

Orbital Duologue

Tycho de Brahe (1546 - 1601)
Johannes Kepler (1571 - 1630)

I

Through time our solemn song must gently turn
The pages of the years to travel on;
Nigh sixty of them passed with scant concern
For aught the timid Canon wrote upon;
His turgid book set no one's heart a-churn
Until chance brought an annal baby, born
In 1571, called Johanne Kepler,
Upon the twenty-seventh of December.

II

In pretty Weil, in far-off Swabia
(By stately Rhine and Forest Black it lies),
The child's mind flashed like cutting rapier.
This herald nova, brillianting the skies,
None guessed as he pushed past the labia;
There's no foretelling genius in a baby's cries.
Wine-happy Weil would be forgotten now
If that prem baby had not made his row.

III

His father was an idle, drunken man
Who took for bride the innkeeper's swart daughter,
A gruesome creature, quarrelsome of clan,
Who used potents and herbs to try and flaunt her
Rites most magical, as only witches can -
And to the witch's pyre it almost brought her.
They tried to hang his father from a cart -
Young Kepler had an inauspicious start.

IV

More miserable a childhood had no boy;
A sickly child, with pasty face and mange,
Whose brutal father bullied him for joy;
A swearing house, a smelling loathsome grange,
Complete antithesis to the Savoy,
With aunts and uncles filled, all rather strange.
At four, his wretched parents went to war;
At nine to hard work bent, they were so poor.

V

Yet from this squalor, two small deeds recount
The mother's love behind the evil tongue:
The earth sliced from the moon a fair amount,
A comet with its tail wild-flaming, long
Across the sky, as nature's quoining fount.
These things played in his mind as mother's song,
As truth is claimed to be time's errant daughter,
Or ducks are drawn to running, fish-stocked water.

VI

Now some may question why a titchy child
Should skyward find release for fevered brain;
Eclipses of the moon are somewhat mild,
While comets come and go without restrain.
Perhaps they checked a childhood life rent wild
Like an umbrella checks cold drizzly rain;
Or isles in flooding fields give sanctuary,
Or Yanks seek solace from their attorney.

VII

Of he whose path would orbit Kepler's rock,
A silver spoon adorned his mouth, and more.
Named Tycho Brahe, from noble Danish stock,
His father governed close to Elsinor;
Yet he, too, faced a childhood psychic shock
When kidnapped by his uncle for a score.
This admiral had no children of his own,
So took his brother's child as ready grown.

VIII

This uncle foster-father turned to weeds
As many sailors do, through too much water.
Returning from a battle 'gainst the Swedes,
The king's horse thought there'd been too little slaughter
So tried to add the king's death to his deeds
By sliding on a bridge's icy mortar.
The king fell headlong in the stream below;
The admiral leapt to save him from the flow.

IX

Alas, he saved his king, but lost his life
From chills encountered in that frosty moat.
It took three days of fierce, remorseless strife
Before he slipped away his earthly coat.
Young Tycho ended up with just the wife,
Who cared not on this cuckoo child to dote.
She packed him off to university,
With hopes he might a noble statesman be.

X

A rival noble Danish youth had claimed
That maths could be advanced by brute contest.
Thus came the spat for which he's over famed -
A duel to ascertain which answered best.
They fought for knowledge, and Tycho was maimed,
With nose sliced off, to show his brain was blessed.
For truth, like honour, beauty, wealth and right
Falls victim when the only judge is might.

XI

To make amends for his lost gallant conk,
He made a monolith of beaten gold;
A cubist nose, with loud metallic honk,
Which ageless shone, while he grew old and bald.
Forever polished, yet forever cold,
One cough would scythe all, like a raiding stonk;
His nose became his constant inspiration,
Anointed daily with an embrocation.

XII

Why should a dilettante Danish fop
From wealth and leisure seek exactitude?
The ticking clocks of gold in heaven's backdrop
Pushed him to spurn a life of rectitude.
As Greek-predicted star charts were a flop,
He vowed to bring some Danish certitude;
He made a quadrant built of brass and oak -
A thirty-six foot monster to his yoke.

XIII

He fathered modern scientific way
By measuring to fractions of a minute.
Till Tycho, Aristotle's rule held sway:
"The laws of heaven lie beyond our limit;
One measure will unchanging stars display;
Three points a circle's circumference delimit."
Precision for precision's sake became
His sole religion, and deserved fame.

XIV

Three times in Tycho's life the heavens spoke:
Once, when the sun was hid, his heart had leapt;
Again, when planets in conjunction broke
The acquiescing silence that had morphic crept
Into men's minds a thousand years, and woke
Him to the errors that these savants kept;
Third, a supernova glowed where none had been;
Not since Hipparchus had new stars been seen.

XV

Young Tycho fixed its bearing to the inch;
He proved it did not move by one hair's breadth,
Which put God's institutions in a pinch
From fear it signalled rigid church's death,
For new stars make old theologians flinch
And several had to draw in deeper breath:
 "Immutable, the cloth of heaven should be -
 Change breaks perfection, and eternity."

XVI

A supernova is a marvellous sight -
The brightest death throes in the universe,
Which spawns new forms of matter to ignite
Young stars, and planets' people who converse
Of dire omens. Their prodigy delight
As seeds whom parents celebrate in verse,
 Though none of this could Tycho then surmise;
 His main delight was watching changing skies.

XVII

On hearing of young Tycho's reputation,
King Frederick, who'd recovered from his plunge,
Sent messengers to ride across the nation
With offers of a huge estate to sponge
For income through the power of degradation
(Perhaps he wished the admiral to expunge).
 Bold Tycho built upon the isle Hveen
 The largest astro-tower the world had seen.

XVIII

So Tycho came, with fulsome retinue
Of servant girls to fill each bath and whim,
A jester-dwarf to play the Fool when blue,
Dumb sycophants, fat cooks, three carvers trim,
A train of tailors bearing cloth to view;
All idled time, like ladies at a gym.
 His tame elk drank the beer and fell down stairs,
 To end up as a mention in his prayers.

XIX

Though gazing then was without telescope
(That gift had Galileo yet to know),
For twenty years he laboured, full of hope,
A mistress and his children down below,
And fine appearances above to cope
With aristocracy's vain fur and flow.
 A thousand stars touched by his astrolabe
 Were etched in steel upon a giant globe.

XX

His personal life was lived as feudal lord.
Such grand hauteur bred insolent disdain
Which festered through his subjects as discord;
He'd shackle helpless families to a chain,
For flouting trivial laws or tax ignored -
Then lock them in his dungeon for their pain,
Till forced to distant exile by his Prince;
Cruel arrogance makes moderate despots wince.

XXI

For Kepler, geometry was God himself,
Inherent in the world when time began.
Astronomers, who ladle heaven's wealth,
Interpret nature's laws like priests to man,
While horoscopes on Reason rule by stealth,
Directing our affairs with sweet élan.
But priests, who read this book of Nature's Laws,
Ought have the right to answers for each clause.

XXII

His friends selected carelessly a wife -
A stupid, sulking, ailing Xanthippe,
Twice widowed daughter of a miller's life
Who nagged her husband's work with asses' bray.
Her dowry brought more enmity and strife
Into this lowly teacher's joyless day.
Instead of friends' advice to tie the rope,
Young Kepler should have used his horoscope.

XXIII

From pulpits, warring clerics screamed blue oaths
Like fishwives, or his vile parents before.
He would not doff the Lutheran faith he chose,
Though fined for walking through a churchyard door
Bearing his daughter to her grave's repose;
The Catholic duke was narrow on that score.
Kepler kept Luther's vows, through beadledom:
"Keep faith, and shun hypocrisy's soft drum."

XXIV

Yet through these timeless, splenic, holy wars
Where priests donned righteous garb to vent their cant,
Young Kepler held that geometric laws
Reflected God in worlds more permanent,
Existing before man, and at death's pause;
To crack them would be truly excellent.
Five perfect solids, regular in shape,
In orbit locked five planets from escape.

XXV

Alas, his orbits had an ugly look;
Fresh data were required to ease their strain,
And none could better those which Tycho took,
So Kepler vowed to plunder his great brain.
Gruff Tycho, much impressed by Kepler's book,
Now asked the tyro to attend his train.
So when, at last, Kepler was forced to flee,
He rode to Tycho's court with open glee.

XXVI

To orbit like a comet, Kepler came,
First cautiously as often moves the poor,
Adducted by the power of might and name,
Held captive by the treasure through that door;
Pulled as by gravity to Tycho's fame,
He vowed to wrest Mars' orbit from his maw.
So each with each outvied to cut the knot
Which hid the curves on which the planets trot.

XXVII

And then, oh woe! embarrassing to tell,
While feasting with nobles of high office,
And Jepp the sultry Fool played one last knell,
Old Tycho drank too much and could not piss
So took to bed with belly like a bell.
For days he dangled over the abyss
And begged his life might not have seemed in vain;
So Kepler stole his notes to ease his pain.

XXVIII

He struggled for eight years with stubborn facts
Through countless sheets of complex algebra
By trying Tycho's golden data racks,
Computing perfect circles round our star.
"Who would have thought it possible," he cried,
"That this hypothesis, though on a par
With observed oppositions Tycho found
Is nevertheless false. The shape's not round!"

XXIX

Through eight years work, the ruthless facts remained
To taunt him with eight minutes tiny arc.
A lesser hero might such facts disdain -
Such lesser heroes love life in the dark.
But Kepler would not Tycho's wealth profane
So struggled till one shape at last stood stark.
One curve keeps Kepler's repute from eclipse:
"It's not a circle - this thing's an ellipse!"

XXX

But publishing, as many authors know,
Is oft beset with problems on the way.
The heirs of Tycho now became the foe
With eyes for gold, but set in minds of clay.
While tussling over who should run the show
They locked the instruments and notes away.
 The instruments decayed to worthless scrap;
 These little problems can delay a chap.

XXXI

Theology needs strong Authority
Whose weight will light the faith lent by God's word;
But noble logic rules philosophy,
And Reason is the voice which should be heard.
Though saints may suffer much atrocity,
Their rule on planets' movements seems absurd.
 The Holy Office stated: "Earth is fixed;"
 But Kepler prayed: "Let Law with Truth be mixed."

XXXII

Capricious fate, meanwhile, sent many slings
To frustrate Kepler's struggle for the stars.
His mother tried to fly on witch's wings
Till held for trial, constrained by man's cruel bars
And threatened with the stake. Such trying things
Disturb attempts to find orbits for Mars.
 When geometric models must be made,
 Despair and darkness lend an urgent blade.

XXXIII

Now plagues and bitter war made Kepler weep;
Prague lay at siege, his wife and child atomb.
His house, built on the outer city sweep,
Was filled with soldiers ramming flame and fume
And boom of cannon, breaking work and sleep,
As others stole lead from his printer's room.
 Rebelling peasants tried the town to raze,
 And learned books burn with a heady blaze,

XXXIV

While Kepler, without irony or mock,
The *Harmony of the World* wrote for delight,
Whose granite base formed Newton's solid rock.
Through anguished grit the last law came to light:
Once more he had to flee, or face the block,
And wandered like the Jew from night to night.
 With modest understatement for these frays,
 He said, "some incidents had caused delays."

XXXV

All thoughts of perfect circles were now axed,
Liberating thought for our rebirth;
The sun itself was displaced to the back,
A focus, not the centre, of our girth.
And he, who touched the planets in their tracks,
Set down his anchor in the quiet earth.
 Yet even death turned Kepler's restless lathe;
 The War of Thirty Years dispersed his grave.

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Tycho Brahe

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