

Perturbation ¹

(in Seven Balancing Acts)

For Nature Computes On A Straight Line

"Muss es sein? Es Muss sein!"

"Must it be? It Must be!" ²

Biblical Overture

*"When I consider thy heavens,
the work of thy fingers,
the moon,
the stars which thou hast ordained;
What is Man,
that thou art mindful of him?"*

- The Bible, *Psalm 8, 3-4*

Act 1: The Glow of Epiphany

In simplicity the logic stared at her
in Glory's vision kaleidoscopic;
a unified symbolism of Code did twine,
Reality's unreeling biopic.

In a moment of meditative abstraction,
her mind saw in holographic detail,
the answer to her Universal Equation,
Divine Spark swirled in Holy Grail.

It was her *Theory of Everything*,
a physicist's flag of reductionism,
a philosopher's mathematical rune

¹ A prose version of the story here appeared in the Journal of Humanistic Mathematics, cited as:
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of Humanistic Mathematics, Volume 12 Issue 2 (July 2022), pages 558-562. Available at:

<https://scholarship.claremont.edu/jhm/vol12/iss2/37>

² Beethoven, Opus 135

bridging arcane knowledge's schism.

A panoply of complexity lay pleated
in a structure of profound sagacity;
nary a mathematical crack reflected,
in its elegant, forbidding opacity.

Symmetric in form, compact in expression,
coherent were its manifold implications;
the Equation quivered in its eager form,
teasing the crux of its General Solution.

Here it was! The kernel of Truth,
the complete grain of salt.
*"It could not but **be** true"*, she thought,
admiration stretched to a fault.

'twas an inevitably destined fate
of the mathematical scribble she had wrought;
"Even the good Lord must bow in its Presence!",
a blasphemed moment her arrogance brought.

Act 2: Assaying the Unassailable

A pragmatic doubt remained,
spanning the chasm 'twixt blueprint and reality,
*"Did the equation compute? Or did it hide
Inconsistency's poisoned singularity?"*

"It had to compute!", she insisted.
But *did* it really? Who knew?
"A labyrinth of mysteries!", harked Daedalus,
Oh! for want of Ariadne's clew!

Did all of Creation burgeon and bloom
from that preternatural formulation?
Was the coalition of symbols the *primum mobile*,
or just misled *cul-de-sac* of Fabulation?

Truth...it commands proof beyond beauty,
demanding uncontested demonstration;
the calculating rigor of the mechanic it seeks;
for naught without it, the Artist's reflection.

The Equation's delectable joy was marred,
its feral visage a bitter residuum;
its Spartan austerity impregnable
against the Quantum Abacus of the Continuum.

Its *Form* was an open book, no doubt,
but its *Meaning* lurked in layered hiding;
sub rosa it swam, the oracular truth,
in repose, its patient bidding.

And thus were they lodged at a stalemate,
the Mathematician and her symbols in siren chant;
an irresistible force; an immovable object;
two knights at the fork of uneasy detente...

Act 3: Simplicity

The Algebra did not mock her, she knew
but humbled she felt nonetheless,
as a bucking goat, the untamed knot desired
coaxing and cajoling for redress.

A simplification in its structure was advised
before its boasting ramparts could be scaled,
*"In perturbed form must this bear be prodded'
ere the mighty Solution be corralled and nailed."*

Thence she set to simulate on the Calculator
the Equation's very first-cousin,
and furiously the soul of the machine churned
its ferocious qubits by the dozen...

Just the first dyad of the function it calculated,

that colossus of quantum switches and cogs,
and Plato's children took flight in their dreams,
overjoyed in the simulacrum's Decalogues.

Act 4: *Let There Be Light!*

We know what followed. We call it History.
Big Bang. Inflation. Divine Creation.
In our phase of Existence, it was the seed
of all that was... and will be in Time's inebriation.

Inflating from naught to aught,
our Multiverse did breathe and heave;
to the piper's eleven tunes the membranes fluttered,
atop looping gravity's weave and sieve.

The stars, they formed amidst matters dark;
swift photons came to light;
the quasars, the galaxies, and planets rogue...
Oh! A chaos of magic's delight!

Creation's Wheel turned the heavens, and Heraclitus...
downhill his river of myriad millennia rolled;
a thousand and one nights the camel carried in Arabia,
and saw the raconteur's Story of Magic unfold...

The majesty! Sheer Majesty! O Horatio!
The sights the constellations have shown!
O how right he was, that weaver of tales!
More things in Heavens than in Philosophy's tome.

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And yet...

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Act 5: Humility's Pedestrian Thought

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And yet...

In *Absolute Reality* - as you now know -
the situation be mundane... so prosaic!
The Cosmos... in its entirety... a mere digital flow;
against foe formidable, the Maker's simple take...

A forced linearization, a vectored measure,
of the Equation's straight-line pith;
a loose hook cast into the linear *Bit*
of the redoubtable theory's towering *It*.

And thus it is that we see our universe...
a speck of first-order estimate's grease...
merrily simulating... deriving... calculating...
the beta term of Quintessence's Taylor Series...

All our richly-textured Reality and fancies reduced
to a single computing thought of perturbation;
a stepping stone for our God to reach
the Transfinite, the Transcendent, the Unknown.

With humble eyes do we see our Deity now,
reaching for the 'Existential' beyond Sartre;
our World a minor contrivance in Her quest
to reveal Her own *raison d'etre*...

Act 6: Tuning Fine in Flawed Design

...Which - *of course* - leaves questions haunting,
of cosmic import and tipping balance:
What about *us*? How come *Life*? Where fall *Sentience*
and *Free-Will* in the Deity's common parlance?

Are we, with all our hubris and pretense,
a glitch in the simulation's exquisite software?
Or are we the Error Term in the expanded Series;
the unmodeled fire which breathed and rose self-aware?

Are we a mistake in Her luminous code?
Or the Equation's "epsilon" in the approximate note?
Are we in this simulation God's ignorance unplanned?
Or are we Her Creation's irreducible command?
Are we the chaff of minor irritance?
Or are we Reality's unformulated Essence?
Are we Error in Research or Destiny's finest hour?
Of weeds and worms or Eden's fragrant bower?

Riddle me straight, Dante! Reveal me true!
Preach all who hear from your circled rostrum:
Are we to think we all be....just *Erratum*
or, per chance, the Empyrean's *Desideratum*?...

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Act 7: The Bard's Coda

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*"and now remains
that we find out the cause of this effect
or rather say,
the cause of this defect,
for this effect defective comes by cause...
thus it remains
and the remainder thus"*

- Shakespeare, *Hamlet*, Act 2, Scene 2