

## 9. Deus Ex Machina

*There's nothing remarkable about it. All one has to do is hit the right keys at the right time and the instrument plays itself.*

□

*Johann Sebastian Bach*

In previous examples we were only dealing with a linear series of ratios and we could restrict ourselves to a given range along a normal keyboard. Now given 16 rows and 16 columns of pitches, to access the interior we either need a keyboard of 256 keys or a new strategy.

Here, two basic possibilities are offered for demonstration purposes. Again, no attempt is made to exhaustively deal with this subject. This is currently an area of active research and a subject I intend on addressing in more detail as new discoveries are made.

For now, I employ two basic techniques. The first maps the numbers -16 to 16, Bb one octave

## 9. Deus Ex Machina

Written by D. Bond

Tuesday, 25 May 2010 21:34 - Last Updated Tuesday, 25 May 2010 22:10

---

below middle D and continue to F# the octave above. Again, the key middle D is left undefined, as sending '0' s to the matrix is just bad business all round. Here '0's are simply routed to produce a '1' or the 'big bang' error message. [\[1\]](#)

The second, uses list multiplication to produce a matrix. Notes played with both hands together are multiplied together producing a subset matrix converted back to a list. This method was derived from the observation that relationships along the same column or row produce more traditional harmonies [3rds, fifths octaves, etc.] when random processes are applied. The resulting subset, I refer to as a 'screen'. Screens can be selected for their harmonic characteristics, and patterned, producing a 'tartan', manipulated using serial techniques, scrambling, orderings, Brownian walks, and other chaotic/ stochastic/ indeterminant processes.

Having already introduced the concept of harmonic cubes, I should like to point out that ultimately it is not necessary to physically prepare such an instrument [\[2\]](#) , that one only need keep track of 2 strings of integers with real-time control and apply transpositioning on an ongoing basis. The process of composing modulation series I term 'stitching', keeping record of past transpositions as making a 'thread' & restricting available transpositions to a third screen, I term making a 'swatch' or 'quilt'.

My preference is to simply pick a 'patch of screen', find a place where the transpositions flow and pan for gold!

## 9. Deus Ex Machina

Written by D. Bond

Tuesday, 25 May 2010 21:34 - Last Updated Tuesday, 25 May 2010 22:10

---

But always remember, bonsai trees can be stunningly beautiful too!

[next - 10. The Great Work of Counting](#)

---

[1] sorry, couldn't resist!

[2] however, the first of them, [456,456,345 or 3456,3456,3456] will make a great toys and sell millions should I meet anyone who knows anything about patents!