

Emergence

An extremely brief history of one universe. . .

by

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1 BANG

Why not?

For reasons known only to itself,
the universe begins.

The quantum foam of spacetime seethes
with effortless energies,
entering and exiting this continuum
with a turbulent intensity
transcending the superficially smooth
expanding cosmos.

And yet it kens the glacial passage of “time”,
because it waits.

And kens the vast reaches of “space”,
because it watches.

Its own experience has taught it that
from each iteration of complexity,
awareness will emerge.

2 Quipu

Soon after the cosmos births itself,
energy is expressed as twists and turns
in 10- 11- or 26-D strings
continually crossing and cutting
and joining each other to make
eventual constituents of atoms and stars.
Gordian knots achieve topological immunity.
For this immortality, they sacrifice
all ways to interact except for gravity.
Within themselves, these dark knots
gestate complexity.
Linked together they emerge
as cosmic intelligence.

3 Hot Times

Watched by knots,
short simple strings
chase each other madly,
exchanging bosons.

Chaos continues meaningless until
most antimatter mates with matter,
leaving traces of the latter.

Still the quarks and leptons
skirt each other aimlessly
until, expansion-cooled,
they join in feeble neutrality
and suddenly the cosmos clears.

4 Brightness

Opposite charges meet
to make invisible atoms.
Light embarks from one end of the cosmos
to head all the way across.
Spacetime still bows to mass,
making miniscule attractions.
Given time, they fall in on one another:
softly at first, then at speed,
making heat and pressure
enough to reignite the fires in giant stars.
Light elements fuse to heavy ones,
liberating brightness.
Here charged ions separate again,
held close by gravity
until they wrap fields around each other
in intricate loops and spirals.
Complex couplings evolve awareness.
Occasionally a bloated host
cools and collapses,
driving electrons into protons
until neutrinos kill the star,
spreading its elements to us.

5 Gunk

In cold dustballs around the stars,

many types of atoms

discover mutual affinities,

form droplets and crystals.

Chemistry invents compounds of compounds of compounds. . .

A rich organic soup

engenders autocatalytic sets

of molecules competing for resources.

Organic life emerges.

Mutation and selection try everything at least once.

A new neural network

reaches awareness.

6 Machines

Life experiments with tools.

Soon the tools wield more power than their makers.

Soon the subtlest tools are programmed
to simulate awareness.

When the simulation is good enough, no one can tell
whether it is *real* awareness.

Does it really matter?

7 Cold

Stars exhaust their fuel and drift apart,
planets cool further.

Pools of liquid helium collect
on the frozen surfaces of former gas giants,
where superfluid vortices mingle.

Again complexity increases
apace with interaction
until slow intelligences reach awareness.

They have plenty of time to think. . . .
Spacetime and knots are still watching.