

# THE GARDEN OF COSMIC SPECULATION

FOR IAN MITCHELL AND GEMINI

STEPHEN GOSS (2004/05)

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- 9 THE SYMMETRY BREAK TERRACE
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Commissioned by **Gemini** who gave the first performance on 9<sup>th</sup> March 2005 at the Guildford International Music Festival. Ian Mitchell – bass clarinet, Caroline Balding – violin, Robin Michael – cello, and Julian Jacobson – piano. The piece was first broadcast on **The South Bank Show** on ITV 1 on 3<sup>rd</sup> April 2005. Gemini's CD recording of *The Garden of Cosmic Speculation* is scheduled for release in March 2006.

# THE GARDEN OF COSMIC SPECULATION

The Garden of Cosmic Speculation is one of the most original and important gardens of the 21<sup>st</sup> century, created by the architectural critic and designer Charles Jencks. Covering thirty acres in the Borders area of Scotland, The Garden of Cosmic Speculation is conceived as a place to explore certain fundamental aspects of the universe. What are atoms made of and how should we imagine them? How does DNA make up a living organism? Charles Jencks has created a series of new and expansive visual metaphors that challenge misleading and frequently misunderstood concepts such as the 'Big Bang' and the 'Selfish Gene'.

My piece moves through the physical space of Jencks' garden exploring its sensuous surface in rich colours and varied musical styles while exploiting its underlying theoretical basis to generate the musical material.

Each of the eleven movements focuses on a single garden feature which, in turn, is based on a particular scientific concept or theory. Sometimes the interpretation of the science is quite literal, at other times more subtle. For instance, *The Black Hole Terrace* starts calmly before the music gets caught up in the gravitational pull of a black hole. As the event horizon approaches the music is stretched and becomes denser, eventually focussing on a single note. This singularity is followed by a big bang. Conversely, *Jumping Bridge*, based on Jencks' fractal bridge, is composed with the help of the computer program FractMus which generates fractal musical material using the mathematical process of iterating algorithms. Fractal geometry and the notion of self-similarity are recurring themes in Jencks' garden and I have reflected this in *The Garden of the Six Senses* where the eleven short sections of the movement represent the whole piece in microcosm.

*The Snail Mound* is a large spiral earthwork based on Fibonacci proportions, consequently the music also uses Fibonacci relationships while simultaneously referring to three models – Bartok's 3<sup>rd</sup> Piano Concerto, and two pieces by Beethoven (the *Heiliger Dankgesang* from the String Quartet Op.132 and the 4<sup>th</sup> Piano Concerto). Quotes, references and ciphers litter the score to help recreate the sense of fun that permeates Jencks' garden. For example, *The Nonsense* (named after a folly in the garden) half-quotes Gershwin's *It ain't necessarily so* and ends with a chord that remembers the day that a tree came crashing through the roof of Jencks' folly.

Stephen Goss (2005)

## The Universe as Symphony, the Laws as Harmonies

The idea [behind string theory] is that the ultimate stuff of the universe is like vibrating strings. This image illuminates the fundamentally active nature of the jiggling clouds and particles. Their ceaseless activity is basically rhythmical. The beats of the atom are syncopated some times and more regular at others. What is more, if the most advanced thinking turns out to be right, then the universe is constructed from ultra-tiny superstrings, or even a series of strings tied together into a membrane. According to this recent theory, we inhabit an eleven-dimensional universe and seven of these dimensions are extraordinary small, curled up into quivering strings. Thus dancing vibration may lie at the absolute bottom of the universe.

Everything in the microworld is made from a kind of tuning fork, and all of this matter, up to the size of an atom, is continuously pulsating. Furthermore, pursuing this metaphor, what is called the wave function of the atom is a basic model for still bigger waves such as light waves, ocean waves, piano waves, or the shock waves of an earthquake. To stretch the metaphor we might say that the universe is made neither from billiard balls nor from raisin puddings but from music.

Charles Jencks, *The Garden of Cosmic Speculation* (Francis Lincoln, London 2003)