Pensieve header: October 16: The Towers of Hanoi Puzzle.

Today. The Towers of Hanoi, then whatever you may suggest, then EIWL 9-12, then, if time, Patterns.

Topics (in no particular order). Whatever you may suggest; whatever comes to my mind; ~~the Fibonacci numbers~~; the Catalan numbers; ~~the Jones polynomial~~; ~~a more efficient Jones algorithm~~; ~~a riddle on spheres~~; Khovanov homology; Γ-calculus; the Hopf fibration; Hilbert's 13th problem; non-commutative Gaussian elimination; free Lie algebras; the Baker-Campbell-Hausdorff formula; wacky numbers; an order 4 torus; the Schwarz Lantern; knot colourings; the Temperley-Lieb pairing; the dodecahedral link; sound experiments; barycentric subdivisions; a Peano curve; braid closures and Vogel's algorithm; the insolubility of the quintic; phase portraits; the Mandelbrot set; shadows of the Cantor aerogel; quilt plots; some image transformations; De Bruijn graphs; the Riemann series theorem; finite type invariants and the Willerton fish; the Towers of Hanoi; Hochschild homology of (some) coalgebras; convolutions and image improvements.

An Image Manipulation Challenge

The image at http://drorbn.net/bbs/show?shot=17-1750-171013-121553.jpg is pathetic. Can you improve it? Whatever you do, should also work well with all other images at http://drorbn.net/bbs/show.php?prefix=17-1750.

The Towers of Hanoi

```
move[1, a_, b_, c_] := Print["Move #1 from ", a, " to ", c];
move[n_, a_, b_, c_] := (
  move[n - 1, a, c, b];
  Print["Move #", n, " from ", a, " to ", c];
  move[n - 1, b, a, c]
 )
```

```
move[3, A, B, C]
```

```
Move #1 from A to C

Move #2 from A to B

Move #1 from C to B

Move #3 from A to C

Move #1 from B to A

Move #2 from B to C

Move #1 from A to C
```