

Theoretical Principles of Geometry and Ornaments in the Architecture of Goharshad Mosque

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Abstract Although Muslim's architecture has been investigated by many Islamic and non Islamic architectural centers ,but still there isn't any scientific and detailed study regarding the Goharshad Mosque. Goharshad Mosque in Mashhad is the first and greatest surviving Persian monument of the fifteenth century Goharshad Mosque is one of the greatest four-veranda mosques in Iran which was built by the order of Goharshad Agha, the wife of Shahrokh Teimouri, in 821 (lunar year), in the vicinity of Imam Reza's Holy Shrine. Its architect was Ghavameddin-bin-Zeinoddin Shirazi, the well-known architect of Teimourian era. In Islamic architecture and its related ornaments, particularly in Goharshad Mosque, the role of geometry, philosophy, and Islamic wisdom is clear and obvious. The geometric fundamentals of Teimouri Design is obvious and clear in various aspects of this architecture, such as consistencies and correspondences of the spatial design, creating the three-dimensional geometric forms (Kokabi arches and vaults), and the two-dimensional level of ornamentation. In Teimouri architecture, geometry is not a means to achieve a goal, rather it, itself, is the goal, and also it is one of the principles of aesthetics. The factor which provides the uniting force of Teimouri architecture is geometricizing the design, and creating and ornamenting the space. The forms used in this architecture are inseparable from the traditional concept of mathematics, specifically geometry and geometric forms. The geometric forms and figures (numbers) do not have a merely quantitative aspect, as they may seem. Rather they have a qualitative and symbolic aspect which is not only imaginative but also comprises a part of their reality. Every form and figure, if is viewed from its symbolic concept, is, in fact, an echo of unity and a reflection of the quality in the interior part of which lies the unity and is above all the qualities.

Keywords Theoretical Principles, Geometry, Ornaments, Architecture, Goharshad Mosque