

The Little Big History of the CPU

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What magical source lives in your PC
and works round the clock to entertain thee;
a silicon system of tight circuitry
that processes data at high density
and hides inside every device that you see?

The red, blue, and green that light up your screen
with brand new dank memes from 2018
and snapchats and tweets and gifs on repeat
from facebook friends that you'll never meet-
without CPUs, they'd be incomplete.

So how'd it happen that the CPU
is able to do so much more than you
in seconds so few without an issue
no matter how old, no matter how new
over and over and all in base two?

It's history is vast but I'll speed through it fast.
We begin in the past with a really big blast.

Time began 10 billion years ago
and so did everything else that you know.
The universe was small in size like a pea
and so much about it's a dark mystery.

A 10 trillion degree soup of quarks and leptons
underwent fluctuations that in turn would spawn
the variations in the sky you see before dawn
and wonderful structures to which we are drawn

If we were shrunk down to the size of a cell,
then the cells inside of our much smaller selves
would still be much larger than everything else
you'd find in this infinite particle hell.

Then everything grew and force turned distinct:
Gravity, E/M, Strong Force, and Weak.
Matter and energy became unique
as protons and neutrons formed and were linked.

Hydrogen spread out a million more miles
Stars lit the night and burned bright for a while.
Pressure and heat made new elements compile
and then they explode and make space more fertile.

And from these explosions there came Silicon,
which make up the rocks and the grass in your lawn.
It's chemical properties you count upon
to make dope transistors to guide electrons.

Wait a bit as space turns into a wreck,
zoom in real close to a dim, glowing speck,
and you'll find a planet of infinite worth:
a warm and blue mother we like to call Earth.

not hot or cold, exactly just right,
plenty of water, plenty of light,
tides from the moon, shining at night,
an atmosphere fluffy, crammed-thick, and airtight.

Complexity rises, and with slight delay
leave it alone and life finds a way.
A knife found by Darwin then whittles away
a stronger new species that thrives night and day.

Each borrows from others new trades or techniques.
They mix DNA and they make little tweaks.
They swim to the land; new biomes they seek.
They fill every niche and become more unique.

Eventually come humans-they start a new streak:
They learn to make tools, they learn how to speak.
They learn to plant crops right next to a creek.
They form little groups where strong govern weak.

Between these small groups they would trade this for that.
They counted on fingers to add and subtract.
Beads were then threaded through sticks laid out flat,
the abacus made math precise and more fast.

This marvelous invention was really acute:
These beads could divide, multiply, and square root.
It spread across lands and it helped ideas fruit
for new innovations to help man compute.

The first real computer in 1613
was not a big box or a metal machine.
It was really a person with mind fresh and keen
who sat at a desk with paper white clean.

During World War II, Turing went to work
to make a mechanical computer clerk.
Long tapes, tiny gears, and bright lights went berserk.
This giant enigma could not laugh or smirk.

Innovations were made and every two years
Parts doubled in speed as did people's fears
AT&T Bell Labs employed pioneers
who turned silicon into things we revere.

Networks were formed of a different kind.
Computers could send any thought in your mind
across the globe to where your friend it would find
through webs of phone lines and PCs intertwined.

Computers then started to pass Turing's test
with synthesized art just as good as the rest.
Big data, deep learning, the primary quest:
the safety of mankind must now be addressed.

The story of PCs is the story of tools.
The stars used gravity to turn gases to fuel.
Energy and pressure made new molecules.
Evolution made life grow robust and then rule.

Humans used languages to transfer messages,
survive in harsh times and climb high mountain ridges.
The CPU was a tool to further intelligence.
To automate and communicate with high speed and excellence.

Will breakthroughs in AI bring changes or pain?
Or are we just riding along the hype train?