Spenta Mainyu**
- **Vohu Manah**
- **Asha Vahishta**
- **Khshathra Vairya**
- **Spenta Armaiti**
- **Haurvatat**
- **Ameretat**

The top surface of the altar features a burned fire symbol, representing the presence of sacred fire as an active principle. The seven-sided geometry serves as both a symbolic and structural expression of ordered differentiation, with each face representing a distinct aspect of a unified whole.

Positioned at the center of the shrine, the altar functions as the convergence point of the structure—both physically and symbolically—receiving light from above and anchoring the spatial experience.

3.4 Roof Structure and Apex Light System

The roof consists of four equal planes rising from the structural frame at an angle of approximately 51.8 degrees. This geometry creates a pyramidal form that converges toward a central opening at the apex.

At the top of the structure is an 18-inch by 18-inch square opening, covered by a glass pyramid skylight. This element serves two primary functions: protecting the interior from environmental exposure while allowing natural light to pass through.

Sunlight entering through this aperture is directed downward onto the central altar, creating a vertical axis that connects the upper opening, the interior space, and the ground below. This alignment establishes a continuous relationship between light, structure, and focal point.

The perimeter beams supporting the roof also carry symbolic inscriptions, including the Faravahar at the entrance and key Zoroastrian phrases positioned along the cardinal directions. These elements reinforce the integration of meaning into the structural framework.

Together, these layers—from foundation to apex—form a continuous system in which structure, symbolism, and experience are unified. The progression from earth to light is not only physical but also conceptual, guiding the participant through a structured spatial experience.

The structure is defined by a square geometry formed by four Western red cedar posts, each measuring 7.5 by 7.5 inches and spaced nine feet apart. These posts are anchored into the earth using twelve-inch diameter concrete foundations extending three feet deep, reinforced with rebar. The base is stabilized with

approximately 2,300 pounds of crushed rock and river rock, creating both structural support and a physical connection to the ground.

A water channel encircles the shrine, capturing rainfall from the roof and forming a circular boundary around the square footprint. This introduces a classical geometric relationship between square and circle, representing the interaction between structure and flow.

The shrine is precisely aligned along the cardinal directions, with entry from the west and orientation toward the east. This alignment mirrors the movement of the sun and establishes a symbolic transition from darkness into light.

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4 Roof and Light Structure

The roof consists of four equal planes rising at approximately 51.8 degrees, an angle associated with golden ratio geometry and similar to that found in the Great Pyramid of Giza. The rafters converge toward a central opening measuring eighteen by eighteen inches, through which light enters.

Above this opening, a glass pyramid skylight prevents rain intrusion while allowing light to pass through. The result is a focused beam of illumination directed toward the altar below, creating a vertical axis that organizes the entire structure.

The beams supporting the roof also serve as carriers of meaning. As one enters from the west, a carved Faravahar symbol appears overhead. Inside, inscriptions include "Good Thoughts, Good Words, Good Deeds," and passages from Ashem Vohu, creating a spatial arrangement in which direction and meaning are intertwined.

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5 Geometry and Number

The shrine is built upon a consistent numerical framework, centered on the numbers three, seven, and nine. These numbers recur throughout the design, often in combinations such as eighteen and seventy-two, both of which reduce to nine.

At the center of the shrine is a seven-sided altar. The geometry of this form arises from dividing 360 degrees by seven, producing a repeating decimal of

approximately 51.428571 degrees. This value closely aligns with the roof angle, creating a subtle resonance between the central object and the enclosing structure.

- **Talk about connection to Gurdjieff enneagram.**

The repeating decimal associated with one-seventh introduces a cyclic sequence that has long been associated with patterns of transformation. This cyclic behavior is reflected in both the physical design and the symbolic structure of the shrine.

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6 The Central Altar

The altar began as a simple circle and was transformed into a heptagon through equal angular division. Each of its seven faces is carved with one of the Amesha Spentas, expressed in their original Avestan form.

A fire symbol is burned into the top surface, representing the presence of sacred fire, now expressed through light. The altar sits directly beneath the apex opening, receiving the focused illumination from above.

Structurally, the altar is supported by a vertical arrangement of elements forming a three-one-three pattern, reinforcing the recurrence of triadic structure throughout the design.

- **Talk about connection to Gurdjieff enneagram.**

It was through the development of this altar that the broader system began to emerge. The convergence of geometry, symbolism, and cyclic structure within this object led directly to the conceptual foundation of ZAM.

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7 Experiential Design

The shrine is designed to guide human awareness through three modes without explicit instruction. Facing inward toward the altar supports self-observation and inner awareness. Turning outward toward the surrounding forest shifts attention

toward the environment and relational awareness. Looking upward through the apex introduces a sense of universal scale.

These three orientations—inner, outer, and universal—form a complete cycle of perception. The simplicity of the design allows individuals to move between these states naturally.

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8 The Faravahar as System

The Faravahar, positioned above the entrance, can be understood as a symbolic representation of an adaptive system. The wings, representing good thoughts, words, and deeds, provide forward movement. The tail, representing non-beneficial actions, provides directional correction.

Rather than framing error as failure, the symbol suggests a process of continuous adjustment. This aligns closely with adaptive systems in engineering, where outputs are compared to desired outcomes and corrections are made iteratively.

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9 Resonance and Conceptual Model

The shrine was also conceived with the intention of exploring resonance. Its grounded structure, combined with human activity such as chanting, creates a setting in which environmental frequencies may play a role.

The Schumann resonances, a natural electromagnetic phenomenon of the Earth, served as an initial reference point for this exploration. Preliminary observations of vocal chanting suggest possible harmonic relationships, though this remains an open area for investigation.

The structure can be interpreted as a conceptual system in which earth, structure, light, and human input interact. This model is not presented as a verified physical system, but as a framework for future study.

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10 Menog and Getig

A conceptual diagram underlying the design describes a transformation from unity into structured expression. Ahura Mazda represents the source, expressed through the non-material domain of Menog. Spenta Mainyu functions as a creative principle, giving rise to the seven Amesha Spentas, which manifest in the material world, or Getig.

This layered structure parallels transformation systems found in engineering, where inputs are processed through structured stages into observable outputs.

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11 Conclusion

The Zoroastrian Light Shrine represents an attempt to integrate multiple domains into a single coherent system. It is simultaneously a physical structure, a symbolic framework, and an experiential environment.

Rather than presenting definitive claims, the shrine offers a working model—one that invites exploration, participation, and refinement. It stands as both a completed structure and an open question.