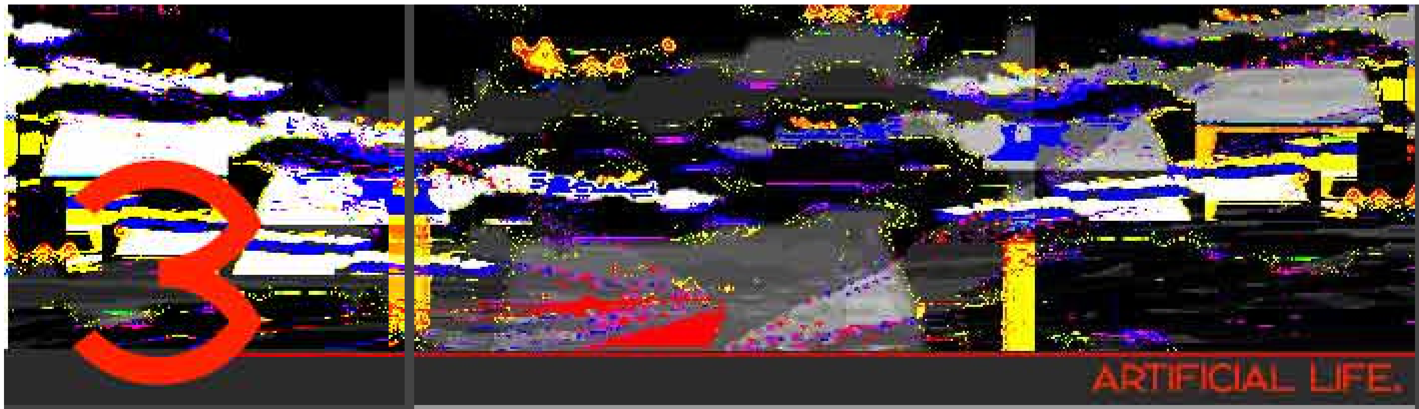
The Quest for the Gnarl

Rudy Rucker
rudy@rudyrucker.com



The Quest for the Gnarl

Rudy Rucker on May 1 1996 **issue 03**

gnarly things

The best things you can see in a computer are gnarly things. Over the last eight years I've slowly learned how to create **gnarly** computer things.

Gnarl Defined

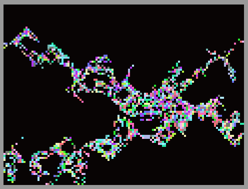
Gnarly

hacker1

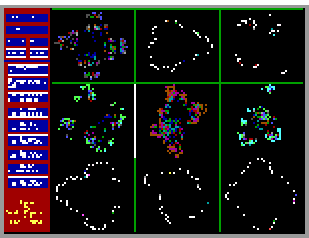
My first attempt to **write** a gnarly computer program was **Spiro**, a simple Pascal spirograph program. Spiro isn't really gnarly by today's standards, it's more the old 1960's mainframe notion of gnarly, the kind of stuff you see in the background in lame things like Star Trek.

Spirograph

Soon I moved on to the more expressive language of C and to better programs using more nonlinear feedback. Where Spiro is based on a simple sine wave function, **Vine** uses a nested sine function: the sine of the sine. The more complicated formula produces greater gnarl. The Vine patterns are straight out of the Book of Kells.



To get way gnarly you need more than a complicated formula, you need a complicated computational approach. Two good methods are iteration --- repeating a computation many times --- and parallelism --- doing lots of similar computations at the same time and combining the results.



Julgnarl uses iteration, and **Calife** uses parallelism. Julgnarl make shapes so gnarly that at first they look like road kill. But then you realize that the shapes are high-order fractals,and that the pieces of the shapes resemble the shape as a whole. These are quartic (as opposed to merely quadratic or cubic) Julia sets, by the way, and you saw them here first!

Calife

shows one-dimensional cellular automata: spaces in which virtual computers are lined up like beads on a wire, all of them computing in parallel. What makes Calife even gnarlier is that the program uses methods of artificial life to actually evolve new patterns on its own. The gnarly viewpoint is about more than just computer hacking. For me, it's an inspiration and a method for literary creations like my novel ***The Hacker And The Ants*** or my two-novel collection ***Live Robots*.**

Currently I'm groping towards multimedia methods of combining cultural and the computeresque gnarl. This **theater** page is an example of my quest!

::CrossReference

last 5 articles posted by Rucker

:: Rucker - May 1 1996

:: How I Got Gnarly - May 1 1996

:: Rudy Rucker's Calife - May 1 1996

:: Rudy Rucker's Spirograph - May 1 1996

:: Rudy Rucker's Julgnarl - May 1 1996

:: The Quest for the Gnarl - May 1 1996

:: Gnarly Rantings about the Hacker and the Ants - May 1 1996

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