

Function of Fractals: Application of Non-Linear Geometry in Continental Architecture

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Abstract : Since the introduction of fractal geometry in 1970, numerous efforts have been made by architects and researchers to transfer this area of mathematical knowledge in the discipline of architecture and postmodernist discourse. The discourse of complexity and architecture is one of the most significant ongoing discourses in the discipline of architecture from the '70s until today and has generated significant styles such as deconstructivism and parametrisation in architecture. During these years, several projects were designed and presented by designers and architects using fractal geometry, but due to the lack of sufficient knowledge and appropriate comprehension of the features and characteristics of this nonlinear geometry, none of the fractal-based designs have been successful and satisfying. Fractal geometry as a geometric technology has a long presence in the history of architecture. The current research attempts to identify and discover the characteristics, features, potentials, and functionality of fractals despite their aesthetic aspect by examining case studies of pre-modern architecture in Asia and investigating the function of fractals.

Keywords : Asian architecture, fractal geometry, fractal technique, geometric properties

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