

**D. Vyzovitis, Self Assembling Processes [05/03/09; 1 of 3]**

Self Assembling Processes  
by Dimitris Vyzovitis [vyzo at media.mit.edu]

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Note:

I have tried to make my words as precise as possible in order to describe a scale-free problem and its solution as a program in a scale-free manner.

Still, I am not a native english speaker.  
My native language is Lisp and I apologize in advance if some of this appear cryptic; especially my sense of humor.

catch humor-failure: K 0.

excerpt from:

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vyzo; The Hacker's Guide to Programming the Universe (\infty)
Part I: Stochastic MetaProgramming
#prelude english
require J. von Neumann; The theory of self-reproducing automata (1966)
(C) 0.1976-\infty vyzo
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\* Self Assembling Processes

Proposition 01:

The Internet, coupled in an entropic loop with humanity and nature, is an effective implementation of a recursive von Neumann ecology.

Summary:

The Internet in extant form satisfies von Neumann's primordial soup conditions.

According to von Neumann's theory, a self-replicating factory in primordial soup conditions is sufficient to bootstrap a self-reproducing ecology.

A von Neumann self-replicating factory can be effectively implemented in today's timescale.

Evidence is provided in the form of a program that implements Scale-Free Broadcast as a self-assembling stochastic metaprogram.

\*\* Interpretation

Primordial soup conditions:

Sufficiently complex interconnection:

The Internet is a scale-free communication network.  
TCP/IP stabilizes the flow glue.  
End-systems effect the flow logic.

Recursive entropy flow:

All of us; nature; time.  
We implement scale-free sensory and actuation apparatus.

Self-replication capacity:

Internet logic actuators control gaia's industrial infrastructure.

\*\* Evidence

\*\*\* The Scale-Free Broadcast Problem

Definition: Scale-Free Broadcast [SFB]

originally posed to the author by A. Lippman:  
with 0 upfront investment:

Write a program that scales Internet TV to a billion users.

#### D. Vyzovitis, Self Assembling Processes [05/03/09; 2 of 3]

Postulate  $\Omega$ : The Fractal Hypothesis

The entropic flow is scale-free; uncomputable, at least as hard as  $\Omega$ .  
 $\Omega$  is the greek notion of Eschaton.

Interpretation:

Entropy has Infinite algorithmic complexity.  
We sample the entropic Flow; scale-free distributed time series.  
We can only Sample in finite horizons in local frames.  
No global temporal Frame.

Any attempt to compute a synchronous frame requires communication.  
Communication effects the entropic flow through self-interference;  
central control loops diverge.

\*\*\* Formulation

Recursive entropic flow equations.

\*\*\* Interpretation

It is an auto-epistemic limit decision problem.

\*\*\* Application: A Self-Assembling Program

LittleRabbit is the name of this program.

\*\*\* Evaluation: Stochastic MetaComputation

Emergent computation through organic self-assembly.

\* References

One word is worth a thousand pictures;  
the only way to Understand a program is to write it.

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Heracletus; The universal cosmic process was not created by any god or man.

\* Appendix: A Poem

To answer that last question.

I am just a hacker.  
All I ever wanted was to program this beautiful computer.  
To program is to be.

Life is a cosmic enigma.  
I don't know the answer to all the other questions.

\* Epilogue: The Begining  
when surfing on the edge  
one must loop thy limits  
for the spiral to the dark  
is the bit next to the light

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