From the dome of heaven to a cupola in space: Re-engaging with imagery and symbolism through 3D digital art installations

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1. INTRODUCTION

This paper looks at the possibilities of re-engaging with imagery and symbolism from earlier cultures through the medium of 3D digital environments. It examines three of the author's digital artworks - *Oculus*, *Lux Nova* and *Music of the Spheres* - as vehicles for this process, and the means by which this engagement with the past can also generate new ideas within the area of art and technology. The recreation of an architectural sense of space and position is of particular importance, as is the development of particular approach to 3D software.

2. DEVELOPING ARTWORK FOR DOME PROJECTION

The collaborative fulldome projection *Music of the Spheres* served as a testing ground for the author's development of a 3D environment within the open-source software Blender 3D. Its overall concept involved presenting imagery from earlier cultural history in an immersive setting. Dome projection emerged as the technology of choice for large-scale audience immersion. Using the metaphor of the Pythagorean concept of the planets' association with specific musical notes, and incorporating imagery to match, *Spheres* evolved as newer and more portable techniques of dome projection emerged in the mid-2000s. It was first shown at Fulldome 2011 in the Birmingham Thinktank Planetarium.

2.1 *Oculus*, a virtual rose window

Alongside the *Spheres* concept, the piece *Oculus* then developed using the medieval rose window as its inspiration. Animated in circular form, it included images of significant cultural representations of time and cosmology within a cyclical narrative that drew directly on the spatial organisation of the rose window. It was intended for flat projections, acting

as a kind of virtual window within a darkened space, and has been exhibited in both the USA and UK.

2.1 *Lux Nova*, the 'new light'

Whilst researching the history of stained glass windows, the importance of Abbot Suger of St-Denis abbey in medieval France became evident. Suger encouraged the use of coloured glass in the early Gothic churches, and created a theological concept called "lux nova", the new light. This indirectly inspired the projection *Lux Nova*, which moved back to a dome-based form and showed a succession of architectural spaces where changing light was a significant element of their spatial effect: the Neolithic tomb at Maes Howe, the Pantheon in Rome, the chancel of Notre Dame, Brunelleschi's dome and the new Cupola installed in the International Space Station. The author concludes by looking at new fulldome projections and other projects that have come about as a result of this ongoing engagement with light, architecture and symbolism.

Figure 1: A frame of *Music of the Spheres* [Rees & Lambert, 2011] designed for dome projection