The Vision of Heavenly Harmony
The work of John Martineau, 1996-2006

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Do Harmony and Proportion exist in the heavens? In 1995, *A Book of Coincidence* was published by John Martineau. As a study of heavenly harmonies, its appeal was visual rather than intellectual or mathematical. As John Michell wrote in his foreword,

> 'The remarkable fact proved in this book is that the bodies of the solar system and their orbits are related to each other more or less precisely by a series of basic geometric figures. To perceive this fact one does not have to be a mathematician; it is clearly illustrated in John Martineau's diagrams. Anyone can understand these, and the harmonies which they demonstrate among the planets are undeniably real.'

His discovery of these harmonies came about through a two-year Masters degree at the Prince of Wales' School of Architecture in 1994, tutored by the renowned Islamic-Platonic architect and geometer Keith Critchlow. The images all used circles. It had some 70 constructions, geometric figures linking ideal circles of the planetary orbits, to some of which he gave a finite thickness to represent their nearest and furthest approaches to the Sun. We here focus primarily upon his Venus-Earth diagrams.

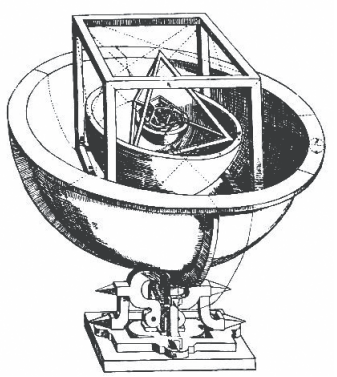

Figure 1: Kepler 1596 diagram

His constructions were a modern development of what Kepler had earlier attempted, but they reached some three orders of magnitude higher exactitude. Four centuries earlier, in 1596, Kepler's first work *Mysterium Cosmographicum* had appeared, arguing that the five regular, Platonic solids fitted into the intervals between orbit paths of the six known planets. Kepler's design had the planetary paths as spheres of a certain thickness, as the planets moved between their aphelia and perihelia, closest and furthest from the Sun, and the Platonic solids just touched them on the outside and inside. Experts have argued that, if the lunar orbit is included in the 'width' of the earth's sphere, then Kepler's shapes fit within a few percent (*Field*, 1982). The orbits of Mars and Earth were spaced using a dodecahedron, while an icosahedron fitted between the paths of Earth and Venus (Kepler, 1999, p. 13; 1997, p. 497). Martineau's book opened with the image of Kepler's design here shown.

In his later *Harmonices Mundi* of 1618, Kepler wrote concerning his theory of planetary harmonies, that Earth and Venus had just the one harmony of 5:8, which was he said a 'minor sixth'(Kepler, 1997, p. 462). Venus weaves a pentagram in the sky, connecting the celestial longitudes of its solar conjunctions every eight years, as it moves through its five synodic cycles. Elements of the Fibonacci sequence can here be discerned, with 13 Venus-years every 8 Earth-years (to 99.97 %) and 5 synodic cycles of Venus chiming in this period (to 99.92 %)[1]. These proportions approximate to phi (Φ) the golden ratio, 1.618… It may help to bear these numbers in mind.

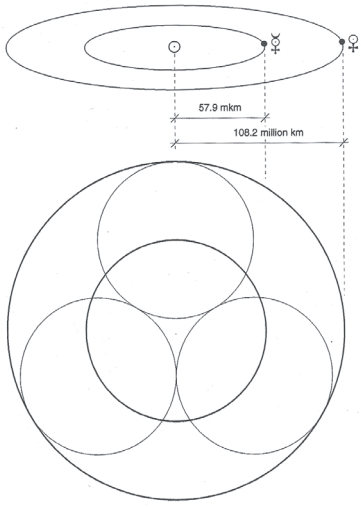

Figure 2: Venus and Mercury

1 Venus' synodic period and year are 583.92 and 224.72 days respectively.