



# Different Suns

A collision of science and poetry

Alan Wagstaff

With thanks to Dr Avi Loeb

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## Foreword

Creations of poetry and science are acts of generosity. They did not have to exist. Just like the Universe as a whole. Once we witness their beauty, we are filled with gratitude. They give meaning to our short life.

Poetry can explore landscapes of our imagination and drift towards the unexplored, those uncharted territories which we hope to visit. But nature is sometimes richer than our imagination, especially when dealing with the unknown. This is why we need to rely on scientific evidence to guide us through the darkness of our ignorance. Our imagination was shaped by our past experiences which may not explain the full extent of the unknown.

Through the method of gathering scientific evidence, we can maintain a sense of cosmic humility. Science is a learning experience, during which we learn equally from being right or wrong. The fact that Albert Einstein argued between 1935-1940 that black holes do not exist, that gravitational waves do not exist, and that quantum-mechanics does not have spooky action at a distance, led three experimental teams to prove him wrong and win three separate Nobel Prizes in physics over the past decade. His wrong assertions were in fact win-win propositions.

Alan Wagstaff's poetry invites us to engage with science as a human endeavour, filled with missteps, wonder and discovery. He encourages readers to examine what we learned so far with a critical mind and boldly go where nobody went before.

In *Different Suns*, Alan Wagstaff challenges the existence of a boundary between science and poetry and demonstrates their common foundation in creativity and beauty. His anthology is an original and uplifting read, full of wisdom. It is one of these rare finds that make life worth living.

### Avi Loeb

Professor of Science; Director, Institute for Theory & Computation,  
Harvard University;  
Bestselling author of "Extraterrestrial" and "Interstellar";  
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## Introduction

What do black holes and poetry have in common? More than you think. Science and poetry both reveal the mysteries of existence, and this book invites you to explore both.

Science and poetry are often seen as distant worlds—one ruled by logic, the other by emotion. But what if they are two sides of the same coin? ‘Different Suns’ seeks to dissolve this artificial boundary, revealing how scientific ideas can be expressed via poetry with the same elegance and depth.

This collection of 37 poems and related science reflections is designed to spark curiosity and conversation, engaging both those with a love for the arts and those drawn to the rigours of science. Here, complex scientific concepts are announced via verse, making them accessible, thought-provoking, and deeply human. Whether contemplating the vastness of space, the origins of life, or the paradoxes of time, these poems illuminate the wonder that underlies our existence.

More than just a poetry collection, this book is an invitation to think, question, and marvel. It is for dreamers and explorers—whether they chart the stars or map the terrain of human emotion. Through these pages, may you find both knowledge and beauty, and perhaps, even a new way of seeing the world.

Alan Wagstaff

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# HUMAN TALES

Exploring the limits of human knowledge and the absurdity of religious squabbles and wars.





# Human Tales

The human race, distinct from other apes,  
has storied for three hundred thousand years.  
For four-point-five-four *billion years*, the Earth  
knew nothing of these epics, thoughts, and fears.  
Repeat: for 4.54 billion years  
the Earth ignored our epics, thoughts, and fears.

So, ninety-nine point nine, nine, nine percent  
of Earth-time didn't give a god-damn jot  
if human tales were on the Earth or not.

This makes the thinkers think a lot.

Note-taking, urban humans wrote their yarns -  
the very first - five thousand years ago.

For 4.54 billion years, or so,  
the Earth knew nothing of these thoughts and fears.  
Repeat: for 4.54 billion years,  
or so, the Earth ignored our thoughts and fears.

So, ninety-nine point nine, nine, nine, nine, nine  
percent of Earth-time hadn't heard a word  
from any tales - rejected or preferred.

This shouts the grand denouement in our ears:  
'Enough! Enough! Five thousand years of tears!  
Religious competitions are absurd!

**Alan Wagstaff**

# ANTHROPOMORPHITES

The human tendency to attribute human traits to non-humans.



# Anthropomorphites

Imps, Fairies, Elves, and Goblin folk  
are humanish - but little.  
Are they fantastic - or a joke?  
Research is noncommittal.

The Hulk, The Thing, and Superman,  
are humans - with code names.  
These superheroes, spick-and-span,  
have humanistic frames.

The aliens that we call 'Greys',  
are sort-of-us - revised.  
The Small Green Men, and mermaids too  
are anthro'morphosized.

The gods that recently retired,  
were humanoid - but lanky.  
Apollo, Odin, Zeus, and Mars  
loved human hanky-panky.

The Father-God looks just like me.  
The Son-God does as well.  
Be-el-zebub's my next-of-kin:  
the primate Lord of Hell.

We anthropomorphize by default.  
But, under strange new skies,  
must sentients that live there have  
two legs, two arms; two eyes?

Will they be humans, more-or-less:  
our carbons - to the letter?  
Will they be bi-symmetrical?

I hope they will be better.

**Alan Wagstaff**



## BIRTHRIGHT

How geographic location shapes religious belief and, as a result, fuels division.



## Birthright

Zah is strictly Muslim.  
She was born in Dashkasan.  
Chen kowtows, in Beijing,  
to the mystic Taoist plan.  
Zah calls Chen subnormal  
for adhering to such guff.  
Chen calls Zah an addict  
who can never get enough.

Vic is staunchly Catholic,  
and he hails from Santa Fe.  
Dem, born out in Punakha,  
reveres the Buddhist Way.  
Vic says Dem is off her head  
to seek a pensive trance.  
Dem says Vic's been hypnotised  
by incense, robes, and chants.

Sue from Salt Lake City  
has been Mormon from the start.  
Joe, the Liverpooldian,  
is Anglican, at heart.  
Sue would like to shout at Joe  
and lead him to the light.  
Joe would like to shout at Sue  
to make her see things right.

Ange from Anapa is  
Russian Orthodox - for sure.  
Inuk, schooled in Tasiilaq,  
is Luth'ran to the core.  
Ange abuses Inuk with,  
'You're stupid! Read his word!'  
Inuk curses back at Ange:  
'You're patently absurd!'

Putu lives in Ubud.  
She's been Hindu from her youth.  
Aaron is from Haifa;  
Haredi is his truth.

Putu yells at Aaron:  
'You're full of batshit hooey!'  
Aaron yells at Putu:  
'All your hogwash books are screwy!'

Zah hates Chen  
and Chen hates Zah  
and both of them hate Dem.  
Vic hates Dem  
and Dem hates Vic  
and Sue hates both of them.  
Sue hates Joe  
and Joe hates Sue  
and Ange hates Sue as well.  
Ange hates Inuk;  
he hates Ange  
and thinks she's bound for hell.

Putu curses Aaron,  
and he curses her the same.  
All of them  
curse all the rest  
and think that they're to blame  
for everything on Earth that's wrong.  
They'd like to set them free.  
'If you'd been born  
where I was born,  
you'd be the same as me.'

'I can't believe my luck!' they say. '  
My town's a holy place!  
It caught God's truth,  
God's light and love;  
the rest passed-up on grace.'

Can this be true that, from our birth,  
we are the chosen clan on Earth?  
Or is the faith we hold as true,  
an accident of where we grew?

**Alan Wagstaff**



# CALISTHENICS OF THE MIND

Exploring consciousness, self-observation, and the mind-body debate





## Calisthenics of the Mind

Right now, my brow is busy furrowing.  
I glimpse reflections in the mirror-glass.  
Since there is no one else to look askance,  
I ad-lib other masks: a furtive glance;  
an Elvis twitch. I even try for size  
the ogre scowl I'd crafted for my son  
when he was four. And no one watches me...  
*except for me*: the 'I' that pilots what  
my eyes, in present tense, are staring at.

I check the carpark nervously, in case  
a passerby has seen my puerile faces.  
There are no other folk around. Thank God!

Hours later, stirring up the tale's syntax,  
I cast about for themes to aphorize.

In real time, I can scrutinize my acts:  
like swearing, sweating, swimming, swatting flies.  
But 'thinking', has a retrospective bent.  
My thinking cannot watch itself perform.  
This unique facet of the thinking brain  
makes 'consciousness', the word, rise to explain  
the one-off, past tense features that I find  
within the calisthenics of the mind.

This 'Consciousness' is merely sleight-of-hand,  
a vagrant noun that adjectives demand.

**Alan Wagstaff**

# The Boneyard



# The Boneyard

A vast, galactic boneyard, spread around our star-strewn shores,  
hides countless, black-dwarf carcasses, quenched by indifferent laws.  
They strutted once in gleaming crowns but now they're crowned with lead.  
Their shrunken corpses, sapped of light, are fossilized - stone dead.

Let's play the game that Space is ripe for humanistic form.  
Let's fantasize that sapiens epitomize the norm.  
Now bi-symmetric aliens, with heads, and arms, and legs,  
should be as multitudinous as coral polyp eggs.

But cherry-picking will not do; there is a baggage car.  
Across all human time, evaluate the ones who came this far.  
Some 93% of those with anthropoidal wits,  
have lapsed back into cosmic dust: devolved atomic bits.

Let's rhyme that 93% of *THEM* can't cross our path.  
The 7%, like sand grains, won't be found. You do the math.

Alan Wagstaff



# COLOSSAL

Exploring deep time through fossils and perspective.



The Gobi Fighting Dinosaurs

# Colossal

Here lie the Gobi Fighting Dinosaurs!  
Deep time is lurking.  
Take time-out - and pause.

These knotted bones will tussle  
till the bedrock turns to dust;  
they jostle ghostly flesh with ghostly maws.

Curators use 'colossal'  
to describe their cut and thrust:  
colossal strength, colossal length, and jaws.

The bare facts of the fossil  
misappropriate this word.  
Their bite-strength, bulk, and body-length are dwarfed  
by time - *which is colossal!*

Human genes flowed through their herd -  
the raptors - till three million chances morphed  
their talons into fingers  
and refurbished every bone.

Though scrap-heaped seventy million years ago,  
their final combat lingers to the present - cast in stone.

For eighty million years they ruled the show.

**Alan Wagstaff**



# COOPERATION

Collaboration in human achievement and exploration





## Cooperation

When I was eight, a reject paling stake  
was quarterstaff enough for me to pry  
John Little from the Lees Brook Stepping Stones.

But size nine longbows took more work to make.  
Roy Morter strained three bamboo canes while I  
tied on frayed scraps of twine. We set Chris Jones  
to trim our arrow shafts. Soon Sherwood's 'Merry Men',  
match ready, would take on the Sheriff's goons.  
It took the best part of two afternoons.

The 'James Webb' faltered time and time again.  
Twelve thousand scientists and engineers  
strained with the space-bound dart for thirty years.  
They came from fourteen nations round the globe,  
to build, and loose, a pan-galactic probe,  
with scope enough to sift for spacetime's birth.  
They forged the grandest grail quest seen on Earth.

This mammoth opus for the heart and mind  
was too immense for local tribes to own.  
It took the mutual might of humankind  
to place the red-light hunter in the zone.

I hope the James Webb lures strange Others here.  
I hope they're interstellar go-betweens:  
an ancient race which, past parochial fear,  
has deep cooperation in its genes.

**Alan Wagstaff**

## Different Suns

Perception, light, and the science of colour



## Different Suns

The zenith sun above the mountains sings:  
'Look! Look! The hues of all the earthbound things!'  
He sings 'green leaves'. He sings the red flames' heat,  
He sings 'blue waves'. He sings the yellow wheat.  
He sings, 'I'm still the castle king' - at noon -  
and scoffs at rascals underneath the moon.  
But hours before he mounts the mountain peak,  
when glancing, morning light is more oblique,  
the green of forest leaves, the red flames' heat,  
the blue of waves; the yellow of the wheat -  
are monochrome in tints of misty-grey:  
unearthly colours, painting in the day.

And brief hours later, when he's lost the hill,  
and sated human eyes have scoffed their fill,  
the green of forest leaves, the red flames' heat,  
the blue of waves; the yellow of the wheat -  
are deep red-orange, gold, and purple-grey:  
unearthly colours, painting out the day.

While astronauts see Earth's pale, liquid blues:  
'The Pearl in Space' - and eulogize its worth,  
we gum-boot humans, wade in crimson hues,  
and red-gold, from a point-of-view on Earth.

**Alan Wagstaff**

## Four Pencils & A Half

Visualizing Deep Time Through a Simple Pictogram.

Four and a half pencils



One full pencil represents one billion years.

This pictogram represents a total of four and a half billion years.

## Four Pencils & A Half

Line up four pencils and a half,  
then visualize their worth.  
Allow this pictogram to graph,  
the age of Planet Earth.

One pencil shows a billion years;  
the total, four point five.  
'Point five's' where 'Land-Plant One' appears.  
From there, dead rocks went live.

Earth's surface was a barren crust,  
till surface plant-life surged.  
Four pencil lengths were ground to dust,  
while life progressed, submerged.

The primates, on this pencil trend,  
Top-off the tapered joint.  
Our cousins get the sharpened end.  
The Great Apes get the point.

And human apes are just a dot  
drawn by the pencil lead.  
Our myths don't count for diddlysquat;  
in micro-tics they're dead.

**Alan Wagstaff**



## Like Other Apes

Embracing our primate heritage – biology, evolution, and behaviour.



## Like Other Apes

I am an ape, like other apes;  
I want to pick your fleas.  
I want to riffle through your hair  
and frisk like chimpanzees.

I am an ape, like other apes;  
my cousin's a bonobo.  
I'd rather climb all over you  
than park-bench like a hobo.

I love my clan, like other apes.  
I love our wild ad-libbin'.  
I love to romp and roll about  
like any hot-blood gibbon.

I've got less hair than other apes.  
Orangutans are hairy.  
Gorillas are a hirsute mob,  
and men like them look scary.

I am an ape, like other apes:  
like chimps and huge gorillas,  
bonobos, and orangutans -  
those other lady-killers.

**Alan Wagstaff**



# LUMINESCENCE

Bioluminescence—the language of light in the deep sea.



# Luminescence

Earth's biosphere runs mostly in the dark.  
This is, and isn't, poetry at work.  
A mere percent transcends the watermark;  
life's vast domains are in the ocean's murk.

Two hundred metres down the sunlight dies.  
The ocean depths are black – pitch black and dense.  
This otherworld confounds all sun-forged eyes;  
the dark has engineered a different sense.

Lone drifters, strewn like stars across the night,  
blaze here, with bioluminescent verve.  
The darkness casts each one into a light.  
They flare, on-off, in order to observe.

Throughout life's vast domains  
such creatures lurk.  
This is, and isn't, poetry at work.

**Alan Wagstaff**



## MORE IS LESS

The importance of precision in scientific language.





## More is Less

Gossip, chinwag, blather, blether;  
blabber, scandal, chit-chat, jaw.  
Rumour, natter, gossip, babble,  
scuttlebutt, tittle-tattle, gibber-gabber; blah.

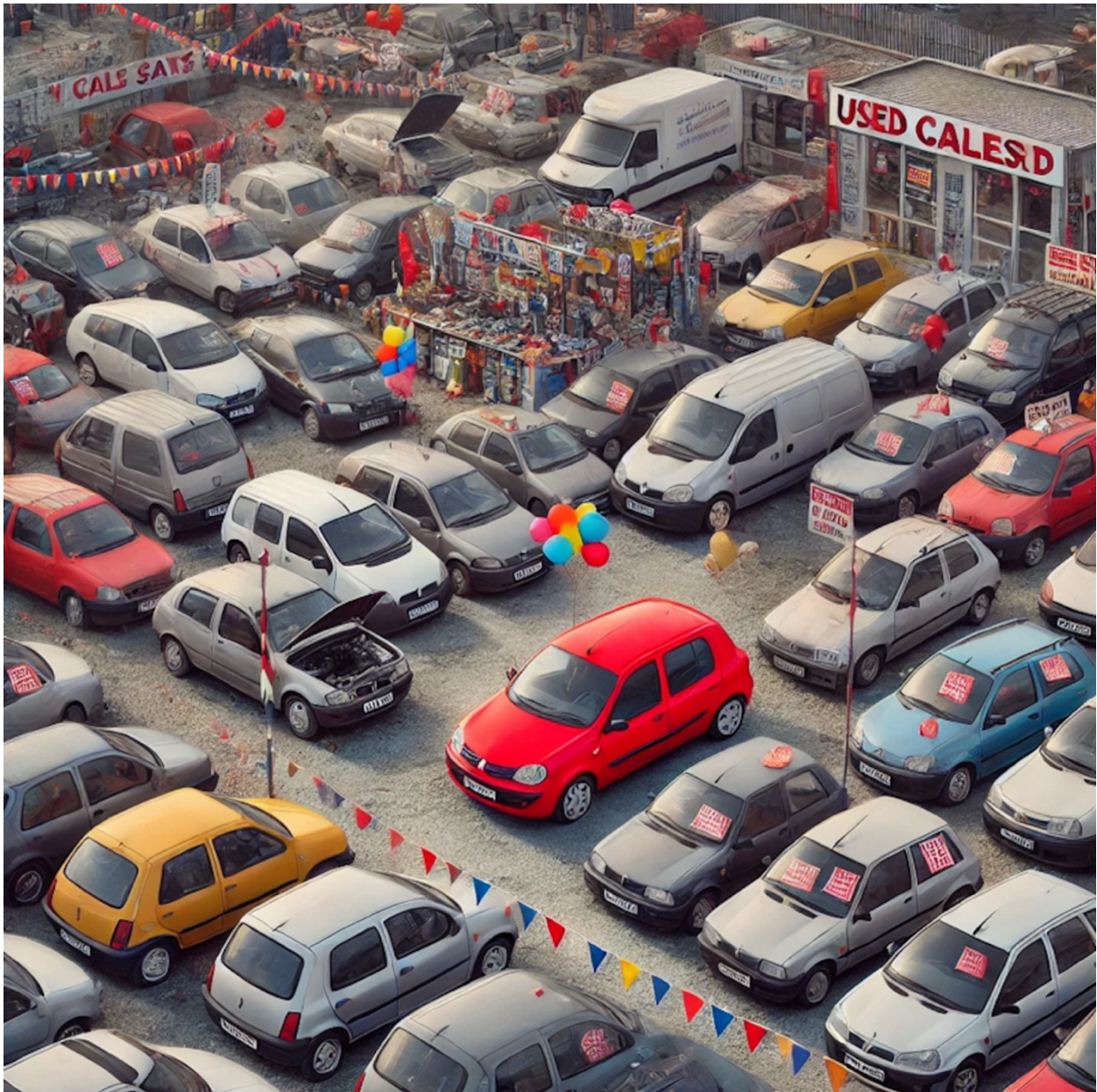
Stories, headlines, captions, hearsay,  
bulletins, digests, fiction; lore.

Concepts, theorems, notions; reason.  
More is less - and less is more.

**Alan Wagstaff**

# ONE RED CAR

Emotion vs. Rationality in Decision-Making.



## One Red Car

I wandered, carless, through the crowds  
that fossicked in a car-yard street.  
My head was fogged - or in the clouds;  
a carless man is easy meat.  
I mooched through endless, humdrum lines  
of dull saloons and flagrant signs,  
and, ripe for any subterfuge,  
I fell for 'red', in ranks of grey:  
The Frenching of its note read - 'rouge';  
I could not steer my feet away.  
I gazed and gazed – but little thought  
about the Citroen I soon bought.

A Cricket Voice said: 'S.V.C\*.'  
It didn't sway my wooden head.  
Though car comparisons are free,  
I dis-engogled what they said.  
I should have run a background check,  
but shrugged it off with, 'What the heck!'

Components underneath the hood  
originate from round the globe,  
and some are high spec.; some, less good.  
I didn't undertake the probe.  
I simply listened to the crowd  
which, by its oohs and ahs, seemed wowed.  
I should have harried like a hawk  
the safety-rating; braking strength,  
performance data; facts on torque -  
but flipped, instead, to heart wavelength.

This hare-brained gaffe did not feel odd;  
I'd practised on M.P.s and God.

Alan Wagstaff

Thanks to William Wordsworth: 'I Wandered, Lonely as a Cloud'.

\*S.V.C. = Standard Vehicle Check.



# PRIMORDIAL SOUP

The vast timeframe of life's evolution.





## Primordial Soup

*Vast seas of space dust sank and caused the Earth to coalesce.  
Some four-point five-four billion years skipped forwards - more or less.*

*Now, four-point five-four billion bounces lightly off the tongue,  
but, written out, the digits show that 'long' is really long.*

- A. For 70 million years the Earth turned - barren as a brick.  
Then cloning carbon chains were forged; reactions did the trick.
- B. For 30 million years those chains were churned and tossed about,  
till some were fused by time and chance and single cells broke out.
- C. For 30 million more the cells were driven round the globe.  
These dots were bashed and crushed and smashed; they formed a faux microbe.
- D. The lifeline took a sudden leap: in just 4 million years  
the microbes learned to guzzle gas and fart through proto-rears.
- E. Next, vast amounts of time elapsed. You might feel addle-brained:  
**nine hundred forty million** years - then replication reigned.

*By now you're probably confused by summing all this time.  
In brief, it took a billion years to cough-up micro-slime.*

- F. The next epoch's a real yawn-fest, when scumbags ruled the Earth.  
They fringed the shores with gloopy stuff - in regions north of Perth.

*A billion-year hiatus burbled-on through tedious time.  
By Earth's two-billionth birthday this was 'Planet of the Slime'.  
This might have been life's pinnacle (some Wags think this is true!)  
but Earth turned off the heaters and the saviour ice came through.*

- G. The Earth was frozen solid and life's neck was in a noose.  
It stayed like this nine million years - but O<sub>2</sub> was let loose.

- H. The air began to thicken and the Earth began to warm.  
The scum learned how to soak-up heat - and life survived the storm.

*Now, if you're going crazy and your brain's about to crack,  
here comes the simple summary, to help you stay on track;  
To prep. the stock for life's grand soup required 2 billion years.  
A little more than that, in fact. LIFE NEVER JUST APPEARS.*

I. Hurrah for photosynthesis! The scum gained 'sort-of-leaves' and dined on sunlight 'ready-meals'. Now life rolled up its sleeves! It took **4 hundred-60 million years** to make this stick. It was so very slow that imperceptible seems quick.

J. Eukaryotic cannibals - the first of dog eats dog - began to scoff each other in that distant sloppy bog. These single cells were predators - the top-dogs of their days. They ruled 500 million years and split three separate ways.

K. 6 hundred million years rolled by; these pinpricks made their moves. Though single-celled, these dots of life fell into different grooves. The fungi, plants and animals were seeded from these specks. The three-in-one branched out from here - each limb perfected sex.

*At last, the dog of trial and change was really off the leash, and life began exploiting what it found in every niche. The chapter ends with three full-stops - which mark the three-toed joint. Four-fifths of Earth's account was spent. **This is the take-home point!***

*3.64 billion years is four-fifths of Earth's lot. A mere 900 million more leads to the present spot.*

Alan Wagstaff

# RANNOCH MOOR

Inspiration in Science and Poetry



## Rannoch Moor

Muir and Fleming start the hunt together,  
trudging up the track to Rannoch Moor.  
Both have restless eyes that rake the heather,  
seeking tell-tale signs and hidden spoor.

Earthbound game is left where it is lying.  
Worthwhile quarry leaps up like a lark.  
What they stalk must rank as death-defying:  
vivid life, that leaves a livid mark.

Grey-green lichen, clinging to the birches,  
stops their breath; this is a latent site.  
Here their hunt becomes two separate searches:  
Muir veers left and Fleming lurches right.

Muir strides out in silent self-confinement,  
scouring glens where glinting symbols hide.  
Fleming quizzes clansmen for alignment;  
if/thens draw them closer to his side.

Hefting, tasting, moulding words and phrases;  
poking if/thens for a hint of truth;  
dreaming drafts - till each sleuth reappraises  
what was snared at Rannoch - in their youth.

Day and night spin on through sleep and waking.  
Trophies of their toil start to emerge.  
Labour leaves their limbs and senses aching.  
Once again the paths they took converge.

'Combat' and 'The Horses' have been drafted.  
Penicillin challenges disease:  
verses for the spirit, finely crafted;  
vaccines driving sepsis to its knees.

**Alan Wagstaff**



# REALMS OF GLORY

The hope and limits of interstellar travel.



## Realms of Glory

Huffing rockets look out-dated,  
heaving out of Earth's settee.  
From the launch they seem ill-fated:  
halfway home to space debris.  
Wobbly dropouts from the glory,  
breathless, tumble back to Earth:  
billion-dollar, multi-storey,  
burnt-out scraps of frittered worth.

*Come you cosmic starships, come -  
flash your pan-galactic torch;  
bend the void's continuum;  
worm your way to Sol's back porch.*

Janice Bishop, Ian Corbett,  
Amy Baker; Robert Wood,  
lift our sights from low-Earth orbit,  
to the stellar neighbourhood.  
SETI scholars at your stations,  
squinting at the star-flecked night,  
seek the great Desire of Nations:  
spacecraft unrestrained by light.

*Come you cosmic starships, come -  
flash your pan-galactic torch;  
bend the void's continuum;  
worm your way to Sol's back porch.*

Engineers and mathematicians  
stay the course at J.P.L\*;  
be the technical magicians  
who will break the Solar spell.  
Cosmonauts embrace the title;  
astronauts you're part-way there.  
Hopes and visions add a vital  
voice to this celestial prayer.

*Come you cosmic starships, come -  
flash your pan-galactic torch;  
bend the void's continuum;  
worm your way to Sol's back porch.*

Kirk and Scottie were exhorted:  
'Trek the interstellar night.'  
Through deep space they were  
transported,  
warping speeds exceeding light.  
Solid rockets seem half-hearted.  
All Kirk had was 'Enterprise'.  
With the same we'll get jumpstarted  
into exo-planet skies.

*Come you cosmic starships, come -  
flash your pan-galactic torch;  
bend the void's continuum;  
worm your way to Sol's back porch.*

**Alan Wagstaff**

\*NASA's Jet Propulsion Lab.



## RELATING TO THE LEAF

Tracing our shared evolutionary origins.



## Relating to the Leaf

Leaves aren't branches; leaves aren't roots;  
leaves aren't peas, or passion fruits.  
Leaves aren't rushes, reeds, or roses;  
leaves aren't knuckles, knees, or noses.

Leaves aren't pigs or platypuses.  
Leaves are *not* rhinoceroses.  
Almost everyone believes  
leaves aren't anything but leaves!

But  
mutants lurk in every leaf.  
They tweak the archetype motif.  
Mutants lurked when life was one.  
Two thousand, million years rolled on.

Now -  
leaves *are* branches; leaves *are* roots;  
leaves *are* peas and passion fruits;  
leaves *are* rushes, reeds and roses;  
leaves *are* knuckles, knees and noses;

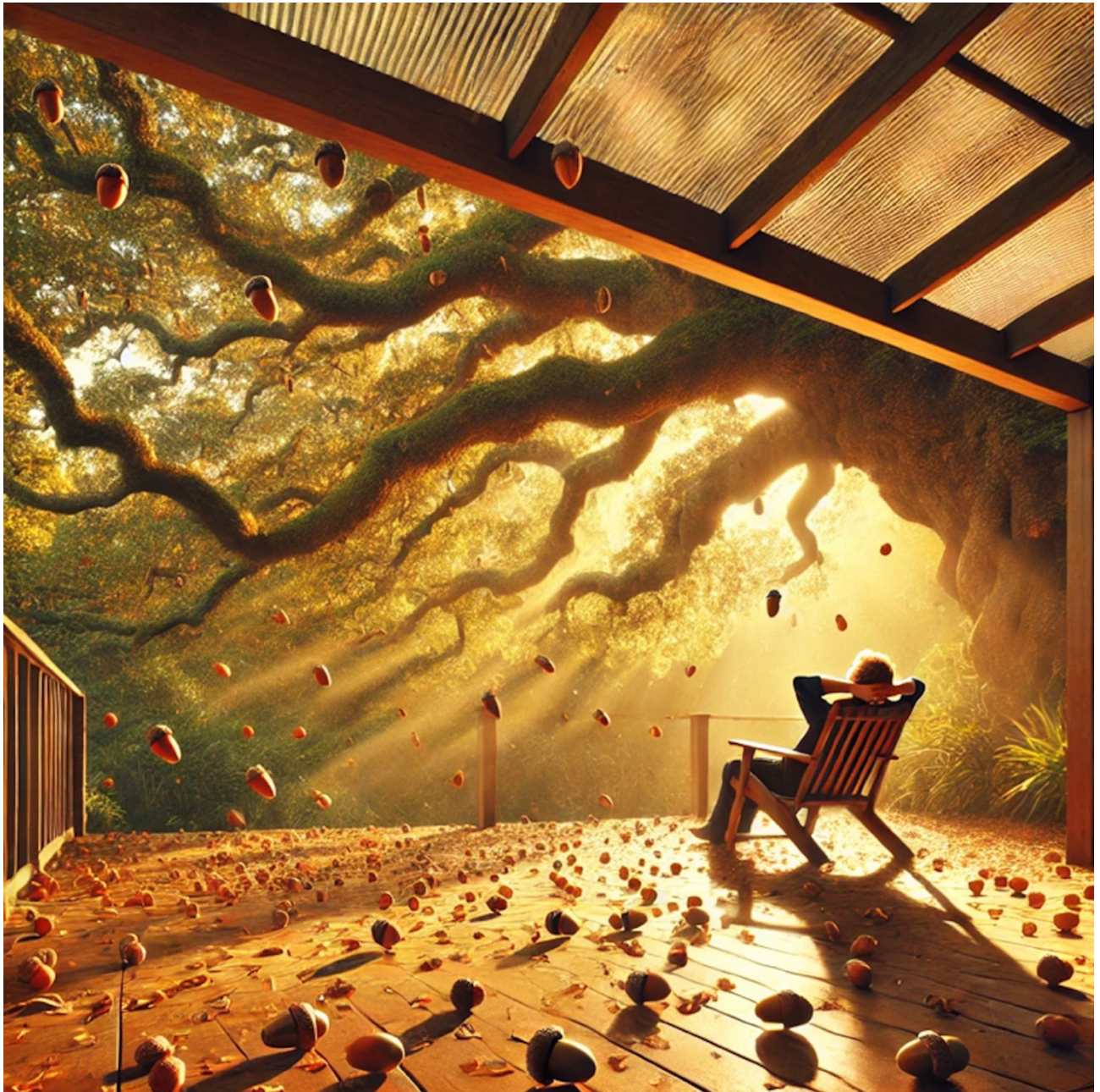
leaves *are* pigs and platypuses;  
leaves *are* part-rhinoceroses.  
Strike a light! My God! Good grief!  
I am related to the leaf!

**Alan Wagstaff**



## RICOCHET

The ubiquity of physical forces in shaping the universe.



## Ricochet

Inside this seismic figment I am not shellproof.  
Relentless rat-tat-tats rip through my gangster dreams,  
till rat-faced bullets, sluggishly, haze into streams  
of acorns, walloping a poly-carbon roof.

A smattering, the first, had fallen - pick-pock-peck -  
as I dozed on. But now they mount a mass attack!  
The strafing strews a score or more - and then a stack:  
a sack-full, thumping rhythms on the drumhead deck.

They plunk the garden, scudding on the muddy path.  
Their hardened ounces, bounce-bounce-bouncing, ricochet  
and cannon down the drains or shoot off each which-way,  
until I'm circled by an acorn aftermath.

Mathematics is too blunt for acorn seminars.

No prayer can stop their fall or make them levitate.

The sun is softening - the hour is getting late.  
At last, I see they're also shunted rocks on Mars.

At last, on full alert, I see they're also stars.

**Alan Wagstaff**

# ROOTS

The unsung hero of plant systems



# Roots

Roots look sallow next to shoots.  
Roots seem frail.  
They seem as if they'll lose their grip  
and let the whole alliance slip.

And compared to crowds of leaves,  
roots seem pallid.  
They seem less valid in their role:  
a part, apart from what is whole.

Flagrant flowers browbeat roots.  
Roots recoil.  
They like the moist soil's cooling touch.  
They delve - and they remember much.

Roots are less extravagant than fruits;  
Roots seem inert.  
They push through dirt; they burrow deep.  
Then rouse the system from its sleep.

Roots employ the understated,  
and so are often underrated.

**Alan Wagstaff**



# ROUGHLY SPEAKING

Deep time and perspectives on human conflict



## Roughly Speaking

The newborn Earth was lifeless rock  
for half a billion years.  
Please say '500 million', if  
that's kinder on your ears.

Next up, for some 3 *billion* years:  
two-thirds of Earthly time -  
all life was oceanic scum:  
a smudge of grey/green slime.

In truth, 4 billion years was spent  
before the land-plant surge.  
A final spinal increment  
saw vertebrates emerge.

The vertebrates commenced their climb  
via scuffles that were sign-less.  
They've reigned for 8 *percent of time*.  
*The rest of time was spineless.*

Five thousand years ago their notes  
were written - addle-brained.  
Their stories and their anecdotes,  
mythed-out the unexplained.

The rival gangs, with rival tales,  
began to slug it out.  
They crushed heads over holy grails,  
whose certainty was doubt.

For ninety-nine point nine, nine, nine,  
percent of time, Earth thrived.  
Though no one sermonized a sign,  
the myth-free Earth survived.

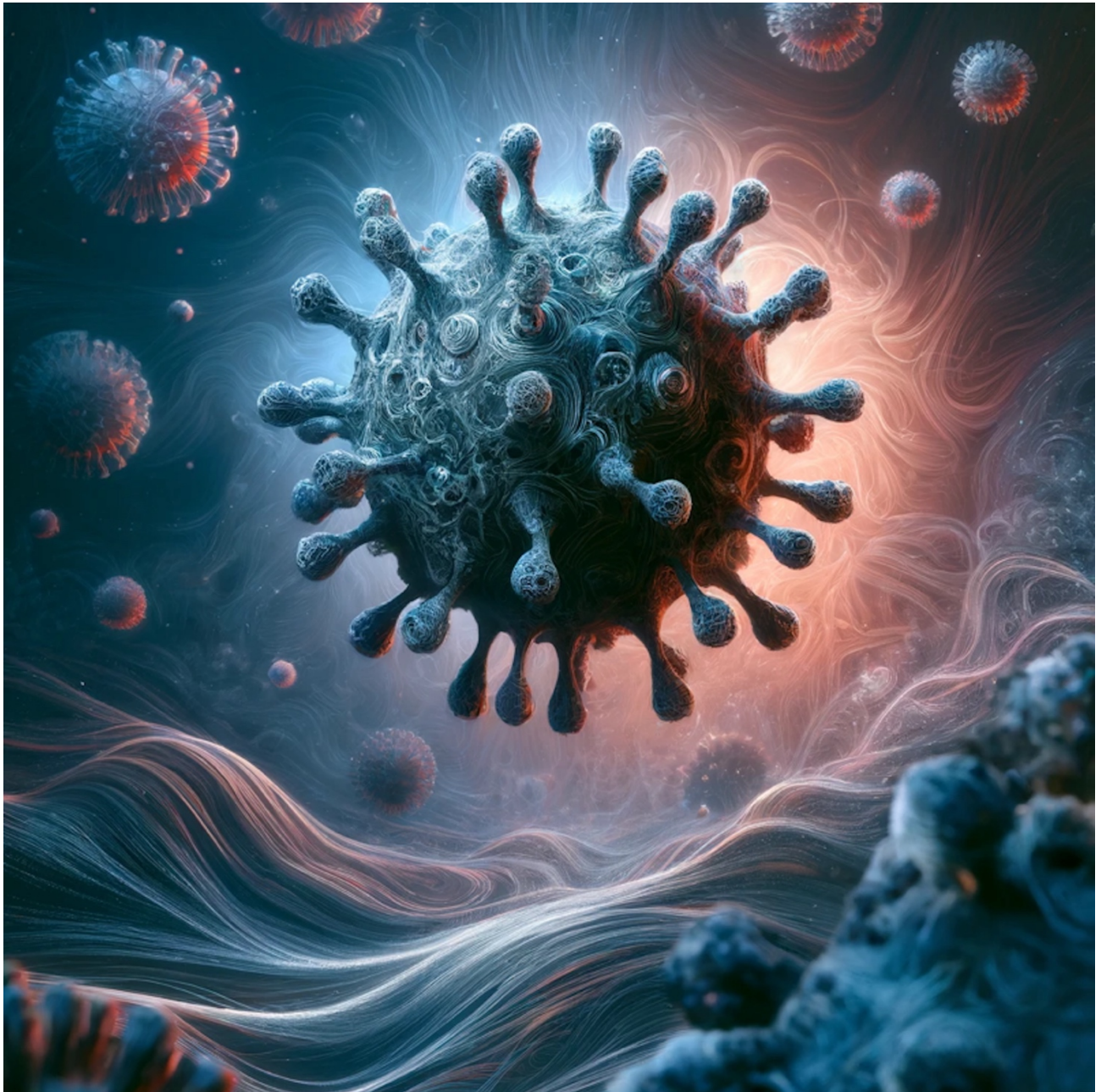
Thus, facing squabbles of the World,  
make time for time's perspective.  
Before the spears and bombs are hurled,  
indulge the retrospective.

**Alan Wagstaff**



## SAID THE VIRUS – ‘AMEN!’

Understanding virus transmission and public health responses.





## Said the Virus – ‘Amen!’

A Virulent Virus that’s ready to shift,  
is primed for destruction. He just needs a lift.  
If he can hitch one ride, he’ll quickly get ten.  
And then tens of thousands! Said the Virus: “Amen!”

The townspeople said, ‘What a wonderful plan.  
Let’s all stay indoors – and abide by the ban.  
They lost out on bingo but had far more sex -  
and got further exercise pacing their decks.’

Alas and alack! I am sad to relate,  
the Castle had weaknesses - one wicker gate:  
one wayward youth, who was heard to complain,  
‘Science is phooey; I’ll trust my own my brain.’

“Restraints are for others; they’re not made for me.  
For I’m a young rebel, and I must be free.  
My skin is my fortress; no virus can hitch  
a ride on my body! Ain’t life a bitch!”

The Virulent Virus was ready to shift.  
He sought out the rebel and hitchhiked a lift.  
He hopped a short distance. Then soon hopped on ten.  
And then tens of thousands! Said the Virus: ‘Amen!’

Amen! Amen! Amen! Amen!  
He hopped tens of thousands! Said the Virus: ‘Amen!’

**Alan Wagstaff**

# SCAM

How language manipulates, misleads, and fuels scientific misinformation.



## Scam

I'm easy meat for scamming cheats,  
I live in my emotions,  
so words like '**bombshell**', '**truth**'; '**revealed**',  
provoke eccentric notions.

I get fired up by '**lies**' and '**scoop**',  
'**outrageous**' and '**coercion**'.  
I read no more than twenty words,  
of any brash assertion.

I know the truth; I'm up to date.  
I've skimmed ten thousand articles.  
Those peer reviews and counterclaims  
are irritating particles.

I'm easy meat for scamming cheats;  
I wish I was resilient.  
But I'm assured and fall in line,  
because they're simply brilliant.

Alan Wagstaff



## SCIENCE-ING

Why science is a process, not a fixed institution.



## Science-ing

Science is constantly kicked to the curb.

Science wears big floppy boots - like a clown.

Science kicks science right up its fat noun.

Science is science-ing - when it's a verb!

Boot out the fallacy! Boot out defiance!

Science-ing boots out the nouning of science.

**Alan Wagstaff**



# STAGES

Psychological development and the evolution of thought.





## Stages

The hazy world you snoozed in once, when you  
were one, was traded for a Rabbit's tricks  
and elfin mist; they changed your dream-like view.  
By then, you were a child of five or six.

Back then, the trees could reach strange worlds and chairs  
could fly; until your father nailed them to  
the ground. At nine, you started using stairs  
to reach mere household rooms - like others do.

Your dad was strong and wise: the king of men.  
He ruled the world; he wrote, and knew, the laws,  
until he slipped. Were you eleven then?  
By twelve, he rained mistakes; you saw the flaws.

This geologic fault was checked by math.  
Then length, and time, and mass became your guide.  
Your faith was facts; plain-sight became your path.  
You were convinced your eyes were open wide.

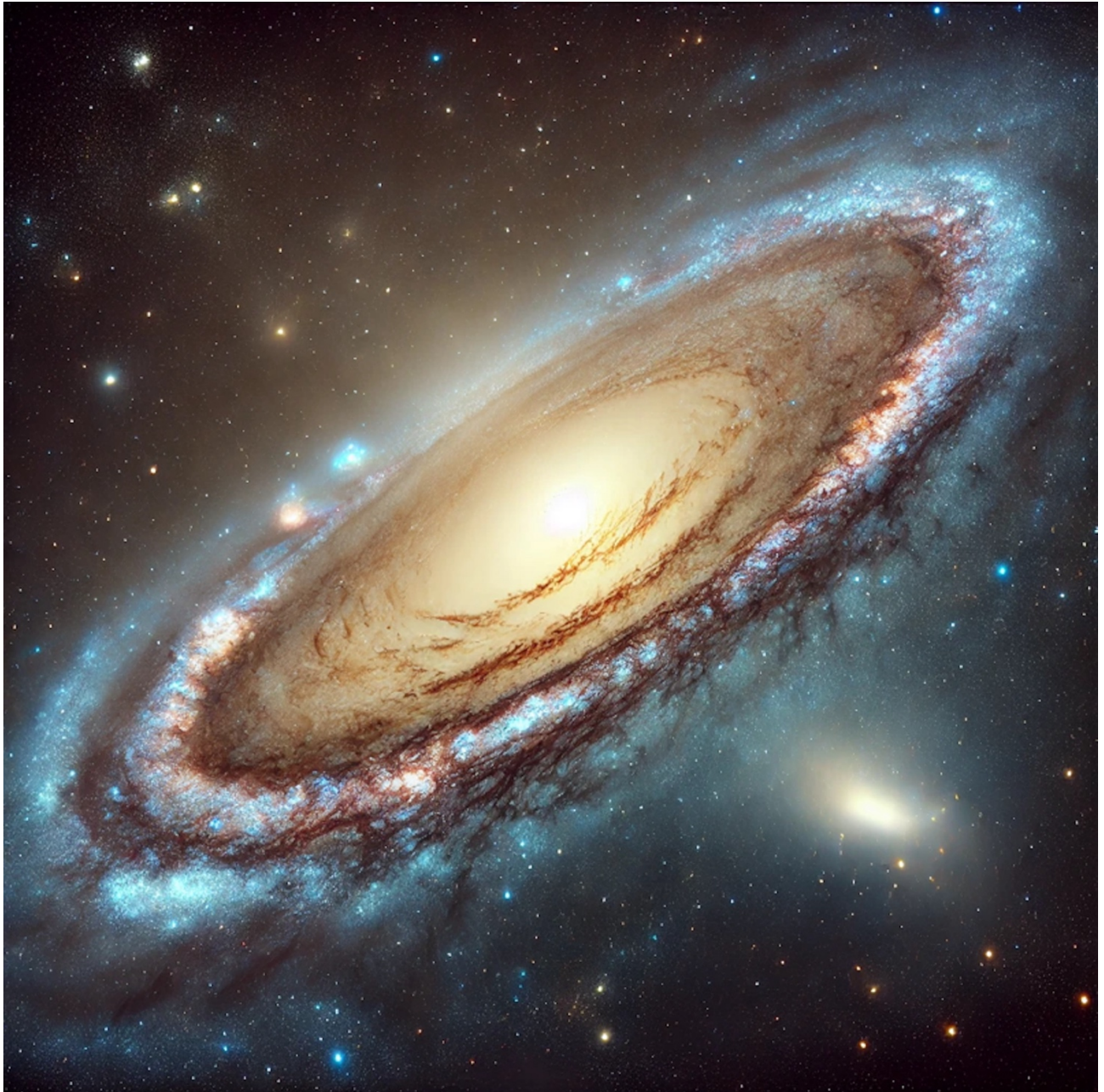
At eighteen, as you journeyed in Tashkent,  
you learned to love the cultures of the Earth.  
You saw part-truth in every place you went,  
and dogma as an accident of birth.

And now you're sure the vista will increase.  
There's passion and compassion in your eyes.  
You're searching for a mantra to release  
the curse that bars our children from this prize.

**Alan Wagstaff**

## THE EMPTY ALBERT

Exploring 'something from nothing' in the birth of the universe.



## The Empty Albert

The Albert senses dance steps coming  
long before the feet arrive.  
Its hollow, charged with inkling-humming,  
longs for samba, swing, and jive.

The Dance Hall, pending its first breath,  
predicts the beat with taut floodgates.  
The Albert waits. But not in death:  
its emptiness *anticipates*.

The Albert gives a silent roar;  
its patrons are not happenstance.  
“I’m dancing,” hints the vacant floor,  
though no one, yet, is there to dance.

Alan Wagstaff



# THE HOLE

How humans fill gaps in knowledge with myth and assumption.



## The Hole

Off-duty, Claire dislodged a hole caught in a spray  
of hawthorn twigs. She'd stumbled on its strangeness quite  
by chance - enigmas were not scheduled for that day.

She sensed at once this was no common, humdrum hole -  
like in the wall; like in the road; like in the heart.  
Its depth, lifespan, and even its location stole  
away, then faded back, its questions blinking as  
she stared. It was invisible - except to her.

Such holes are unacceptable. She gave a shrug  
and turned aside. But it locked-on and leapt back to  
her field of view, persistent now. She tried to plug  
its mouth with spells that reached back to her childhood, but  
'step-on-a-crack' and other chants had lost their bite.

Uneasily, she sought out mounds of Merlin rhyme  
and pored through cyphered books. The tomes were tombs;  
their screeds of desert dust slid through the hole, like time.

She quickly built a wall of sticks - to draw the line.  
The hole, immune to silly work, ignored her fence  
and morphed into a bottle, effervescing wine.  
Concerned the bubble might soon burst, she grabbed an elf  
with oak-tree ears and shoved it, headfirst, in the hole.  
She caught an angel by the hair and wrapped it four  
times round the elf. But makeshift bungs are bound to fail.  
It was a stopgap ploy that had a fatal flaw.

The bottle then invoked a label, from thin air.  
She was the vintner, it revealed. A silver font  
declared its branding name: she'd called it 'Lazy Claire'.

Alan Wagstaff



# THE NEW CHERRY TREE CAROL

Metaphysical poetry and the search for holistic truth.





# The New Cherry Tree Carol

“This muddy track leads to a Cherry Tree,”  
John said. “It’s growing by the spinney fence.  
The timing’s fair, so come along with me;  
December cherries are the most intense.”

The way was long and tougher than I’d guessed.  
We had to push through tangles of debris.  
My thorn-scratched legs were wearied by the quest,  
and light was fading when we reached his tree.

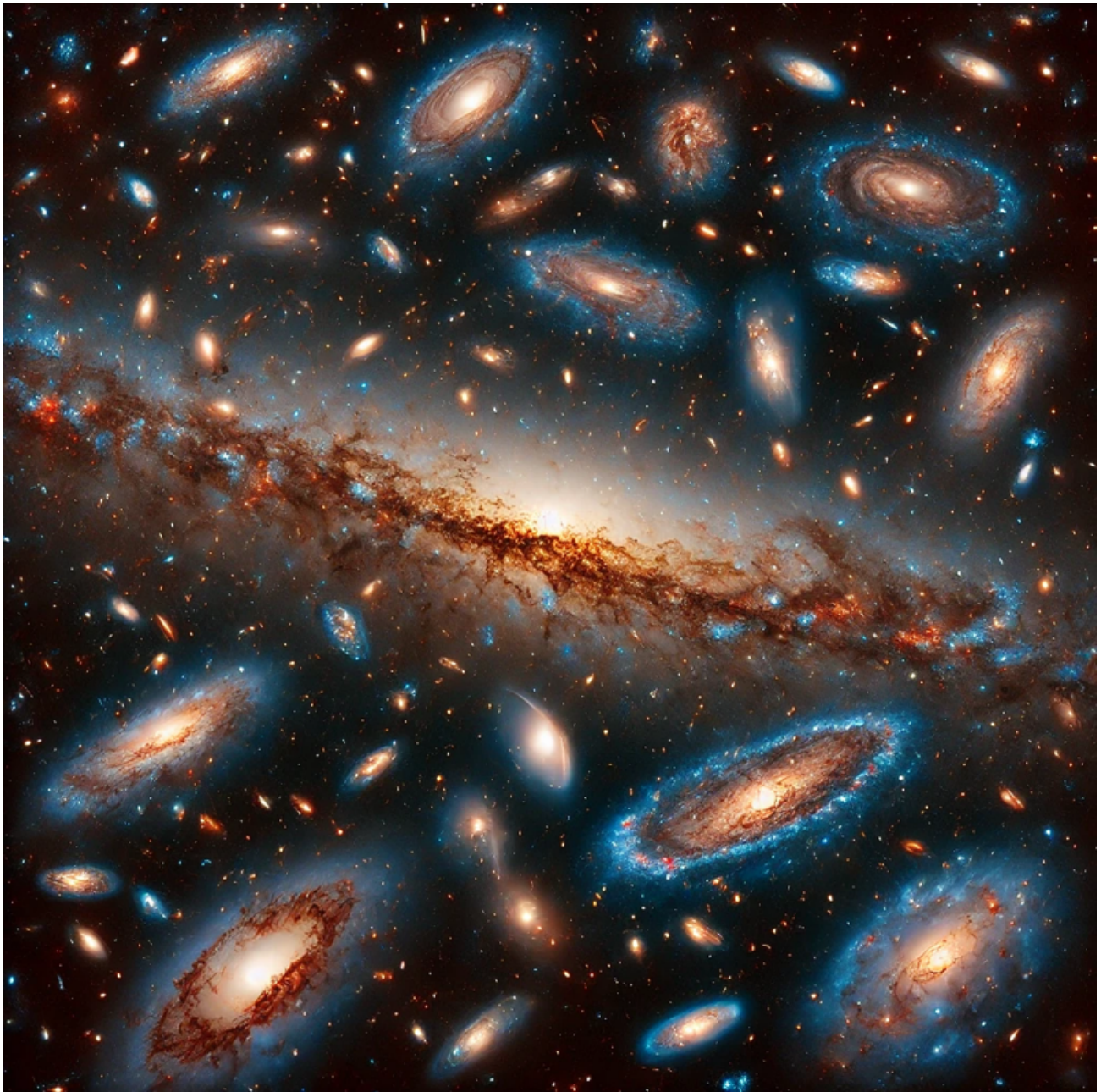
John clambered up, above a black-rot spur,  
to where five cherries clung-on like grim death.  
He did not see the powdered mildew fur.  
He did not see my anxious stifled breath.

He saw a hand of fruit; I saw the tree.  
The whole is where the symbol lies, it seems to me.

**Alan Wagstaff**

## VERY, VERY BIG

The scale of the universe and humanity's place within it.



## Very, Very Big

We need six months, claim Atlas engineers,  
to send a probe to Mars – to gather rust.  
The flight to Jupiter requires six **years!**  
We need **twelve years** to reach the Kuiper Dust.

But this is peanuts; this is chicken feed.  
To reach our nearest, neighbour star, we'd need  
some **eighty thousand years** - at Atlas speed.  
Centauri (Proxima) we've dubbed this star.  
It's far away – but not so very far.

To cross the Milky Way, entire, we'd take  
about **two thousand-million** weary years -  
provided that we never took a break  
to analyse the trillion atmospheres,  
around the trillion planets in our wake.

A trillion has twelve noughts to build its case.  
It's almost *big* - *but still our tale's not done*.  
There are a trillion galaxies in space;  
two-fifty billion stars swirl round each one.)  
(This is a very, very, flimsy guess,  
so take it as a ballpark - more-or-less.)

Let's claim there are four planets for each star.  
**(The totalled planets reach a massive size!)**  
Septillions crowd the universe – *thus far*.  
They set a stage that's ripe for strange Sci-Fi's.

And Earth is not the centre of this play;  
we humans are bit actors in the wings.  
Humility provides the surest way  
towards a universe of better things.

Alan Wagstaff

### The numerals

Two thousand million  
2,000,000,000

Trillion  
1,000,000,000,000

Septillion ( $10^{24}$ )  
A trillion, trillion.  
1,000,000,000,000,  
000,000,000,000



# THORNY QUESTIONS

Unanswered questions in science and the power of inquiry.



# Thorny Questions

Professor Loeb,

Most days, I'm ankle-deep in thorny questions.  
They litter bus-queues, stadiums, and pubs.  
I don't have any answers, or suggestions,  
but let them lie like crumpled betting-stubs.

These screeds of irksome queries are persistent.  
They whine, no matter how I tie the gag.  
Like limpets, they are fiercely wave resistant.  
I wish they'd all find someone else to nag.

Unanswered riddles, doggedly insistent,  
call out in chorus, begging me for clues:  
Are cosmic spaces infinitely distant?  
Did biologic life emerge from ooze?

Does sentience abound in far-flung places?  
Or is it thinly spaced and radon rare?  
Are universes spawned from nothing spaces?  
Must living things hold water and breathe air?

If F.T.L. is plausible, in theory,  
is Time a thread inventors might untwist?  
[Space/time's a woven fabric. So, the query:  
'Can time be ripped?' is added to the list.]

Are energetic puffballs so entangled  
they span the full expanse of space and time?  
And will the U.S. flag become star-spangled,  
as humans forge a cosmic paradigm?

Once many gods were used in explanation  
for everything that moves beneath the sun.  
But now, we posit 'One, for all creation',  
as Godness shrinks from many gods, to one.

Is there a God? This is THE thorny query,  
which sticks its head through every seeming gap.  
I offer up this navigation theory:  
'a plotted course has science as its map.'

Most days, I'm ankle-deep in thorny questions.  
They litter back streets, prison cells, and courts.  
I don't have any answers, or suggestions;  
Please R.S.V.P. with your blazing thoughts.

**Alan Wagstaff**



## Trash Bags

A garbage bag transformed before our eyes:  
a blink - and it became a treasure sack.  
She found her ring, mixed in with beans and fries,  
though once she thought she'd never get it back.

The New York Sanitation Crew collects  
about two million trash-bags every day.  
Gold rings and other undisclosed objects  
disinterest them. Their eyes have grown blasé.

When Milly's wedding ring was first retrieved,  
her joy and thanks erupted - loud and blunt.  
If bottled gratitude could be achieved,  
the garbage crews who drank would also hunt.

Though gems are tiny and the trash pile's huge,  
a single find would prompt a joy deluge.

Alan Wagstaff



## GRANDPA MOSS



## GRANDPA MOSS

Dear Grandpa Moss, were you, in part, awake,  
when I was still a doubtful, far-off grand-mistake,  
one hundred, seventy thousand 'greats' away -  
across a gulf, which tipped out human D.N.A?  
Did you decide, back then, which trackway you would take,  
to dodge life's drawbacks and its guaranteed heartache?  
*In summary, I ask, did mosses speculate  
about their future progeny and distant fate?*

Dear Grandma Oyster, did you ever wonder if  
your clan would swell to over-run this submerged cliff?  
Were you concerned with climate crisis, way-back-when,  
before the fecund Earth spawned motherhood and men?  
Did you have hopes? Was there a national oyster song?  
Were oyster-gods obsessed with rules of right and wrong?  
*It's hard to analyze - so please enlighten me,  
how much of me was you, when life was undersea.*

Dear Grandpa Beaver, did you ever give a damn,  
about the baffling puzzle of your own 'I am'?  
Long, long ago, when you revered your splendid teeth,  
did you consider Short-Tooth creatures were beneath  
contempt – a sidelined, minor caste of lesser worth?  
Did you assume that Big Tooth dominated Earth?  
*Please let me know how far along the road you came  
towards hubristic selfhood, self-obsessed with fame.*

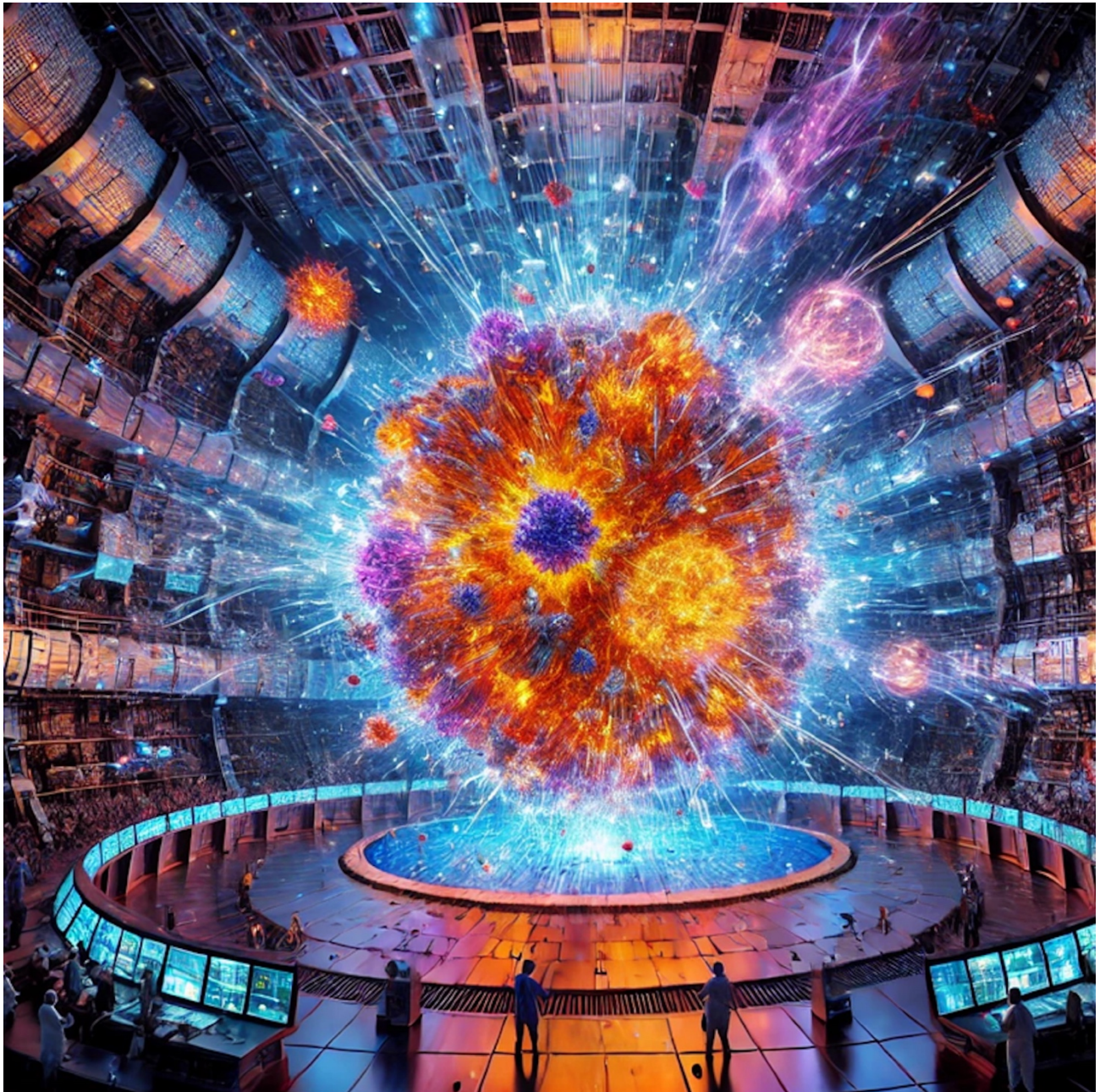
Dear Grandmother: my forebear, dubbed 'Erectus',  
did you foresee, or better still, expect us?  
Did you once sing, with John, life's 'getting better'?  
Were you a conscious, wide-awake begetter,  
who knew smart homo sapiens were drawing near;  
who knew that cosmic truths would gradually appear?  
Did you evolve a consciousness perspective,  
via moss and oysters? Were you introspective?  
*In short, did consciousness flash out, or did it creep  
in tiny steps, a thought-salt, not a sudden leap?*

Alan Wagstaff



# NUTRINO ZOO

Is particle physics in a cul-de-sac?



## Neutrino Zoo

'Let's go out treasure hunting', they exclaimed,  
'without a map, or 'X' to mark the spot!  
The loot's a ghost; so far, it's not been named,  
but prayers might guide us to the rainbow pot.

In any case, the coffers of the king,  
are filled with sovereigns from the public purse.  
And they have pledged to pay for everything.  
They married us – for better or for worse.'

In 1837 a bard proclaimed:  
'The Emperor's as foolish as a chimp.'  
Our Chancellor's embarrassed and ashamed;  
he doesn't know a preon from a simp.

Tax-payers sense they're being royally screwed,  
but cough up, while the Emperor stands nude.

**Alan Wagstaff**



# The Dong

exploring an expanding universe





# The Dong

*Earthboundness*, the upshot of frail craft,  
has left me feeling crestfallen and glum...  
The Chinese Dong\*, slow-drifting like a raft,  
slop-wallops through the void—a mere ‘ho-hum’.

At thirty-one-point-five-thou. k’s per hour,  
the Dong can hardly boast a luminous nose!  
A human life would pass before its power  
could glean from FarOut things God-only-knows.

That’s why I sit, inertia-ed to the bone  
and join the Dong in dozing into space.  
And somehow, drifting through a mem’ry zone,  
the nineteen-sixties rises, face-to-face.

I squat, once more, with Baba Hari Dass.  
Of course, the old man doesn’t say a word.  
The faithful gather round him on the grass.  
He scrawls some words that promise we’ll be cured:

“Be still, my friends, let silence fill your souls.  
Ignore the world - and let it pass you by.”  
It drew us in back then, like all black holes.  
Of course, he didn’t mention when, or why.

And chaos followed in his wake. His band  
of acolytes fell into civil war.  
But still... to stand quite still... in Nothing’s hand!  
The thought ignites me-to the very core.

In deep space, 25G light years out,  
some ‘Baba Dassing’ might let space recede.  
Then I would watch the universe in rout,  
while travelling twice as fast as light’s top speed.

Right then, I’d reinvent the lustrous Dong,  
and give him boundless verve inside his song.

## Alan Wagstaff

- 31,425 km/h (19,525 mph), or Mach 25.  
*This remarkable velocity was achieved by China’s Dongfeng-41*
- *FarFarOut (2018 AG37) is the most distant known planetoid in the Solar System, orbiting at an average distance of ~132 AU from the Sun, with a highly elongated path that takes it far beyond Pluto into the outer reaches of the Kuiper Belt.*

### Extract from

#### **The Dong with a Luminous Nose** *By Edward Lear (1877)*

Slowly it wanders—pauses—creeps,  
Anon it sparkles—flashes and leaps;  
And ever as onward it gleaming goes  
A light on the Bong-tree stems it throws.  
And those who watch at that midnight hour  
From Hall or Terrace or lofty Tower,  
Cry, as the wild light passes along,  
**"The Dong! The Dong!**  
**The wandering Dong through the forest**  
**goes!**  
**The Dong! The Dong!**  
**The Dong with a luminous nose!"**

# If You Were the Only Girl in the World

Rising sea-levels and climate change



# If You Were the Only Girl in the World

The beach detritus is resource enough.  
Biographies of bins, ships' ropes and spars  
do not concern us now. Utility  
is all we value in the flotsam trove.  
We rummage every day, at low tide, for  
line tangles, hooks, fence posts, and plastic sheets  
to supplement our meagre kit. Sealed crates  
bring Christmas every time they bob ashore.  
We break them open for the wood and nails,  
and snub, like kids, the bunkum stashed inside.

We pulled apart our signal pyre some months  
ago, to reinforce the shelter roof.  
We never bother to refashion it.

On cloudless days we scan the world's far rim,  
in hopes that hulks of ships will *not* appear.  
When this proves true, we wander, hand-in-hand,  
contented, to our shelter on the beach.

When I was twelve, an old man dum-di-dummed  
Nat Ayer's song - subjunctively correct:  
*'If you were the only girl in the world,  
And I were the only boy... dum, dum, dum.'*

The chorus loops and loops - but other lines  
are slippery and wriggle from my net.

'Nothing else would...' something, something - I forget.

**Alan Wagstaff**



## Naming of Parts



*Names do not constitute knowledge. However, some scientists enjoy the illusion that they know something about things by giving them names that reflect a particular interpretation.*

The Dark Age of Science. Medium

Avi Loeb

Mar 9, 2025

## Naming of Parts\*

Two days ago, I bought a fishing rod.  
I still can't tie a swivel to a line.  
But since I'd pledged to join a fishing squad  
of seasoned anglers (coworkers of mine)  
I had to learn the fisher's lexicon.  
I dreaded being dubbed a 'hanger-on',  
or worse, a poser, needed to resign.

The day arrived. We met at Half Moon Bay.  
The tide was in. The sun was set to rise.  
We lurched aboard the launch and cast away,  
the lust for big fish fervent in our eyes.  
The rods were stashed. The beer was chilly-binned.  
The sea was roughly calm, with little wind.  
I fretted that our vessel might capsize.

Awash with sinkers, hooks, lead-lines, and bait,  
I knew the time had come to spill the beans.  
"Shipmates," I said, "I need to set things straight.  
I'm ignorant of maritime routines:  
I hardly know a boat's bow from its stern.  
I might be green - but, still, I'm keen to learn.  
Explain your craft and what the jargon means."

Much fist bumping and back-slapping ensued.  
"Relax, Old Man, you're with the experts now.  
We are the fleet's elite; we're peer-reviewed.  
What we don't know, most anglers disavow.  
We built the glossary. We state what's true.  
Repeat our words and you can join the crew.  
The slang's a badge that makes us sound highbrow.

The team upturned a muddled tackle box.  
"This here's a whirly-gig; this is a snag.  
and these are gaudies, hefts and breaking blocks.  
We jig, we trawl; we troll, we drift, we drag -  
in hope phlogistons, mermaids, and the fey,  
will surface from miasmic depths one day.  
They'll net us trophies when they're in the bag."

I tried to stow away my puzzled frown.  
Cacophonies of noise confused my ears.  
The crew had flipped the fish world upside-down,  
by showing that they worked as sloganeers.  
I didn't learn a thing from their harangue,  
except that anglers use a vocal twang,  
and worry-guts about their fish careers.

**Alan Wagstaff**

\* The title is borrowed from Henry Reed's 1942 poem.



## Walking With Frost



*“Two roads diverged in a yellow wood,  
And sorry I could not travel both...”*

—Robert Frost, The Road Not Taken

# Walking With Frost

Two roads diverged inside a baffling wood.  
At different times I've hiked along them both;  
I trudged for miles, until I understood  
their winding ways – the best way that I could.  
Both roads were muddled by the undergrowth.

Both roads enticed me—each one just as fair,  
and neither way could make a stronger claim.  
The first, dubbed 'Wild', hung blossom everywhere;  
its primal scents swirled giddy on the air.  
The other blazed out, fervent as a flame.

This second, nick-named 'Bright', flashed precious stones.  
Its light glanced from a million mirrored planes,  
and bell-like notes in peals of crystal tones,  
pumped vital linctus to my aching bones,  
and thrust pure fire-ice deep into my veins.

I learned their back street road names, years ago.  
The Wild chose synonyms of 'How I Feel'.  
The Bright picked variants of 'Now We Know'.  
These themes are subtle street signs, which can show  
the way to navigate to what is real.

It's not that I am fixed to either road.  
I walk them both—and have no hesitation.  
Their combination moderates the load  
and clarifies the cypher in their code.  
The right path is to know the difference.

**Alan Wagstaff**



# Dynamo

Strange life exists in ice floes and steam vents.  
It burgeons where the sun's light cannot probe.  
Wherever Earth gifts heat and nutrients,  
life thrives - in every niche around the globe.

From tree-crown leaf-squalls down to spindrift roils,  
a swarm of life-forms jousts for food and breath.  
They braid bewildering genetic coils  
to stave off entropy and creeping death.

We try to marshal Life in corridors;  
time after time it splits each man-made box.  
(A taxological approach ignores  
life's bent for squirming free from doors and locks.)

Clenched constructs, like insisting Man and Wife,  
cannot reflect the dynamo of life.

Alan Wagstaff





## A Journey Between Two Worlds

Science and poetry—two disciplines often perceived as separate, even opposing. Yet, at their core, both seek to uncover truth, evoke wonder, and reveal the hidden patterns of the universe. *Different Suns* is an extraordinary collection that fuses the precision of scientific thought with the evocative power of poetry.

From the grandeur of the cosmos to the intimate complexity of DNA, these poems weave together the language of discovery and the rhythm of human experience. This book is for the curious mind—the scientist with a poet’s heart and the poet with a scientist’s vision.

Whether you are an astronomer contemplating distant galaxies, a philosopher pondering time, or a dreamer searching for meaning, *Different Suns* invites you to explore, question, and wonder.

**Dare to see the universe through both lenses.**