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The Torch-Bearers

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VOL. I.

THE WATCHERS OF THE SKY

BY

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PREFATORY NOTE.

THIS volume, while it is complete in itself, is also the first of a trilogy, the scope of which is suggested in the prologue. The story of scientific discovery has its own epic unity—a unity of purpose and endeavour—the single torch passing from hand to hand through the centuries; and the great moments of science when, after long labour, the pioneers saw their accumulated facts falling into a significant order—sometimes in the form of a law that revolutionised the whole world of thought—have an intense human interest and belong essentially to the creative imagination of poetry. It is with these moments that my poem is chiefly concerned, not with any impossible attempt to cover the whole field or to make a new poetic system, after the Lucretian model, out of modern science.

The theme has been in my mind for a good many years; and the first volume, dealing with the 'Watchers of the Sky,' began to take definite shape during what was to me an unforgettable experience—the night I was privileged to spend on a summit of the Sierra Madre Mountains, when the first trial was made of the new 100-inch telescope. The prologue to this volume attempts to give a picture of that night, and to elucidate my own purpose.

The first tale in this volume plunges into the middle of things, with the revolution brought about by Copernicus ; but, within the tale, partly by means of an incidental lyric, there is an attempt to give a bird's-eye view of what had gone before. The torch then passes to Tycho Brahe, who, driven into exile with his tables of the stars, at the very point of death hands them over to a young man named Kepler. Kepler, with their help, arrives at his own great laws, and corresponds with Galileo—the intensely human drama of whose life I have endeavoured to depict with more historical accuracy than can be attributed to much of the poetic literature that has gathered around his name. Too many writers have succumbed to the temptation of the cry, “*E pur si muove!*” It is, of course, rejected by every reliable historian, and was first attributed to Galileo a hundred years after his death. M. Ponsard, in his play on the subject, succumbed to the extent of making his final scene end with Galileo “*frappant du pied la terre,*” and crying, “*pourtant elle tourne.*” Galileo's recantation was a far more subtle and tragically complicated affair than that. Even Landor succumbed to the easy method of making him display his entirely legendary scars to Milton. If these familiar pictures are not to be found in my poem, it may be well for me to assure the hasty reader that it is because I have endeavoured to present a more just picture. I have tried to suggest the complications of motive in this section by a series of letters passing between the characters chiefly concerned. There was, of course, a certain poetic significance in the legend of “*E pur si muove*”; and this significance

I have endeavoured to retain without violating historical truth.

In the year of Galileo's death Newton was born, and the subsequent sections carry the story on to the modern observatory again. The form I have adopted is a development from that of an earlier book, 'Tales of the Mermaid Tavern,' where certain poets and discoverers of another kind were brought together round a central idea, and their stories told in a combination of narrative and lyrical verse. 'The Torch-Bearers' flowed all the more naturally into a similar form in view of the fact that Tycho Brahe, Kepler, and many other pioneers of science wrote a considerable number of poems. Those imbedded in the works of Kepler—whose blazing and fantastic genius was, indeed, primarily poetic—are of extraordinary interest. I was helped, too, in the general scheme by those constant meetings between science and poetry, of which the most famous and beautiful are the visit of Sir Henry Wotton to Kepler, and the visit of Milton to Galileo in prison.

Even if science and poetry were as deadly opposites as the shallow often affirm, the method and scheme indicated above would at least make it possible to convey something of the splendour of the long battle for the light in its most human aspect. Poetry has its own precision of expression, and, in modern times, it has been seeking more and more for truth, sometimes even at the expense of beauty. May it not be possible to carry that quest a stage farther, to the point where, in the great rhythmical laws of the universe revealed by science, truth and beauty are reunited. If poetry can do this, it will not be

without some value to science itself, and it will be playing its part in the reconstruction of a shattered world.

The passing of the old order of dogmatic religion has left the modern world in a strange chaos, craving for something in which it can unfeignedly believe, and often following will-o'-the-wisps. Forty years ago, Matthew Arnold prophesied that it would be for poetry, "where it is worthy of its high destinies," to carry on the purer fire, and to express in new terms those eternal ideas which must ever be the only sure stay of the human race. It is not within the province of science to attempt a post-Copernican justification of the ways of God to man; but, in the laws of nature revealed by science, and in "that grand sequence of events which"—as Darwin affirmed—"the mind refuses to accept as the result of blind chance," poetry may discover its own new grounds for the attempt. It is easy to assume that all hope and faith are shallow. It is even easier to practise a really shallow and devitalising pessimism. The modern announcement that there is a skeleton an inch beneath the skin of man is neither new nor profound. Neither science nor poetry can rest there; and if, in this poem, an attempt is made to show that spiritual values are not diminished or overwhelmed by the "fifteen hundred universes" that passed in review before the telescope of Herschel, it is only after the opposite argument—so common and so easy to-day—has been faced; and only after poetry has at least endeavoured to follow the torch of science to its own deep-set boundary-mark in that immense darkness of Space and Time.

CONTENTS.

	PAGE
PROLOGUE	1
I. COPERNICUS	21
II. TYCHO BRAHE	37
III. KEPLER	104
IV. GALILEO	133
V. NEWTON	186
VI. WILLIAM HERSCHEL CONDUCTS	232
VII. SIR JOHN HERSCHEL REMEMBERS	245
EPILOGUE	272

The Torch-Bearers.



PROLOGUE.

THE OBSERVATORY.

AT noon, upon the mountain's purple
height,

Above the pine-woods and the clouds it
shone

No larger than the small white dome of
shell

Left by the fledgling wren when wings are
born.

By night it joined the company of heaven,
And, with its constant light, became a
star.

A needle-point of light, minute, remote,
It sent a subtler message through the
abyss,

Held more significance for the seeing eye
Than all the darkness that would blot it
out,

Yet could not dwarf it.

High in heaven it shone,
Alive with all the thoughts, and hopes, and
dreams

Of man's adventurous mind.

Up there, I knew
The explorers of the sky, a quiet throng
Of pioneers, made ready to attack
That darkness once again, and win new
worlds.

To-morrow night they hoped to crown the
toil

Of twenty years, and turn upon the
sky

The noblest weapon ever made by man.

War had delayed them. They had been
drawn away

Designing darker weapons. But no gun
Could outrange this.

“ To-morrow night ”—so wrote their chief
—“ we try
Our great new telescope, the hundred-inch.
Your Milton’s ‘ optic tube ’ has grown in
power
Since Galileo, famous, blind, and old,
Talked with him, in that prison, of the
sky.
We creep to power by inches. Europe
trusts
Her ‘ giant forty ’ still. Even to-night
Our own old sixty has its work to do ;
And now our hundred-inch . . . I hardly
dare
To think what this new muzzle of ours
may find.
Come up, and spend that night among the
stars
Here, on our mountain-top. If all goes
well,

Then, at the least, my friend, you'll see a
moon

Stranger, but nearer, many a thousand mile
Than earth has ever seen her, even in
dreams.

As for the stars, if seeing them were all,
Three thousand million new-found points
of light

Is our rough guess. But never speak of
this.

You know our press. They'd miss the
one result

To flash 'three thousand millions' round
the world."

To-morrow night! For more than twenty
years

They had thought and planned and worked.
Ten years had gone,

One-fourth, or more, of man's brief working-
life,

Before they made those solid tons of glass,
Their hundred-inch reflector, the clear
pool,

The polished flawless pool that it must be
To hold the perfect image of a star.
And, even now, some secret flaw—none
knew
Until to-morrow's test—might waste it all.
Where was the gambler that would stake
so much,—
Time, patience, treasure, on a single throw ?
The cost of it,—they'd not find that
again,
Either in gold or life-stuff! All their
youth
Was fuel to the flame of this one work.
Once in a lifetime to the man of science,
Despite what fools believe his ice-cooled
blood,
'There comes this drama.
If he fails, he fails
Utterly. He at least will have no time
For fresh beginnings. Other men, no
doubt,
Years hence, will use the footholes that he
cut

In those precipitous cliffs, and reach the
height,
But he will never see it.

So for me,
The light words of that letter seemed to
hide
The passion of a lifetime, and I shared
The crowning moment of its hope and fear.

Next day, through whispering aisles of
palm we rode
Up to the foot-hills, dreaming desert-hills
That to assuage their own delicious drought
Had set each tawny sun-kissed slope ablaze
With peach and orange orchards.

Up and up,
Along the thin white trail that wound and
climbed
And zig-zagged through the grey-green
mountain sage,
The car went crawling, till the shining
plain
Below it, like an airman's map, unrolled.

Houses and orchards dwindled to white
specks
In midget cubes and squares of tufted
green.
Once, as we rounded one steep curve, that
made
The head swim at the canyoned gulf
below,
We saw through thirty miles of lucid air
Elvishly small, sharp as a crumpled petal
Blown from the stem, a yard away, a sail
Lazily drifting on the warm blue sea.
Up for nine miles along that spiral trail
Slowly we wound to reach the lucid
height
Above the clouds, where that white dome
of shell,
No wren's now, but an eagle's, took the
flush
Of dying day. The sage-brush all died
out,
And all the southern growths, and round
us now,

Firs of the north, and strong, storm-
rooted pines
Exhaled a keener fragrance ; till, at last,
Reversing all the laws of lesser hills,
They towered like giants round us. Dark-
ness fell
Before we reached the mountain's naked
height.

Over us, like some great cathedral dome,
The observatory loomed against the sky ;
And the dark mountain with its headlong
gulfs
Had lost all memory of the world below ;
For all those cloudless throngs of glitter-
ing stars,
And all those glimmerings where the abyss
of space
Is powdered with a milky dust, each grain
A burning sun, and every sun the lord
Of its own darkling planets,—all those
lights
Met, in a darker deep, the lights of earth,

Lights on the sea, lights of invisible towns,
Trembling and indistinguishable from stars,
In those black gulfs around the mountain's
feet.

Then, into the glimmering dome, with
bated breath,

We entered, and, above us, in the gloom
Saw that majestic weapon of the light
Uptowering like the shaft of some huge gun
Through one arched rift of sky.

Dark at its base
With naked arms, the crew that all day
long
Had sweated to make ready for this night
Waited their captain's word.

The switchboard shone
With elfin lamps of white and red, and keys
Whence, at a finger's touch, that mon-
strous tube
Moved like a creature dowered with life
and will,
To peer from deep to deep.

Below it pulsed

The clock-machine that slowly, throb by
throb,
Timed to the pace of the revolving earth,
Drove the titanic muzzle on and on,
Fixed to the chosen star that else would
glide
Out of its field of vision.

So, set free
Balanced against the wheel of time, it
swung,
Or rested, while, to find new realms of
sky
The dome that housed it, like a moon
revolved,
So smoothly that the watchers hardly
knew
They moved within; till, through the
glimmering doors,
They saw the dark procession of the pines
Like Indian warriors, quietly stealing by.

Then, at a word, the mighty weapon
dipped

Its muzzle and aimed at one small point of
light,
One seeming insignificant star.

The chief,
Mounting the ladder, while we held our
breath,
Looked through the eye-piece.

Then we heard him laugh
His thanks to God, and hide it in a jest.

“ A prominence on Jupiter ! ”—

They laughed,
“ What do you mean ? ”—“ It’s moving, ”
cried the chief,

They laughed again, and watched his
glimmering face

High overhead against that moving tower.

“ Come up and see, then ! ”

One by one they went,
And, though each laughed as he returned
to earth,

Their souls were in their eyes.

Then I, too, looked,
And saw that insignificant spark of light

Touched with new meaning, beautifully
reborn,

A swimming world, a perfect rounded pearl,
Poised in the violet sky; and, as I gazed,
I saw a miracle,—right on its upmost
edge

A tiny mound of white that slowly rose,
Then, like an exquisite seed-pearl, swung
quite clear

And swam in heaven above its parent
world

To greet its three bright sister-moons.

A moon,
Of Jupiter, no more, but clearer far
Than mortal eyes had seen before from
earth.

Beautiful, keen and clear beyond all dreams
Was that one silver phrase of the starry
tune

Which Galileo's "old discoverer" first
Dimly revealed, dissolving into clouds
The imagined fabric of our universe.

"Jupiter stands in heaven and will stand

Though all the sycophants bark at him," he
cried,
Hailing the truth before he, too, went
down,
Whelmed in the cloudy wreckage of that
dream.

So one by one we looked, the men who
served

Urania, and the men from Vulcan's forge.

A beautiful eagerness in the darkness lit

The swarthy faces that too long had
missed

A meaning in the dull mechanic maze

Of labour on this blind earth, but found it
now.

Though only a moment's wandering melody

Hopelessly far above, it gave their toil

Its only consecration and its joy.

There, with dark-smouldering eyes and
naked throats,

Blue-dungareed, red-shirted, grimed and
smeared

With engine-grease and sweat, they gathered round
The foot of that dim ladder ; each muttering low
As he came down, his wonder at what he saw
To those who waited,—a picture for the brush
Of Rembrandt, lighted only by the rift
Above them, where the giant muzzle thrust
Out through the dim arched roof, and slowly throbbed,
Against the slowly moving wheel of the earth,
Holding their chosen star.

There, like an elf,
Perched on the side of that dark slanting tower,
The Italian mechanic watched the moons
That Italy discovered.

One by one,

English, American, French, and Dutch,
they climbed
To see the wonder that their own blind
hands
Had helped to achieve.
At midnight while they paused
To adjust the clock-machine, I wandered
out
Alone, into the silence of the night.
The silence? On that lonely height I
heard
Eternal voices ;
For, as I looked into the gulf beneath,
Whence almost all the lights had vanished
now,
The whole dark mountain seemed to have
lost its earth
And to be sailing like a ship through
heaven.
All round it surged the mighty sea-like
sound
Of sougning pine-woods, one vast ebb and
flow

Of absolute peace, aloof from all earth's
pain,

So calm, so quiet, it seemed the cradle-
song,

The deep soft breathing of the universe
Over its youngest child, the soul of man.

And, as I listened, that Æolian voice
Became an invocation and a prayer :

O you, that on your loftier mountain
dwell

And move like light in light among the
thoughts

Of heaven, translating our mortality
Into immortal song, is there not one

Among you that can turn to music now
This long dark fight for truth ? Not one
to touch

With beauty this long battle for the light,
This little victory of the spirit of man
Doomed to defeat—for what was all we
saw

To that which neither eyes nor soul could
see ?—

Doomed to defeat and yet unconquerable,
Climbing its nine miles nearer to the stars.
Wars we have sung. The blind, blood-
boltered kings
Move with an epic music to their thrones.
Have you no song, then, of that nobler
war ?
Of those who strove for light, but could
not dream
Even of this victory that they helped to
win,
Silent discoverers, lonely pioneers,
Prisoners and exiles, martyrs of the truth
Who handed on the fire, from age to age ;
Of those who, step by step, drove back
the night
And struggled, year on year, for one more
glimpse
Among the stars, of sovran law, their
guide ;
Of those who searching inward, saw the
rocks
Dissolving into a new abyss, and saw

To vision of that one Power which guides
the world.

How should men find it? Only through
those doors

Which, opening inward, in each separate soul
Give each man access to that Soul of all
Living within each life, not to be found
Or known, till, looking inward, each alone
Meets the unknowable and eternal God.

And there was one that moved like light
in light

Before me there,—Love, human and divine,
That can exalt all weakness into power,—
Whispering, *Take this deathless torch of
song . . .*

Whispering, but with such faith, that
even I

Was humbled into thinking this might be
Through love, though all the wisdom of
the world

Account it folly.

Let my breast be bared

To every shaft, then, so that Love be still
My one celestial guide the while I sing
Of those who caught the pure Promethean
fire

One from another, each crying as he went
down

To one that waited, crowned with youth
and joy,—

*Take thou the splendour, carry it out of sight
Into the great new age I must not know,
Into the great new realm I must not tread.*

I.

COPERNICUS.

THE neighbours gossiped idly at the door.

Copernicus lay dying overhead.

His little throng of friends, with startled
eyes,

Whispered together, in that dark house of
dreams,

From which by one dim crevice in the wall
He used to watch the stars.

“ His book has come
From Nuremberg at last ; but who would
dare

To let him see it now ? ”—

“ They have altered it !
Though Rome approved in full, this pre-
face, look,

Declares that his discoveries are a
dream ! ”—

“ He has asked a thousand times if it has
come ;

Could we tear out those pages ? ”—

“ He’d suspect.”—

“ What shall be done, then ? ”—

“ Hold it back awhile.

That was the priest’s voice in the room
above.

He may forget it. Those last sacraments
May set his mind at rest, and bring him
peace.”—

Then, stealing quietly to that upper door,
They opened it a little, and saw within
The lean white deathbed of Copernicus
Who made our world a world without an
end.

There, in that narrow room, they saw his
face

Grey, seamed with thought, lit by a single
lamp ;

They saw those glorious eyes

Closing, that once had looked beyond the
spheres
And seen our ancient firmaments dissolve
Into a boundless night.

Beside him knelt
Two women, like bowed shadows. At his
feet,
An old physician watched him. At his
head,
The cowed Franciscan murmured, while
the light
Shone faintly on the chalice.

All grew still.
The fragrance of the wine was like faint
flowers,
The first breath of those far celestial
fields. . . .

Then, like a dying soldier, that must leave
His last command to others, while the
fight
Is yet uncertain, and the victory far,
Copernicus whispered, in a fevered dream,

“ Yes, it is Death. But you must hold
him back,

There, in the doorway, for a little while,
Until I know the work is rightly done.

Use all your weapons, doctor. I must live
To see and touch one copy of my book.

Have they not brought it yet ?

They promised me
It should be here by nightfall.

One of you go
And hasten it. I can hold back Death
till dawn.

Have they not brought it yet?—from
Nuremberg.

Do not deceive me. I must know it safe,
Printed and safe, for other men to use.

I could die then. My use would be ful-
filled.

What has delayed them ? Will not some
one go

And tell them that my strength is running
out ?

Tell them that book would be an angel's
hand

In mine, an easier pillow for my head,
A little lantern in the engulfing dark.
You see, I hid its struggling light so long
Under too small a bushel, and I fear
It may go out for ever. In the noon
Of life's brief day, I could not see the need
As now I see it, when the night shuts down.
I was afraid, perhaps, it might confuse
The lights that guide us for the souls of
men.

But now I see three stages in our life.
At first, we bask contented in our sun
And take what daylight shows us for the
truth.

Then we discover, in some midnight grief,
How all day long the sunlight blinded us
To depths beyond, where all our know-
ledge dies.

That's where men shrink, and lose their
way in doubt.

Then, last, as death draws nearer, comes
a night
In whose majestic shadow men see God,
Absolute Knowledge, reconciling all.
So, all my life I pondered on that
scheme
Which makes this earth the centre of all
worlds,
Lighted and wheeled around by sun and
moon
And that great crystal sphere wherein
men thought
Myriads of lesser stars were fixed like
lamps,
Each in its place,—one mighty glittering
wheel
Revolving round this dark abode of man.
Night after night, with even pace they
moved,
Year after year, not altering by one point,
Their order, or their stations, those fixed
stars
In that revolving firmament. The Plough

Still pointed to the Pole. Fixed in their
sphere,

How else explain that vast unchanging
wheel ?

How, but by thinking all those lesser
lights

Were huger suns, divided from our earth
By so immense a gulf that, if they moved
Ten thousand leagues an hour among
themselves,

It would not seem one hair's-breadth to
our eyes.

Utterly inconceivable, I know ;

And yet we daily kneel to boundless
Power

And build our hope on that Infinitude.

This did not daunt me, then. Indeed, I
saw

Light upon chaos. Many discordant dreams
Began to move in lucid music now.

For what could be more baffling than the
thought

That those enormous heavens must circle
earth

Diurnally—a journey that would need
Swiftness to which the lightning-flash would
seem

A white slug creeping on the walls of night ;
While, if earth softly on her axle spun
One quiet revolution answered all.

It was our moving selves that made the
sky

Seem to revolve. Have not all ages seen
A like illusion baffling half mankind
In life, thought, art ? Men think, at every
turn

Of their own souls, the very heavens have
moved.

Light upon chaos, light, and yet more
light ;

For—as I watched the planets—Venus,
Mars,

Appeared to wax and wane from month to
month

As though they moved, now near, now far,
from earth.

Earth could not be their centre. Was the
sun

Their sovran lord then, as Pythagoras
held ?

Was this great earth, so stablished, so
secure,

A planet also ? Did it also move

Around the sun ? If this were true, my
friends,

No revolution in this world's affairs,

Not that blind maelstrom where imperial
Rome

Went down into the dark, could so engulf

All that we thought we knew. We who
believed

In our own majesty, we who walked with
gods

As younger sons on this proud central
stage,

Round which the whole bright firmament
revolved

For our especial glory, must we creep
Like ants upon our midget ball of dust
Lost in immensity ?

I could not take
That darkness lightly. I withheld my book
For many a year, until I clearly saw,
And Rome approved me—have they not
brought it yet ?—

That this tremendous music could not
drown

The still supernal music of the soul,
Or quench the light that shone when
Christ was born.

For who, if one lost star could lead the
kings

To God's own Son, would shrink from
following these

To His eternal throne ?

This at the least
We know, the soul of man can soar through
heaven.

It is our own wild wings that dwarf the
world

To nothingness beneath us. Let the soul
Take courage, then. If its own thought
 be true,
Not all the immensities of little minds
Can ever quench its own celestial fire.

No. This new night was needed, that the
 soul
Might conquer its own kingdom and arise
To its full stature. So, in face of death,
I saw that I must speak the truth I knew.

Have they not brought it? What delays
 my book?
I am afraid. Tell me the truth, my friends.
At this last hour, the Church may yet
 withhold
Her sanction. Not the Church, but those
 who think
A little darkness helps her.

 Were this true,
They would do well. If the poor light we
 win

Confuse or blind us, to the Light of lights,
Let all our wisdom perish. I affirm
A greater Darkness, where the one true
 Church
Shall after all her agonies of loss
And many an age of doubt, perhaps, to
 come,
See this processional host of splendours
 burn
Like tapers round her altar.

So I speak

Not for myself, but for the age unborn.
I caught the fire from those who went
 before,
The bearers of the torch who could not
 see
The goal to which they strained. I caught
 their fire,
And carried it, only a little way beyond ;
But there are those that wait for it, I
 know,
Those who will carry it on to victory.
I dare not fail them. Looking back, I see

Those others,—fallen, with their arms out-
stretched

Dead, pointing to the future.

Far, far back,

Before the Egyptians built their pyramids
With those dark funnels pointing to the
north,
Through which the Pharaohs from their
desert tombs
Gaze all night long upon the Polar Star,
Some wandering Arab crept from death to
life
Led by the Plough across those wastes of
pearl. . . .

Long, long ago—have they not brought it
yet ?

My book ?—I finished it one summer's
night,

And felt my blood all beating into song.

I meant to print those verses in my
book,

A prelude, hinting at that deeper night

Which darkens all our knowledge. Then
I thought
The measure moved too lightly.

Do you recall
Those verses, Elsa ? They would pass the
time.

How happy I was the night I wrote that
song ! ”

Then, one of those bowed shadows raised
her head
And, like a mother crooning to her child,
Murmured the words he wrote, so long ago.

In old Cathay, in far Cathay,
Before the western world began,
They saw the moving fount of day
Eclipsed, as by a shadowy fan ;
They stood upon their Chinese wall,
They saw his fire to ashes fade,
And felt the deeper slumber fall
On domes of pearl and towers of jade.

With slim brown hands, in Araby,
 They traced, upon the desert sand,
Their Rams and Scorpions of the sky,
 And strove—and failed—to understand.
Before their footprints were effaced
 The shifting sand forgot their rune ;
Their hieroglyphs were all erased,
 Their desert naked to the moon.

In Bagdad of the purple nights,
 Haroun Al Raschid built a tower,
Where sages watched a thousand lights
 And read their legends, for an hour.
The tower is down, the Caliph dead,
 Their astrolabes are wrecked with rust.
Orion glitters overhead,
 Aladdin's lamp is in the dust.

In Babylon, in Babylon,
 They baked their tablets of the clay ;
And, year by year, inscribed thereon
 The dark eclipses of their day ;

They saw the moving finger write
Its *Mene, Mene*, on their sun.
A mightier shadow cloaks their light,
And clay is clay in Babylon.

A shadow moved towards him from the
door.

Copernicus, with a cry, upraised his head.
“The book, I cannot see it, let me feel
The lettering on the cover.

It is here !

Put out the lamp, now. Draw those cur-
tains back,
And let me die with starlight on my face.
An angel’s hand in mine . . . yes ; I can
say
My *nunc dimittis* now . . . light, and more
light
In that pure realm whose darkness is our
peace.”

II.

TYCHO BRAHE.

I.

THEY thought him a magician, Tycho
 Brahe,
 Who lived on that strange island in the
 Sound,
 Nine miles from Elsinore.

His legend reached

The Mermaid Inn the year that Shake-
 speare died.

Fynes Moryson had brought his travellers'
 tales

Of Wheen, the heart-shaped isle where
 Tycho made

His great discoveries, and, with Jeppe, his
 dwarf,

And flaxen-haired Christine, the peasant
girl,
Dreamed his great dreams for five-and-
twenty years.
For there he lit that lanthorn of the law,
Uraniborg ; that fortress of the truth,
With Pegasus flying above its loftiest
tower,
While, in its roofs, like wide enchanted
eyes
Watching, the brightest windows in the
world,
Opened upon the stars.

Nine miles from Elsinore, with all those
ghosts,
There's magic enough in that ! But white-
cliffed Wheen,
Six miles in girth, with crowds of hunch-
back waves
Crawling all round it, and those moon-
struck windows,
Held its own magic, too ; for Tycho Brahe

By his mysterious alchemy of dreams
Had so enriched its soil, that when the
king
Of England wished to buy it, Denmark
asked
A price too great for any king on earth.
“Give us,” they said, “in scarlet car-
dinal’s cloth
Enough to cover it, and, at every corner,
Of every piece, a right rose-noble too ;
Then all that kings can buy of When is
yours.
Only,” said they, “a merchant bought it
once ;
And, when he came to claim it, goblins
flocked
All round him, from its forty goblin farms,
And mocked him, bidding him take away
the stones
That he had bought, for nothing else was
his.”
These things were fables. They were also
true.

They thought him a magician, Tycho
Brahe,
The astrologer, who wore the mask of gold.
Perhaps he was. There's magic in the
truth ;
And only those who find and follow its
laws
Can work its miracles.

Tycho sought the truth
From that strange year in boyhood when
he heard
The great eclipse foretold ; and, on the
day
Appointed, at the very minute even,
Beheld the weirdly punctual shadow creep
Across the sun, bewildering all the birds
With thoughts of evening.

Picture him, on that day,
The boy at Copenhagen, with his mane
Of thick red hair, thrusting his freckled
face
Out of his upper window, holding the
piece

Of glass he blackened above his candle-
flame

To watch that orange ember in the sky
Wane into smouldering ash.

He whispered there,
“So it is true. By searching in the
heavens,
Men can foretell the future.”

In the street
Below him, throngs were babbling of the
plague
That might or might not follow.

He resolved
To make himself the master of that deep
art,
And know what might be known.

He bought the books
Of Stadius with his tables of the stars.
Night after night, among the gabled roofs,
Climbing and creeping through a world
unknown
Save to the roosting stork, he learned to
find

The constellations, Cassiopeia's throne,
The Plough still pointing to the Polar
Star,
The sword-belt of Orion. There he watched
The movements of the planets, hours on
hours,
And wondered at the mystery of it all.

All this he did in secret, for his birth
Was noble, and such wonderings were a
sign
Of low estate, when Tycho Brahe was
young ;
And all his kinsmen hoped that Tycho
Brahe
Would live, serene as they, among his
dogs
And horses ; or, if honour must be won,
Let the superfluous glory flow from fields
Where blood might still be shed ; or from
those courts
Where statesmen lie. But Tycho sought
the truth.

So, when they sent him in his tutor's
charge
To Leipzig, for such studies as they held
More worthy of his princely blood, he
searched
The *Almagest* ; and while his tutor slept,
Measured the delicate angles of the stars,
Out of his window, with his compasses,
His only instrument. Even with this rude
aid
He found so many an ancient record
wrong
That more and more he burned to find
the truth.

One night at home, as Tycho searched the
sky,
Out of his window, compasses in hand,
Fixing one point upon a planet, one
Upon some loftier star, a ripple of laughter
Startled him, from the garden walk below.
He lowered his compass, peered into the
dark

And saw—Christine, the blue-eyed peasant
girl,
With bare brown feet, standing among the
flowers.

She held what seemed an apple in her
hand ;
And, in a voice that Aprilled all his blood,
The low soft voice of earth, drawing him
down
From those cold heights to that warm
breast of Spring,
A natural voice that had not learned to use
The false tones of the world, simple and
clear
As a bird's voice, out of the fragrant dark-
ness called,
“ I saw it falling from your window-ledge !
I thought it was an apple, till it rolled
Over my foot.

It's heavy. Shall I try
To throw it back to you ? ”

Tycho saw a stain

Of purple across one small arched glistening
foot.

“Your foot is bruised,” he cried.

“O no,” she laughed,
And plucked the stain off. “Only a petal,
see.”

She showed it to him.

“But this—I wonder now
If I can throw it.”

Twice she tried and failed ;
Or Tycho failed to catch that slippery
sphere.

He saw the supple body swaying below,
The ripe red lips that parted as she
laughed,
And those deep eyes where all the stars
were drowned.

At the third time he caught it ; and she
vanished,
Waving her hand, a little floating moth,
Between the pine-trees, into the warm
dark night.

He turned into his room, and quickly
thrust

Under his pillow that forbidden fruit ;
For the door opened, and the hot red face
Of Otto Brahe, his father, glowered at him.
“ What’s this ? What’s this ? ”

The furious-eyed old man
Limped to the bedside, pulled the mystery
out,

And stared upon the strangest apple of
Eve

That ever troubled Eden,—heavy as bronze,
And delicately enchased with silver stars,
The small celestial globe that Tycho bought
In Leipzig.

Then the storm burst on his head !
This moon - struck 'pothecary's - prentice
work,

These cheap-jack calendar-maker's gipsy
tricks

Would damn the mother of any Knutsdorp
squire,

And crown his father like a stag of ten.

Quarrel on quarrel followed from that
 night,
Till Tycho sickened of his ancient name ;
And, wandering through the woods about
 his home,
Found on a hill-top, ringed with fragrant
 pines,
A little open glade of whispering ferns.
Thither, at night, he stole to watch the
 stars ;
And there he told the oldest tale on
 earth
To one that watched beside him, one
 whose eyes
Shone with true love, more beautiful than
 the stars,
A daughter of earth, the peasant-girl,
 Christine.

They met there, in the dusk, on his last
 night
At home, before he went to Witten-
 berg.

They stood knee-deep among the whispering
 ferns,
And said good-bye.

 “ I shall return,” he said,
“ And shame them for their folly, who
 would set
Their pride above the stars, Christine,
 and you.

At Wittenberg or Rostoch I shall find
More chances and more knowledge. All
 those worlds
Are still to conquer. We know nothing
 yet ;
The books are crammed with fables. They
 foretell
Here an eclipse, and there a dawning moon,
But most of them were out a month or
 more
On Jupiter and Saturn.

 There's one way,
And only one, to knowledge of the law
Whereby the stars are steered, and so to
 read

The future, even perhaps the destinies
Of men and nations, — only one sure
way,
And that's to watch them, watch them,
and record
The truth we know, and not the lies we
dream.
Dear, while I watch them, though the hills
and sea
Divide us, every night our eyes can
meet
Among those constant glories. Every
night
Your eyes and mine, upraised to that
bright realm,
Can, in one moment, speak across the
world.
I shall come back with knowledge and with
power,
And you—will wait for me ? ”

She answered him

In silence, with the starlight of her eyes.

II.

He watched the skies at Wittenberg. The
plague
Drove him to Rostoch, and he watched
them there ;
But, even there, the plague of little minds
Beset him. At a wedding-feast he met
His noble countryman, Manderup, who
asked,
With mocking courtesy, whether Tycho
Brahe
Was ready yet to practise his black art
At country fairs. The guests, and Tycho,
laughed ;
Whereat the swaggering Junker blandly
sneered,
“ If fortune - telling fail, Christine will
dance,
Thus—tambourine on hip,” he struck a
pose.
“ Her pretty feet will pack that booth of
yours.”

They fought, at midnight, in a wood, with
swords.

And not a spark of light but those that
leapt

Blue from the clashing blades. Tycho
had lost

His moon and stars awhile, almost his life ;
For, in one furious bout, his enemy's
blade

Dashed like a scribble of lightning into the
face

Of Tycho Brahe, and left him spluttering
blood,

Groping through that dark wood with
outstretched hands,

To fall in a death-black swoon.

They carried him back
To Rostoch ; and when Tycho saw at last
That mirrored patch of mutilated flesh,
Seared as by fire, between the frank blue
eyes

And firm young mouth where, like a living
flower

Upon some stricken tree, youth lingered
still,
He'd but one thought, Christine would
shrink from him
In fear, or worse, in pity. An end had
come
Worse than old age, to all the glory of
youth.

Urania would not let her lover stray
Into a mortal's arms. He must remain
Her own, for ever ; and for ever, alone.

Yet, as the days went by, to face the
world,
He made himself a delicate mask of gold
And silver, shaped like those that minstrels
wear
At carnival in Venice, or when love,
Disguising its disguise of mortal flesh,
Wooes as a nameless prince from far away.
And when this world's day, with its blaze
and coil
Was ended, and the first white star awoke

In that pure realm where dreams may
 find their own,
His eyes and hers, meeting on Hesperus,
Renewed their troth.

 He seemed to see Christine,
Ringed by the pine-trees on that distant
 hill,
A small white figure, lost in space and
 time,
Yet gazing at the sky, and conquering all,
Height, depth, and heaven itself, by the
 sheer power
Of love at one with everlasting laws,
A love that shared the constancy of heaven,
And spoke to him across, above, the world.

III.

Not till he crossed the Danube did he find
Among the fountains and the storied eaves
Of Augsburg, one to share his task with
 him.

Paul Hainzel, of that city, greatly loved,

To talk with Tycho of the strange new
dreams

Copernicus had kindled. Did this earth
Move? Was the sun the centre of our
scheme?

And Tycho told him, there is but one way
To know the truth, and that's to sweep
aside

All the dark cobwebs of old sophistry,
And watch and learn that moving alphabet,
Each smallest silver character inscribed
Upon the skies themselves, noting them
down,

Till on a day we find them taking shape
In phrases, with a meaning; and, at last,
The hard-won beauty of that celestial book
With all its epic harmonies unfold
Like some great poet's universal song.

He was a great magician, Tycho Brahe.
"Hainzel," he said, "we have no magic
wand,

But what the truth can give us. If we find

Even with a compass, through a bedroom
window,
That half the glittering Almagest is wrong,
Think you, what noble conquests might
be ours,
Had we but nobler instruments.”

He showed
Quivering with eagerness, his first rude
plan
For that great quadrant,—not the wooden
toy
Of old Scultetus, but a kingly weapon,
Huge as a Roman battering-ram, and fine
In its divisions as any goldsmith’s work.
“It could be built,” said Tycho, “but the
cost
Would buy a dozen culverin for your wars.”
Then Hainzel, fired by Tycho’s burning
brain,
Answered, “We’ll make it. We’ve a war
to wage
On Chaos, and his kingdoms of the
night.”

They chose the cunningest artists of the
town,
Clock-makers, jewellers, carpenters, and
smiths,
And, setting them all afire with Tycho's
dream,
Within a month his dream was oak and
brass.

Its beams were fourteen cubits, solid oak,
Banded with iron. Its arch was polished
brass

Whereon five thousand exquisite divisions
Were marked to show the minutes of
degrees.

So huge and heavy it was, a score of men
Could hardly drag and fix it to its place
In Hainzel's garden.

Many a shining night,
Tycho and Hainzel, out of that maze of
flowers,
Charted the stars, discovering point by
point,

How all the records erred, until the fame
Of this new master, hovering above the
schools

Like a strange hawk, threatened the creep-
ing dreams

Of all the Aristotelians, and began
To set their mouse-holes twittering "Tycho
Brahe!"

Then Tycho Brahe came home, to find
Christine.

Up to that whispering glade of ferns he
sped,

At the first wink of Hesperus.

He stood

In shadow, under the darkest pine, to
hide

The little golden mask upon his face.

He wondered, will she shrink from me in
fear

Or loathing? Will she even come at all?

And, as he wondered, like a light she
moved

Before him.

“ Is it you ? ”—

“ Christine ! Christine,”

He whispered, “ It is I, the mountebank,
Playing a jest upon you. It’s only a mask !
Do not be frightened. I am here behind it.”

Her red lips parted, and between them
shone

The little teeth like white pomegranate
seeds.

He saw her frightened eyes.

Then, with a cry,

Her arms went round him, and her eyelids
closed.

Lying against his heart, she set her lips
Against his lips, and claimed him for her
own.

IV.

One frosty night, as Tycho bent his way
Home to the dark old abbey, he upraised
His eyes, and saw a portent in the sky.

There, in its most familiar patch of blue,
Where Cassiopeia's five-fold glory burned,
An unknown brilliance quivered, a huge
star

Unseen before, a strange new visitant
To heavens unchangeable, as the world
believed,
Since the creation.

Could new stars be born ?
Night after night he watched that miracle
Growing and changing colour as it grew ;
White at the first, and large as Jupiter ;
And, in the third month, yellow, and larger
yet ;

Red in the fifth month, like Aldebaran,
And larger even than Lyra. In the seventh,
Bluish like Saturn ; whence it dulled and
dwined

Little by little, till after eight months more
Into the dark abysmal blue of night,
Whence it arose, the wonder died away.
But, while it blazed above him, Tycho
brought

Those delicate records of two hundred
nights

To Copenhagen. There, in his golden mask,
At supper with Pratensis, who believed

Only what old books told him, Tycho met
Dancey, the French Ambassador, rainbow-
gay

In satin hose and doublet, supple and
thin,

Brown-eyed, and bearded with a soft black
tuft

Neat as a blackbird's wing,—a spirit as
keen

And swift as France on all the starry trails
Of thought.

He saw the deep and simple fire,
The mystery of all genius, in those eyes
Above the golden vizard.

Tycho raised
His wine-cup, brimming—they thought—
with purple dreams ;
And bade them drink to their triumphant
Queen

Of all the Muses, to their Lady of
Light

Urania, and the great new star.

They laughed,
Thinking the young astrologer's golden
mask

Hid a sardonic jest.

“The skies are clear,”
Said Tycho Brahe, “and we have eyes to
see.

Put out your candles. Open those windows
there !”

The colder darkness breathed upon their
brows,

And Tycho pointed, into the deep blue
night.

There, in their most immutable height of
heaven,

In *ipso cælo*, in the ethereal realm,
Beyond all planets, red as Mars it burned,
The one impossible glory.

“But it's true !”

Pratensis gasped ; then, clutching the first
straw,

“ Now I recall how Pliny the Elder said,
Hipparchus also saw a strange new star,
Not where the comets, not where the
Rosæ bloom

And fade, but in that solid crystal sphere
Where nothing changes.”

Tycho smiled, and showed
The record of his watchings.

“ But the world
Must know all this,” cried Dancey. “ You
must print it.”

“ Print it ? ” said Tycho, turning that
golden mask

On both his friends. “ Could I, a noble,
print

This trafficking with Urania in a book ?
They'd hound me out of Denmark ! This
disgrace

Of work, with hands or brain, no matter
why,

No matter how, in one who ought to dwell

Fixed to the solid upper sphere, my friends,
Would never be forgiven.”

Dancey stared
In mute amazement, but that mask of gold
Outstared him, sphinx-like, and inscrutable.

Soon through all Europe, like the blinded
moths,

Roused by a lantern in old palaces
Among the mouldering tapestries of
thought,

Weird fables woke and fluttered to and fro,
And wild-eyed sages hunted them for
truth.

The Italian, Frangipani, thought the star
The lost Electra, that had left her throne
Among the Pleiads, and plunged into the
night

Like a veiled mourner, when Troy town
was burned.

The German painter, Busch, of Erfurt,
wrote,

“ It was a comet, made of mortal sins ;
A poisonous mist, touched by the wrath
of God
To fire ; from which there would descend
on earth
All manner of evil—plagues and sudden
death,
Frenchmen and famine.”

Preachers thumped and raved.
Theodore Beza in Calvin's pulpit tore
His grim black gown, and vowed it was
the Star
That led the Magi. It had now returned
To mark the world's end and the Judgment
Day.
Then, in this hubbub, Dancey told the
king
Of Denmark, “ There is one who knows
the truth—
Your subject Tycho Brahe, who, night by
night,
Watched and recorded all that truth could
see.

It would bring honour to all Denmark,
sire,
If Tycho could forget his rank awhile,
And print these great discoveries in a
book,
For all the world to read.”

So Tycho Brahe
Received a letter in the king’s own hand,
Urging him, “ Truth is the one pure foun-
tain-head
Of all nobility. Pray forget your rank.”
His noble kinsmen echoed, “ If you wish
To please His Majesty and ourselves, forget
Your rank.”

“ I will,” said Tycho Brahe ;
“ Your reasoning has convinced me. I will
print
My book, ‘ *De Nova Stella.*’ And to prove
All you have said concerning temporal
rank
And this eternal truth you love so well,
I marry, to-day,”—they foamed, but all
their mouths

Were stopped and stuffed and sealed with
their own words,—
“ I marry to-day my own true love, Chris-
tine.”

v.

They thought him a magician, Tycho
Brahe.
Perhaps he was. There's magic all around
us
In rocks and trees, and in the minds of
men,
Deep hidden springs of magic.
He that strikes
The rock aright, may find them where he
will.

And Tycho tasted happiness in his hour.
There was a prince in Denmark in those
days ;
And, when he heard how other kings
desired
The secrets of this new astrology,

He said, " This man, in after years, will
bring

Glory to Denmark, honour to her prince.
He is a Dane. Give him this isle of Wheen,
And let him make his great discoveries
there.

Let him have gold to buy his instruments,
And build his house and his observatory.

So Tycho set this island where he lived
Whispering with wizardry ; and, in its
heart,

He lighted that strange lanthorn of the law,
And built himself that wonder of the world,
Uraniborg, a fortress for the truth,
A city of the heavens.

Around it ran

A mighty rampart twenty-two feet high,
And twenty feet in thickness at the base.
Its angles pointed north, south, east and
west,

With gates and turrets ; and, within this
wall,

Were fruitful orchards, apple, and cherry,
 and pear ;
And, sheltered in their midst from all
 but sun,
A garden, warm and busy with singing
 bees.
There, many an hour, his flaxen-haired
 Christine
Sang to her child, her first-born, Mag-
 dalen,
Or watched her playing, a flower among
 the flowers.
Dark in the centre of that zone of bliss
Arose the magic towers of Tycho Brahe.
Two of them had great windows in their
 roofs
Opening upon the sky where'er he willed,
And under these observatories he made
A library of many a golden book ;
Poets and sages of old Greece and Rome,
And many a mellow legend, many a dream
Of dawning truth in Egypt, or the dusk
Of Araby. Under all of these he made

A subterranean crypt for alchemy,
With sixteen furnaces ; and, under this,
He sank a well, so deep, that Jeppe de-
clared
He had tapped the central fountains of the
world,
And drew his magic from those cold clear
springs.

This was the very well, said Jeppe, the
dwarf,
Where Truth was hidden ; but, by Tycho
Brahe
And his weird skill, the magic water
flowed,
Through pipes, uphill, to all the house
above :
The kitchen where his cooks could broil a
trout
For sages or prepare a feast for kings ;
The garrets for the students in the roof ;
The guest-rooms, and the red room to the
north,

The study and the blue room to the south ;
The small octagonal yellow room that held
The sunlight like a jewel all day long,
And Magdalen, with her happy dreams, at
night ;

Then, facing to the west, one long green
room,

The ceiling painted like the bower of Eve
With flowers and leaves, the windows
opening wide

Through which Christine and Tycho Brahe
at dawn

Could see the white sails drifting on the
Sound

Like petals from their orchard.

To the north,
He built a printing house for noble books,
Poems, and those deep legends of the
sky,

Still to be born at his Uraniborg.

Beyond the rampart to the north arose

A workshop for his instruments. To the
south

A low thatched farm-house rambled round
a yard
Alive with clucking hens ; and, further yet
To southward on another hill, he made
A great house for his larger instruments,
And called it Stiernberg, mountain of the
stars.

And, on his towers and turrets, Tycho set
Statues with golden verses in the praise
Of famous men, the bearers of the torch,
From Ptolemy to the new Copernicus.
Then, in that storm-proof mountain of the
stars,
He set in all their splendour of new-made
brass
His armouries for the assault of heaven,—
Circles in azimuth, armillary spheres,
Revolving zodiacs with great brazen rings ;
Quadrants of solid brass, ten cubits broad,
Brass parallactic rules, made to revolve
In azimuth ; clocks with wheels ; an astro-
labe ;

And that large globe strengthened by oaken
beams

He made at Augsburg.

All his gold he spent ;

But Denmark had a prince in those great
days ;

And, in his brain, the dreams of Tycho
Brahe

Kindled a thirst for glory. So he made
Tycho the Lord of sundry lands and rents,
And Keeper of the Chapel where the kings
Of Oldenburg were buried ; for he said

“ To whom could all these kings entrust
their bones

More fitly than to him who read the stars,
And though a mortal, knew immortal
laws ;

And paced, at night, the silent halls of
heaven.

VI.

He was a great magician, Tycho Brahe.
There, on his island, for a score of years,

He watched the skies, recording star on
star,

For future ages, and, by patient toil,
Perfected his great tables of the sun,
The moon, the planets.

There, too happy far
For any history, sons and daughters rose,
A little clan of love, around Christine ;
And Tycho thought, when I am dead, my
sons

Will rule and work in my Uraniborg.
And yet a doubt would trouble him, for
he knew

The children of Christine would still be
held

Ignoble, by the world.

Disciples came,
Young-eyed and swift, the bearers of the
torch

From many a city to Uraniborg,
And Tycho Brahe received them like a king,
And bade them light their torches at his
fire.

The King of Scotland came, with all his
court,
And dwelt eight days in Tycho Brahe's
domain,
Asking him many a riddle, deep and dark,
Whose answer, none the less, a king should
know.

What boots it on this earth to be a king,
To rule a part of earth, and not to know
The worth of his own realm, whether he
rule
As God's vice-gerent, and his realm be
still

The centre of the centre of all worlds ;
Or whether, as Copernicus proclaimed,
This earth itself be moving, a lost grain
Of dust among the innumerable stars ?
For this would dwarf all glory but the
soul,
In king or peasant, that can hail the truth,
Though truth should slay it."

So to Tycho Brahe,
The king became a subject for eight days.

But, in the crowded hall, when he had
gone,
Jeppe raised his matted head, with a
chuckle of glee,
Quiet as the gurgle of joy in a dark rock-
pool,
When the first ripple and wash of the first
spring-tide
Flows bubbling under the dry sun-black-
ened fringe
Of seaweed, setting it all afloat again,
In magical colours, like a merman's
hair.
"Jeppe has a thought," the gay young
students cried,
Thronging him round, for all believed that
Jeppe
Was fey, and had strange visions of the
truth.
"What is the thought, Jeppe?"
"I can think no thoughts,"
Croaked Jeppe. "But I have made myself
a song."

“ Silence,” they cried, “ for Jeppe the
nightingale !

Sing, Jeppe ! ”

And, wagging his great head to and fro
Before the fire, with deep dark eyes, he
crooned :

THE SONG OF JEPPE.

“ What ! ” said the king,

“ Is earth a bird or bee ?

Can this uncharted boundless realm of
ours

Drone thro’ the sky, with leagues of
struggling sea,

Forests, and hills, and towns, and palace-
towers ? ”

“ Ay,” said the dwarf,

“ I have watched from Stiernborg’s
crown

Her far dark rim uplift against the sky ;
But, while earth soars, men say the stars
go down ;

And, while earth sails, men say the stars
go by.”

An elvish tale !

Ask Jeppe, the dwarf ! *He* knows.

That's why his eyes look fey ; for,
chuckling deep,

Heels over head amongst the stars he
goes,

As all men go ; but most are sound
asleep.

King, saint, and sage,

Even those that count it true,

Act as this miracle touched them not
at all.

They are borne, undizzied, thro' the rush-
ing blue,

And build their empires on a sky-tossed
ball.

Then said the king,

“ If earth so lightly move,

What of my realm ? O, what shall now
stand sure ? ”

“ Nought,” said the dwarf, “ in all this
world, but love.

All else is dream-stuff and shall not
endure.

'Tis nearer now !

Our universe hath no centre,
Our shadowy earth and fleeting heavens
no stay,
But that deep inward realm which each
can enter,
Even Jeppe, the dwarf, by his own
secret way."

"Where ?" said the king,

"O, where ? I have not found it !"

"Here," said the dwarf, and music
echoed "here."

"This infinite circle hath no line to bound
it ;

Therefore that deep strange centre is
everywhere.

Let the earth soar thro' heaven, that
centre abideth ;

Or plunge to the pit, His covenant still
holds true.

In the heart of a dying bird, the Master
hideth ;

In the soul of a king," said the dwarf,
"and in *my* soul, too."

VII.

Princes and courtiers came, a few to seek
A little knowledge, many more to gape
In wonder at Tycho's gold and silver mask ;
Or when they saw the beauty of his towers,
Envy and hate him for them.

Thus arose
The small grey cloud upon the distant sky,
That broke in storm at last.

“ Beware,” croaked Jeppe,
Lifting his shaggy head beside the fire,
When guests like these had gone, “ Master,
beware ! ”

And Tycho of the frank blue eyes would
laugh.

Even when he found Witichius playing
him false,

His anger, like a momentary breeze,
Died on the dreaming deep ; for Tycho
Brahe

Turned to a nobler riddle,—“ Have you
thought,”

He asked his young disciples, "how the
sea

Is moved to that strange rhythm we call
the tides ?

He that can answer this shall have his
name

Honoured among the bearers of the torch
While Pegasus flies above Uraniborg.

I was delayed three hours or more to-
day

By the neap-tide. The fishermen on the
coast

Are never wrong. They time it by the
moon.

Post hoc, perhaps, not *propter hoc* ; and
yet

Through all the changes of the sky and
sea

That old white clock of ours with the
battered face

Does seem infallible.

There's a love-song too,
The sailors on the coast of Sweden sing,

I have often pondered it. Your courtly
poets
Upbraid the inconstant moon. But these
men know
The moon and sea are lovers, and they
move
In a most constant measure. Hear the
words
And tell me, if you can, what silver
chains
Bind them together." Then, in a voice as
low
And rhythmical as the sea, he spoke that
song :

THE SHEPHERDESS OF THE SEA.

Reproach not yet our sails' delay ;
You cannot see the shoaling bay,
The banks of sand, the fretful bars,
That ebb left naked to the stars.

The sea's white shepherdess, the moon,
Shall lead us into harbour soon.

Dear, when you see her glory shine
Between your fragrant boughs of pine,
Know there is but one hour to wait
Before her hands unlock the gate,
 And the full flood of singing foam
 Follow her lovely footsteps home.

Then waves like flocks of silver sheep
Come rustling inland from the deep,
And into rambling valleys press
Behind their heavenly shepherdess.
 You cannot see them ? Lift your eyes
 And see their mistress in the skies.

She rises with her silver bow.
I feel the tide begin to flow ;
And every thought and hope and dream
Follow her call, and homeward stream.
Borne on the universal tide,
The wanderer hastens to his bride.
 The sea's white shepherdess, the moon,
 Shall lead him into harbour soon.

Were there not great estates bestowed
upon him
In wisdom's name, that from the dawn of
time
Had been the natural right of Junkerdom ?
And would he not bequeath them to his
heirs,
The children of Christine, an unfree woman?
“Why you, sire, even you,” they told the
king,
“He has made a laughing-stock. That
horoscope
He read for you, the night when you were
born,
Printed, and bound it in green velvet,
too,—
Read it. The whole world laughs at it.
He said
That Venus was the star that ruled your
fate,
And Venus would destroy you. Tycho
Brahe
Inspired your royal father with the fear

That kept your youth so long in leading-
strings,
The fear that every pretty hedgerow flower
Would be your Circe. So he thought to
avenge
Our mockery of this peasant-girl, Christine,
To whom, indeed, he plays the faithful
swine,
Knowing full well his gold and silver nose
Would never win another.”

Thus the sky

Darkened above Uraniborg, and those
Who dwelt within it, till one evil day,
One seeming happy day, when Tycho
marked
The seven-hundredth star upon his chart,
Two pompous officers from Walchendorp,
The chancellor, knocked at Tycho's eastern
gate.
“We are sent,” they said, “to see and to
report
What use you make of these estates of
yours.

Your alchemy has turned more gold to
lead

Than Denmark can approve. The uses
now !

Show us the uses of this work of yours."

Then Tycho showed his tables of the stars,
Seven hundred stars, each noted in its
place

With exquisite precision, the result
Of watching heaven for five-and-twenty
years.

"And is this all ?" they said.

They thought to invent
Some ground for damning him. The truth
alone

Would serve them, as it seemed. For these
were men

Who could not understand.

"Not all, I hope,"
Said Tycho, "for I think, before I die,
I shall have marked a thousand."

"To what end ?

When shall we reap the fruits of all this
toil ?

Show us its uses.”

“In the time to come,”

Said Tycho Brahe, “perhaps a hundred
years,

Perhaps a thousand, when our own poor
names

Are quite forgotten, and our kingdoms dust,

On one sure certain day, the torch-bearers

Will, at some point of contact, see a light

Moving upon this chaos. Though our eyes

Be shut for ever in an iron sleep,

Their eyes shall see the kingdom of the
law,

Our undiscovered cosmos. They shall see
it,—

A new creation rising from the deep,

Beautiful, whole.

We are like men that hear

Disjointed notes of some supernal choir.

Year after year, we patiently record

All we can gather. In that far-off time,

A people that we have not known shall
hear them,
Moving like music to a single end.”

They could not understand : this life that
sought
Only to bear the torch and hand it on ;
And so they made report that all the
dreams
Of Tycho Brahe were fruitless ; perilous,
too,
Since he avowed that any fruit they bore
Would fall, in distant years, to alien hands.

Little by little, Walchendorp withdrew
His rents from Tycho Brahe, accusing him
Of gross neglects. The Chapel at Roskilde
Was falling into ruin. Tycho Brahe
Was Keeper of the Bones of Oldenburg,
He must rebuild the Chapel. All the
gifts
That Frederick gave to help him in his
task,

Were turned to stumbling-blocks ; till,
 one dark day,

He called his young disciples round him
 there,

And in that mellow library of dreams,
Lit by the dying sunset, poured his heart
And mind before them, bidding them fare-
 well.

Through the wide-open windows as he
 spoke

They heard the sorrowful whisper of the
 sea

Ebbing and flowing around Uraniborg.

“An end has come,” he said, “to all we
 planned.

Uraniborg has drained her treasury dry.

Your Alma Mater now must close her gates
On you, her guests ; on me ; and, worst
 of all,

On one most dear, who made this place
 my home.

For you are young, your homes are all to
 win,

And you would all have gone your separate
ways

In a brief while ; and, though I think you
love

Your college of the skies, it could not
mean

All that it meant to those who called it
'home.'

You that have worked with me, for one
brief year,

Will never quite forget Uraniborg.

This room, the sunset gilding all those
books,

The star-charts, and that old celestial
globe,

The long bright evenings by the winter fire,

The talk that opened heaven, the songs
you sung,

Yes, even, I think, the tricks you played
with Jeppe,

Will somehow, when yourselves are grow-
ing old,

Be hallowed into beauty, touched with
tears,
For you will wish they might be yours
again.

These have been mine for five-and-twenty
years,
And more than these,—the work, the
dreams I shared
With you, and others here. My heart will
break
To leave them. But the appointed time
has come
As it must come to all men.

You and I

Have watched too many constant stars to
dream
That heaven or earth, the destinies of men
Or nations, are the sport of chance. An
end
Comes to us all through blindness, age, or
death.
If mine must come in exile, it shall find me

Bearing the torch as far as I can bear it,
Until I fall at the feet of the young runner,
Who takes it from me, and carries it out
of sight,
Into the great new age I shall not know,
Into the great new realms I must not tread.
Come, then, swift-footed, let me see you
stand
Waiting before me, crowned with youth
and joy,
At the next turning. Take it from my
hand,
For I am almost ready now to fall.

Something I have achieved, yes, though
I say it,
I have not loitered on that fiery way.
And if I front the judgment of the wise
In centuries to come, with more of dread
Than my destroyers, it is because this work
Will be of use, remembered and appraised,
When all their hate is dead.

I say the work,

Not the blind rumour, the glory or fame
of it.

These observations of seven hundred stars
Are little enough in sight of those great
hosts

Which nightly wheel around us, though I
hope,

Yes, I still hope, in some more generous
land

To make my thousand up before I die.

Little enough, I know,—a midget's work !

The men that follow me, with more deli-
cate art

May add their tens of thousands ; yet my
sum

Will save them just that five-and-twenty
years

Of patience, bring them sooner to their
goal,

That kingdom of the law I shall not see.

We are on the verge of great discoveries.

I feel them as a dreamer feels the dawn

Before his eyes are opened. Many of you

Will see them. In that day you will recall
This, our last meeting at Uraniborg,
And how I told you that this work of
ours

Would lead to victories for the coming age.
The victors may forget us. What of that ?
Theirs be the palms, the shouting, and the
praise.

Ours be the fathers' glory in the sons.
Ours the delight of giving, the deep joy
Of labouring, on the cliff's face, all night
long,

Cutting them foot-holes in the solid rock,
Whereby they climb so gaily to the heights,
And gaze upon their new-discovered worlds.
You will not find me there. When you
descend,

Look for me in the darkness at the foot
Of those high cliffs, under the drifted
leaves.

That's where we hide at last, we pioneers,
For we are very proud, and must be sought
Before the world can find us, in our graves.

There have been compensations. I have
seen

In darkness, more perhaps than eyes can see
When sunlight blinds them on the moun-
tain-tops ;

Guessed at a glory past our mortal range,
And only mine because the night was mine.

Of those three systems of the universe,
The Ptolemaic, held by all the schools,
May yet be proven false. We yet may find
This earth of ours is not the sovereign lord
Of all those wheeling spheres. Ourselves
have marked

Movements among the planets that forbid
Acceptance of it wholly. Some of these
Are moving round the sun, if we can trust
Our years of watching. There are stranger
dreams.

This radical, Copernicus, the priest,
Of whom I often talked with you, declares
All of these movements can be reconciled,
If—a hypothesis only—we should take

The sun itself for centre, and assume
That this huge earth, so 'stablished, so
secure
In its foundations, is a planet also,
And moves around the sun.

I cannot think it.
This leap of thought is yet too great
for me.

I have no doubt that Ptolemy was wrong.
Some of his planets move around the sun.
Copernicus is nearer to the truth
In some things. But the planets we have
watched
Still wander from the course that he
assigned.

Therefore, my system, which includes the
best
Of both, I hold may yet be proven true.
This earth of ours, as Jeppe declared one
day,
So simply that we laughed, is 'much too big
To move,' so let it be the centre still,
And let the planets move around their sun ;

But let the sun with all its planets move
Around our central earth.

This at the least
Accords with all we know, and saves man-
kind
From that enormous plunge into the
night ;
Saves them from voyaging for ten thousand
years
Through boundless darkness without sight
of land ;
Saves them from all that agony of loss,
As one by one the beacon-fires of faith
Are drowned in blackness.

I beseech you, then,
Let me be proven wrong, before you take
That darkness lightly. If at last you find
The proven facts against me, take the
plunge.
Launch out into that darkness. Let the
lamps
Of heaven, the glowing hearth-fires that
we knew

Die out behind you, while the freshening
wind
Blows on your brows, and overhead you see
The stars of truth that lead you from your
home.

I love this island,—every little glen,
Hazel-wood, brook, and fish-pond ; every
bough
And blossom in that garden ; and I hoped
To die here. But it is not chance, I know,
That sends me wandering through the
world again.

My use perhaps is ended ; and the power
That made me, breaks me.”

As he spoke, they saw
The tears upon his face. He bowed his
head

And left them silent in the darkened room.
They saw his face no more.

The self-same hour,
Tycho, Christine, and all their children, left
Their island-home for ever. In their ship

They took a few of the smaller instruments,

And that most precious record of the stars,
His legacy to the future. Into the night
They vanished, leaving on the ghostly
cliffs

Only one dark, distorted, dog-like shape
To watch them, sobbing, under its matted
hair,

“ Master, have you forgotten Jeppe, your
dwarf ? ”

IX.

He was a great magician, Tycho Brahe,
And yet his magic, under changing skies,
Could never change his heart, or touch the
hills

Of those far countries with the tints of
home.

And, after many a month of wandering,
He came to Prague ; and, though with
open hands

Rodolphe received him, like an exiled king,

A new Æneas, exiled for the truth
(For so they called him), none could heal
the wounds

That bled within, or lull his grief to sleep
With that familiar whisper of the waves,
Ebbing and flowing around Uraniborg.

Doggedly still he laboured ; point by point,
Crept on, with aching heart and burning
brain,

Until his table of the stars had reached
The thousand that he hoped, to crown his
toil.

But Christine heard him murmuring in the
night,

“ The work, the work ! Not to have lived
in vain !

Into whose hands can I entrust it all ?

I thought to find him standing by the way,
Waiting to seize the splendour from my
hand,

The swift, the young-eyed runner with the
torch.

Let me not live in vain, let me not fall
Before I yield it to the appointed soul.”
And yet the Power that made and broke
him heard :

For, on a certain day, to Tycho came
Another exile, guided through the dark
Of Europe by the starlight in his eyes,
Or that invisible hand which guides the
world.

He asked him, as the runner with the
torch

Alone could ask, asked as a natural right
For Tycho's hard-won life-work, those
results,

His tables of the stars. He gave his name
Almost as one who told him, *It is I*;

And yet unconscious that he told; a
name

Not famous yet, though truth had marked
him out

Already, by his exile, as her own,—
The name of Johann Kepler.

“ It was strange,”

Wrote Kepler, not long after, " for I asked
Unheard-of things, and yet he gave them
to me

As if I were his son. When first I saw him,
We seemed to have known each other
years ago

In some forgotten world. I could not
guess

That Tycho Brahe was dying. He was
quick

Of temper, and we quarrelled now and
then,

Only to find ourselves more closely bound
Than ever. I believe that Tycho died
Simply of heartache for his native land.

For though he always met me with a
smile

Or jest upon his lips, he could not sleep
Or work, and often unawares I caught
Odd little whispered phrases on his lips
As if he talked to himself, in a kind of
dream.

Yet I believe the clouds dispersed a little

Around his deathbed, and with that strange
joy

Which comes in death, he saw the un-
changing stars.

Christine was there. She held him in her
arms.

I think, too, that he knew his work was
safe.

An hour before he died, he smiled at me,
And whispered,—what he meant I hardly
know—

Perhaps a broken echo from the past,
A fragment of some old familiar thought,
And yet I seemed to know. It haunts me
still :

*‘Come then, swift-footed, let me see you
stand,*

*Waiting before me, crowned with youth and
joy ;*

*This is the turning. Take it from my hand.
For I am ready, ready now, to fall.’”*

III.

KEPLER.

JOHN KEPLER, from the chimney corner,
watched

His wife Susannah, with her sleeves rolled
back

Making a salad in a big blue bowl.

The thick tufts of his black rebellious hair
Brushed into sleek submission ; his trim
beard

Snug as the soft round body of a thrush
Between the white wings of his fan-shaped
ruff

(His best, with the fine lace border) spoke
of guests

Expected ; and his quick grey humorous
eyes,

His firm red whimsical pleasure-loving
mouth,
And all those elvish twinklings of his face,
Were lit with eagerness. Only between
his brows,
Perplexed beneath that subtle load of
dreams,
Two delicate shadows brooded.

“What does it mean?
Sir Henry Wotton’s letter breathed a hint
That Italy is prohibiting my book,”
He muttered. “Then, if Austria damns
it too,
Susannah mine, we may be forced to choose
Between the truth and exile. When he
comes,
He’ll tell me more. Ambassadors, I sup-
pose,
Can only write in cipher, while our world
Is steered to heaven by murderers and
thieves;
But, if he’d wrapped his friendly warnings
up

In a verse or two, I might have done more
work

These last three days, eh, Sue ? ”

“ Look, John,” said she,
“ What beautiful hearts of lettuce ? Tell
me now

How shall I mix it ? Will your English
guest

Turn up his nose at dandelion leaves

As crisp and young as these ? They’ve
just the tang

Of bitterness in their milk that gives a
relish

And makes all sweet ; and that’s philo-
sophy, John.

Now—these spring onions ! Would his
Excellency

Like sugared rose-leaves better ? ”

“ He’s a poet,
Not an ambassador only, so I think
He’ll like a cottage salad.”

“ A poet, John !
I hate their arrogant little insect ways !

I'll put a toadstool in."

" Poets, dear heart,
Can be divided into two clear kinds,—
One that, by virtue of a half-grown brain,
Lives in a silly world of his own making,
A bubble, blown by himself, in which he
flits

And dizzily bombinates, chanting ' I, I, I,'
For there is nothing in the heavens above
Or the earth, or hell beneath, but goes to
swell

His personal pronoun. Bring him some
dreadful news

His dearest friend is burned to death,—
You'll see

The monstrous insect strike an attitude
And shape himself into one capital I,
A rubric, with red eyes. You'll see him
use

The coffin for his pedestal, hear him
mouth

His ' I, I, I,' instructing haggard grief
Concerning his odd ego. Does he chirp

Of love, its 'I, I, I' Narcissus, love,
Myself, Narcissus, imaged in those eyes ;
For all the love-notes that he sounds are
 made
After the fashion of passionate grass-
 hoppers,
By grating one hind-leg across another.
Nor does he learn to sound that mellower
 ' You,'
Until his bubble bursts and leaves him
 drowned,
An insect in a soap-sud.
But there's another kind, whose mind still
 moves
In vital concord with the soul of things ;
So that it thinks in music, and its thoughts
Pulse into natural song. A separate voice,
And yet caught up by the surrounding
 choirs,
There, in the harmonies of the Universe,
Losing himself, he saves his soul alive."
" John, I'm afraid ! "—
 " Afraid of what, Susannah ? "—

“ Afraid to put those Ducklings on to
roast.

Your friend may miss his road ; and, if
he’s late,

My little part of the music will be
spoiled.”—

“ He won’t, Susannah. Bad poets are
always late.

Good poets, at times, delay a note or two ;
But all the great are punctual as the sun.

What’s that ? He’s early ! That’s his
knock, I think ! ”—

“ The Lord have mercy, John, there’s
nothing ready !

Take him into your study and talk to him,
Talk hard. He’s come an hour before his
time ;

And I’ve to change my dress. I’ll into the
kitchen ! ”

Then, in a moment, all the cottage rang
With greetings ; hand grasped hand ; his
Excellency

Forgot the careful prologue he'd prepared,
And made an end of mystery. He had
brought

A message from his wisdom-loving king
Who, hearing of new menaces to the
light

In Europe, urged the illustrious Kepler
now

To make his home in England. There, his
thought

And speech would both be free.

“ My friend,” said Wotton,
“ I have moved in those old strongholds
of the night,

And heard strange mutterings. It is not
many years

Since Bruno burned. There's trouble brew-
ing too,

For one you know, I think,—the Florentine
Who made that curious optic tube.”—

“ You mean
The man at Padua, Galileo ? ”—

“ Yes.”

“ They will not dare or need. Proof or
disproof
Rests with their eyes.”—

“ Kepler, have you not heard
Of those who, fifteen hundred years ago,
Had eyes and would not see? Eyes
quickly close
When souls prefer the dark.”—

“ So be it. Other and younger eyes will
see.

Perhaps that's why God gave the young a
spice

Of devilry. They'll go look, while elders
gasp ;

And, when the Devil and Truth go hand in
hand,

God help their enemies. You will send my
thanks,

My grateful thanks, Sir Henry, to your
king.

To-day I cannot answer you. I must
think.

It would be very difficult. My wife

Would find it hard to leave her native
land.

Say nothing yet before her.”

Then, to hide
Their secret from Susannah, Kepler poured
His mind out, and the world's dead
branches bloomed.

For, when he talked, another spring be-
gan

To which our May was winter; and, in
the boughs

Of his delicious thoughts, like feathered
choirs,

Bits of old rhyme, scraps from the Sabine
farm,

Celestial phrases from the Shepherd King,
And fluttering morsels from Catullus sang.

Much was fantastic. All was touched with
light

That only genius knows to steal from
heaven.

He spoke of poetry, as the “flowering
time

Of knowledge," called it "thought in pas-
sionate tune
With those great rhythms that steer the
moon and sun ;
Thought in such concord with the soul of
things
That it can only move, like tides and
stars,
And man's own beating heart, and the
wings of birds,
In law, whose service only sets them free."
Therefore it often leaps to the truth we
seek,
Clasping it, as a lover clasps his bride
In darkness, ere the sage can light his lamp.
And so, in music, men might find the road
To truth, at many a point, where sages
grope.
One day, a greater Plato would arise
To write a new philosophy, he said,
Showing how music is the golden clue
To all the windings of this world's dark
maze.

Himself had used it, partly proved it, too,
In his own book,—*the Harmonies of the
World.*

“All that the years discover points one way
To this great ordered harmony,” he said,
“Revealed on earth by music. Planets
move
In subtle accord like notes of one great
song
Audible only to the Artificer,
The Eternal Artist. There’s no grief, no
pain,
But music—follow it simply as a clue,
A microcosmic pattern of the whole—
Can show you, somewhere in its golden
scheme,
The use of all such discords ; and, at last,
Their exquisite solution. Then darkness
breaks
Into diviner light, love’s agony climbs
Through death to life, and evil builds up
heaven.

Have you not heard, in some great sym-
phony,

Those golden mathematics making clear

The victory of the soul? Have you not
heard

The very heavens opening?

Do those fools

Who thought me an infidel then, still smile
at me

For trying to read the stars in terms of
song,

Discern their orbits, measure their dis-
tances,

By musical proportions? Let them smile,
My folly at least revealed those three
great laws;

Gave me the golden vases of the Egyptians,
To set in the great new temple of my God
Beyond the bounds of Egypt.

They will forget

My methods, doubtless, as the years go by,
And the world's wisdom shuts its music out.
The dust will gather on all my harmonies;

Or scholars turn my pages listlessly,
Glance at the musical phrases, and pass on,
Not troubling even to read one Latin page.
Yet they'll accept those great results as
mine.

I call them mine. How can I help exulting,
Who climbed my ladder of music to the
skies

And found, by accident, let them call it so,
Or by the inspiration of that Power
Which built His world of music, those three
laws :—

First, how the speed of planets round the
sun

Bears a proportion, beautifully precise
As music, to their silver distances ;

Next, that although they seem to swerve
aside

From those plain circles of old Copernicus,
Their paths were not less rhythmical and
exact,

But followed always that most exquisite
curve

In its most perfect form, the pure ellipse ;
Third, that although their speed from
point to point
Appeared to change, their radii always
moved
Through equal fields of space in equal
times.

Was this my infidelity, was this
Less full of beauty, less divine in truth,
Than their dull chaos? You, the poet,
will know

How, as those dark perplexities grew clear,
And old anomalous discords changed to
song,

My whole soul bowed and cried, *Almighty
God,*

*These are Thy thoughts, I am thinking after
Thee !*

I hope that Tycho knows. I owed so
much

To Tycho Brahe ; for it was he who built
The towers from which I hailed those
three great laws.

How strange and far away it all seems now.
The thistles grow upon that little isle
Where Tycho's great Uraniborg once was.
Yet, for a few sad years, before it fell
Into decay and ruin, there was one
Who crept about its crumbling corridors,
And lit the fire of memory on its hearth.—
Wotton looked quickly up, 'I think I
 have heard
Something of that. You mean poor
 Jeppe, his dwarf.
Fynes Moryson, at the Mermaid Inn one
 night
Showed a most curious manuscript, a
 scrawl
On yellow parchment, crusted here and
 there
With sea-salt, or the salt of those thick
 tears
Creatures like Jeppe, the crooked dwarf,
 could weep.
It had been found, clasped in a crooked
 hand,
Under the cliffs of Wheen, a crooked hand

That many a time had beckoned to passing
ships,
Hoping to find some voyager who would
take
A letter to its master.

The sailors laughed
And jeered at him, till Jeppe threw stones
at them.
And now Jeppe, too, was dead, and one
who knew
Fynes Moryson, had found him, and
brought home
That curious crooked scrawl. Fynes Eng-
lished it
Out of its barbarous Danish. Thus it ran :
' Master, have you forgotten Jeppe, your
dwarf,
Who used to lie beside the big log-fire
And feed from your own hand ? The hall
is dark,
There are no voices now,—only the wind
And the sea-gulls crying round Uraniborg.
I too am crying, Master, even I,
Because there is no fire upon the hearth,

No light in any window. It is night,
And all the faces that I knew are gone.

Master, I watched you leaving us. I saw
The white sails dwindling into sea-gull's
wings,

Then melting into foam, and all was dark.
I lay among the wild flowers on the cliff
And dug my nails into the stiff white
chalk

And called you, Tycho Brahe. You did
not hear ;

But gulls and jackdaws, wheeling round
my head,

Mocked me with *Tycho Brahe*, and *Tycho
Brahe !*'

You were a great magician, Tycho Brahe ;
And, now that they have driven you away,
I, that am only Jeppe,—the crooked dwarf,
You used to laugh at for his matted hair,
And head too big and heavy—take your pen
Here in your study. I will write it down
And send it by a sailor to the King

Of Scotland, and who knows, the mouse
that gnawed
The lion free, may save you, Tycho Brahe.”

“ He is free now,” said Kepler. “ Had he
lived,
He would have sent for Jeppe to join him
there
At Prague. But death forestalled him,
and your king.
The years in which he watched that planet
Mars,
His patient notes and records, all were
mine ;
And, mark you, had he clipped or trimmed
one fact
By even a hair’s-breadth, so that his
results
Made a pure circle of that planet’s path,
It might have baffled us for an age and
drowned
All our new light in darkness. But he held
To what he saw. He might so easily,
So comfortably have said, ‘ My instruments

Are crude and fallible. In so fine a point
Eyes may have erred, too. Why not
acquiesce ?

Why mar the tune, why dislocate a world,
For one slight clash of seeming fact with
faith ? ’

But no, though stars might swerve, he held
his course,
Recording only what his eyes could see
Until death closed them.

Then, to his results,
I added mine and saw, in one wild gleam,
Strange as the light of day to one born
blind,

A subtler concord ruling them, and heard
Profounder tones of harmony resolve
Those broken melodies into song again.”—
“ Faintly and far away, I, too, have
seen

In music, and in verse, that golden clue
Whereof you speak,” said Wotton. “ In
all true song

There is a hidden logic. Even the rhyme

That, in bad poets, wrings the neck of
thought,
Is like a subtle calculus to the true,
An instrument of discovery. It reveals
New harmonies, new analogies. It links
Far things and near, not in unnatural
chains,
But in those true accords which still escape
The plodding reason, yet unify the world.
I caught some glimpses of this mystic
power
In verses of your own, that elegy
On Tycho, and that great quatrain of
yours—
I cannot quite recall the Latin words,
But made it roughly mine in words like
these :

*' I know that I am dust, and daily die ;
Yet, as I trace those rhythmic spheres at
night,
I stand before the Thunderer's throne on high
And feast on nectar in the halls of light.'*

My version lacks the glory of your lines
But . . .”

“ Mine too was a version,”

Kepler laughed,

“ Turned into Latin from old Ptolemy’s
Greek ;

For, even in verse, half of the joy, I
think,

Is just to pass the torch from hand to
hand

An undimmed splendour. But, last night,
I tried

Some music all my own. I had a dream
That I was wandering in some distant
world.

I have often dreamed it. Once it was the
moon.

I wrote that down in prose. When I am
dead,

It may be printed. This was a fairer
dream ;

For I was walking in a far-off spring
Upon the planet, Venus. Only verse

Could spread true wings for that delicious
world ;

And so I wrote it—for no eyes but mine,
Or 'twould be seized on, doubtless, as fresh
proof

Of poor old Kepler's madness."—

“ Let me hear,
Madman to madman ; for I, too, write
verse.”

Then Kepler, in a rhythmic murmur,
breathed

His rich enchanted memories of that
dream :

Beauty burned before me

Swinging a lanthorn through that
fragrant night.

I followed a distant singing,

And a dreaming light.

How she led me, I cannot tell

To that strange world afar,

Nor how I walked, in that wild glen

Upon the sunset star.

Wingèd creatures floated
Under those rose-red boughs of violet
bloom,
With delicate forms unknown on Earth
'Twixt irised plume and plume ;
Human-hearted, angel-eyed,
And crowned with unknown flowers ;
For nothing in that enchanted world
Followed the way of ours.

Only I saw that Beauty,
On Hesper, as on earth, still held
command ;
And though, as one in slumber,
I roamed that radiant land,
With all these earth-born senses sealed
To what the Hesperians knew,
The faithful lanthorn of her law
Was mine on Hesper too.

Then, half at home with wonder,
I saw strange flocks of flowers like
birds take flight ;

Great trees that burned like opals
 To lure their loves at night ;
Dark beings that could move in realms
 No dream of ours has known,
Till these became as common things
 As men account their own.

Yet, when that lanthorn led me
 Back to the world where once I
 thought me wise ;
I saw, on this my planet,
 What souls, with awful eyes.
Hardly I dared to walk her fields
 As in that strange re-birth
I looked on those wild miracles
 The birds and flowers of earth.

Silence a moment held them, loth to
 break

The spell of that strange dream.

 “ One proof the more,”
Said Wotton at last, “ that songs can
 mount and fly

To truth ; for this fantastic vision of yours
Of life in other spheres, awakes in me,
Either that slumbering knowledge of Soc-
rates,
Or some strange premonition that the
years
Will prove it true. This music leads us far
From all our creeds, except that faith in
law.
Your quest for knowledge—how it rests
on that !
How sure the soul is that if truth destroy
The temple, in three days the truth will
build
A nobler temple ; and that order reigns
In all things. Even your atheist builds
his doubt
On that strange faith ; destroys his heaven
and God
In absolute faith that his own thought is
true
To law, God's lanthorn to our stumbling
feet ;

And straight deny the law's first postulate,
That out of nothingness nothing can be
born,

Nor greater things from less. Can music rise
By chance from chaos, as they said that
star

In Serpentarius rose ? I told them, then,
That when I was a boy, with time to spare,
I played at anagrams. Out of my Latin
name

Johannes Keplerus came that sinister phrase
Serpens in akuleo. Struck by this,

I tried again, but trusted it to chance.

I took some playing-cards, and wrote on
each

One letter of my name. Then I began
To shuffle them ; and, at every shuffle, I
read

The letters, in their order, as they came,
To see what meaning chance might give
to them.

Wotton, the gods and goddesses must have
laughed

To see the weeks I lost in studying chance ;
For had I scattered those cards into the
black

Epicurean eternity, I'll swear
They'd still be playing at leap-frog in the
dark,

And show no glimmer of sense. And yet
—to hear

Those wittols talk, you'd think you'd but
to mix

A bushel of good Greek letters in a sack
And shake them roundly for an age or so,
To pour the *Odyssey* out.

At last, I told
Those disputants what my wife had said.

One night
When I was tired and all my mind a-dust
With pondering on their atoms, I was
called

To supper, and she placed before me there
A most delicious salad. 'It would appear,'
I thought aloud, 'that if these pewter
dishes,

Green hearts of lettuce, tarragon, slips of
thyme,
Slices of hard-boiled egg, and grains of
salt,
With drops of water, vinegar and oil,
Had in a bottomless gulf been flying about
From all eternity, one sure certain day
The sweet invisible hand of Happy Chance
Would serve them as a salad.'

'Likely enough,'

My wife replied, 'but not so good as
mine,
Nor so well dressed.'

They laughed. Susannah's voice
Broke in, 'I've made a better one. The
receipt
Came from the *Golden Lion*. I have dished
Ducklings and peas and all. Come, John,
say grace.'"

IV.

GALILEO.

I.

*(Celeste, in the Convent at Arcetri, writes to her
old lover at Rome.)*

MY friend, my dearest friend, my own
dear love,

I, who am dead to love, and see around me
The funeral tapers lighted, send this cry
Out of my heart to yours, before the end.
You told me once you would endure the
rack

To save my heart one pang. O, save it
now !

Last night there came a dreadful word
from Rome

And fountain-heads of truth. It is not
Rome
That summons him, but Magini, Sizy,
Scheiner,
Lorini, all the blind, pedantic crew
That envy him his fame, and hate his
works
For dwarfing theirs.

Must such things always be
When truth is born ?
Only five nights ago we walked together,
My father and I, here in the Convent
garden ;
And, as the dusk turned everything to
dreams,
We dreamed together of his work well
done
And happiness to be. We did not dream
That even then, muttering above his book,
His enemies, those enemies whom the
truth
Stings into hate, were plotting to destroy
him.

Yet something shadowed him. I recall
his words—

“The grapes are ripening. See, Celeste,
how black

And heavy. We shall have good wine
this year.”—

“Yes, all grows ripe,” I said, “your life-
work, too,

Dear father. Are you happy now to know
Your book is printed, and the new world
born?”

He shook his head, a little sadly, I thought.

“Autumn’s too full of endings. Fruits
grow ripe

And fall, and then comes winter.”

“Not for you!

Never,” I said, “for those who write
their names

In heaven. Think, father, through all
ages now

No one can ever watch that starry sky
Without remembering you. Your fame . . .”

And there

He stopped me, laid his hand upon my arm,
And standing in the darkness with dead
leaves

Drifting around him, and his bare grey
head

Bowed in complete humility, his voice
Shaken and low, he said like one in prayer,
“Celeste, beware of that. Say truth, not
fame.

If there be any happiness on earth,
It springs from truth alone, the truth we
live

In act and thought. I have looked up
there and seen

Too many worlds to talk of fame on earth.
Fame, on this grain of dust among the
stars,

The trumpet of a gnat that thinks to halt
The great sun-clusters moving on their way
In silence! Yes, that's fame. But truth,
Celeste,

Truth and its laws are constant, even up
there ;

That's where one man may face and fight
the world.

His weakness turns to strength. He is
made one

With universal forces, and he holds
The password to eternity.

Gate after gate swings back through all
the heavens.

No sentry halts him, and no flaming sword.
Say truth, Celeste, not fame."

"No, for I'll say
A better word," I told him. "I'll say
love."

He took my face between his hands and
said—

His face all dark between me and the
stars—

"What's love, Celeste, but this dear face
of truth

Upturned to heaven."

He left me, and I heard,
Some twelve hours later, that this man
whose soul

Was dedicate to truth, was threatened
now

With torture, if his lips did not deny

The truth he loved.

I tell you all these things

Because to help him, you must understand
him ;

And even you may doubt him, if you hear

Only those plausible outside witnesses

Who never heard his heart-beats as have I.

So let me tell you all—his quest for truth,

And how this hate began.

Even from the first,

He made his enemies of those almost-
minds

Who chanced upon some new thing in the
dark

And could not see its meaning, for he saw,
Always, the law illumining it within.

So when he heard of that strange optic-
glass

Which brought the distance near, he
thought it out

By reason, where that other hit upon it
Only by chance. He made his telescope ;
And O, how vividly that day comes back,
When in their gorgeous robes the Senate
stood

Beside him on that high Venetian tower,
Scanning the bare blue sea that showed
no speck

Of sail. Then, one by one, he bade them
look ;

And one by one they gasped, " a miracle."
Brown sails and red, a fleet of fishing
boats,

See how the bright foam bursts around
their bows !

See how the bare-legged sailors walk the
decks !

Then, quickly looking up, as if to catch
The vision, ere it tricked them, all they saw
Was empty sea again.

Many believed
That all was trickery, but he bade them
note

The colours of the boats, and count their
sails.

Then, in a little while, the naked eye
Saw on the sky-line certain specks that
grew,

Took form and colour; and, within an
hour,

Their magic fleet came foaming into port.
Whereat old senators, wagging their white
beards,

And plucking at golden chains with stiff
old claws

Too feeble for the sword-hilt, squeaked at
once :

“ This glass will give us great advantages
In time of war.”

War, war, O God of love,
Even amidst their wonder at Thy world,
Dazed with new beauty, gifted with new
powers,

These old men dreamed of blood. This
was the thought

To which all else must pander, if he hoped

Even for one hour to see those dull eyes
blaze

At his discoveries.

“Wolves,” he called them, “wolves”;
And yet he humoured them. He stooped
to them,

Promised them more advantages, and
talked

As elders do to children. You may call it
Weakness, and yet could any man do more,
Alone, against a world, with such a trust
To guard for future ages? All his life
He has had some weanling truth to guard,
has fought

Desperately to defend it, taking cover
Wherever he could, behind old fallen trees
Of superstition, or ruins of old thought.
He has read horoscopes to keep his work
Among the stars in favour with his prince.
I tell you this that you may understand
What seems inconstant in him. It may be
That he was wrong in these things, and
must pay

A dreadful penalty. But you must explore
His mind's great ranges, plains and lonely
peaks

Before you know him, as I know him now.
How could he talk to children, but in
words

That children understand? Have not
some said

That God Himself has made His glory
dark

For men to bear it. In his human sphere
My father has done this.

War was the dream
That filmed those old men's eyes. They
did not hear

My father, when he hinted at his hope
Of opening up the heavens for mankind
With that new power of bringing far things
near.

My heart burned as I heard him; but
they blinked

Like owls at noonday. Then I saw him
turn,

Desperately, to humour them, from
thoughts
Of heaven to thoughts of warfare.

Late that night

My own dear lord and father came to me
And whispered, with a glory in his face
As one who has looked on things too
beautiful
To breathe aloud, "Come out, Celeste,
and see
A miracle."

I followed him. He showed me,
Looking along his outstretched hand, a
star,

A point of light above our olive-trees.

It was the star called Jupiter. And then
He bade me look again, but through his
glass.

I feared to look at first, lest I should see
Some wonder never meant for mortal
eyes.

He too had felt the same, not fear, but
awe,

As if his hand were laid upon the veil
Between this world and heaven.

Then . . . I, too, saw,
Small as the smallest bead of mist that
clings

To a spider's thread at dawn, the floating
disk

Of what had been a star, a planet now,
And near it, with no disk that eyes could
see,

Four needle-points of light, unseen before.
"The moons of Jupiter," he whispered
low,

I have watched them as they moved, from
night to night ;

A system like our own, although the world
Their fourfold lights and shadows make so
strange

Must—as I think—be mightier than we
dreamed,

A Titan planet. Earth begins to fade
And dwindle ; yes, the heavens are open-
ing now.

Perhaps up there, this night, some lonely
soul

Gazes at earth, watches our dawning moon,
And wonders, as we wonder.”

In that dark

We knelt together . . .

Very strange to see

The vanity and fickleness of princes.

Before his enemies had provoked the wrath
Of Rome against him, he had given the
name

Of Medicean stars to those four moons
In honour of Prince Cosmo. This aroused
The court of France to seek a lasting
place

Upon the map of heaven. A letter came
Beseeching him to find another star
Even more brilliant, and to call it *Henri*
After the reigning and most brilliant prince
Of France. They did not wish the family
name

Of Bourbon. This would dissipate the
glory.

No, they preferred his proper name of
Henri.

We read it together in the garden here,
Weeping with laughter, never dreaming
then

That this, this, this, could stir the little
hearts

Of men to envy.

O, but afterwards,

The blindness of the men who thought
themselves

His enemies. The men who never knew
him,

The men that had set up a thing of straw
And called it by his name, and wished to
burn

Their image and himself in one wild fire.

Men? Were they men or children? They
refused

Even to look through Galileo's glass,
Lest seeing might persuade them. Even
that sage,

That great Aristotelian, Julius Libri,

Holding his breath there, like a fractious
child

Until his cheeks grew purple, and the veins
Were bursting on his brow, swore he would
die

Sooner than look.

And that poor monstrous babe
Not long thereafter, kept his word and
died,

Died of his own pent rage, as I have
heard.

Whereat my lord and father shook his
head

And, smiling, somewhat sadly—oh, you
know

That smile of his, more deadly to the false
Than even his reasoning — murmured,

“ *Libri, dead,*

Who called the moons of Jupiter absurd !

*He swore he would not look at them from
earth.*

I hope he saw them on his way to heaven.”

Welser in Augsburg, Clavius at Rome,

Florence, Bologna, Venice, Padua,
Many have seen the moons. These wit-
nesses
Are silent and uncertain. Do you wonder ?
Most of them could not, even when they
saw them,
Distinguish Mars from Jupiter. Shall we
side
With Heraclitus or Democritus ?
I think, my Kepler, we will only laugh
At this immeasurable stupidity.
Picture the leaders of our college here.
A thousand times I have offered them the
proof
Of their own eyes. They sleep here, like
gorged snakes,
Refusing even to look at planets, moons,
Or telescope. They think philosophy
Is all in books, and that the truth is found
Neither in nature, nor the Universe,
But in comparing texts. How you would
laugh
Had you but heard our first philosopher

Before the Grand Duke, trying to tear
down

And argue the new planets out of heaven,
Now by his own weird logic and closed
eyes

And now by magic spells.”

How could he help

Despising them a little ? It's an error

Even for a giant to despise a midge ;

For, when the giant reels beneath some
stroke

Of fate, the buzzing clouds will swoop
upon him,

Cluster and feed upon his bleeding wounds,
And do what midges can to sting him
blind.

These human midges have not missed
their chance.

They have missed no smallest spot upon
that sun.

My mother was not married—they have
found—

To my dear father. All his children, then,

And doubtless all their thoughts are evil,
too ;

But who that judged him ever sought to
know

Whether, as evil sometimes wears the
cloak

Of virtue, nobler virtue in this man

Might wear that outward semblance of a
sin ?

Yes, even you who love me, may believe
These thoughts are born of my own
tainted heart ;

And yet I write them, kneeling in my cell
And whisper them to One who blesses me
Here, from His Cross, upon the bare grey
wall.

So, if you love me, bless me also, you,
By helping him. Make plain to all you
meet

What part his enemies have played in this.
How some one, somehow, altered the
command

Laid on him all those years ago, by Rome,

So that it reads to-day as if he vowed
Never to think or breathe that this round
earth

Moves with its sister-planets round the
sun.

'Tis true he promised not to write or
speak

As if this truth were 'stablished equally
With God's eternal laws ; and so he wrote
His Dialogues, reasoning for it, and against,
And gave the last word to Simplicius,
Saying that human reason must bow down
Before the power of God.

And even this
His enemies have twisted to a sneer
Against the Pope, and cunningly declared
Simplicius to be Urban.

Why, my friend,
There were three dolphins on the title-
page,
Each with the tail of another in its mouth.
The censor had not seen this, and they
swore

It held some hidden meaning. Then they
found

The same three dolphins sprawled on all
the books

Landini printed at his Florence press.

They tried another charge.

I am not afraid
Of any truth that they can bring against
him ;

But, O, my friend, I more than fear their
lies.

I do not fear the justice of our God ;

But I do fear the vanity of men ;

Even of Urban ; not His Holiness,

But Urban, the weak man, who may
resent,

And in resentment rush half-way to
meet

This cunning lie with credence. Vanity !

O, half the wrongs on earth arise from
that !

Greed, and war's pomp, all envy, and
most hate,

Are born of that ; while one dear humble
heart,
Beating with love for man, between two
thieves,
Proves more than all His wounds and
miracles
Our Crucified to be the Son of God.
Say that I long to see him ; that my
prayers
Knock at the gates of mercy, night and
day.
Urge him to leave the judgment now with
God
And strive no more.

If he be right, the stars
Fight for him in their courses. Let him
bow
His poor, dishonoured, glorious, old grey
head
Before this storm, and then come home
to me.
O, quickly, or I fear 'twill be too late ;
For I am dying. Do not tell him this ;

But I must live to hold his hands again,
And know that he is safe.
I dare not leave him, helpless and half
 blind,
Half father and half child, to rack and
 cord.
By all the Christ within you, save him,
 you ;
And, though you may have ceased to love
 me now,
One faithful shadow in your own last hour
Shall watch beside you till all shadows
 die,
And heaven unfold to bless you where I
 failed.

II.

(Scheiner writes to Castelli, after the Trial.)

What think you of your Galileo now,
Your hero that like Ajax should defy
The lightning ? Yesterday I saw him
 stand

Trembling before our court of Cardinals,
Trembling before the colour of their robes
As sheep, before the slaughter, at the
sight

And smell of blood. His lips could hardly
speak,

And—mark you—neither rack nor cord
had touched him.

Out of the Inquisition's five degrees
Of rigor : first, the public threat of torture ;
Second, the repetition of the threat
Within the torture-chamber, where we
show

The instruments of torture to the accused ;
Third, the undressing and the binding ;
fourth,

Laying him on the rack ; then, fifth and
last,

Torture, *territio realis* ; out of these,
Your Galileo reached the second only,
When, clapping both his hands against
his sides,

He whined about a rupture that forbade

These extreme courses. Great heroic soul
Dropped like a cur into a sea of terror,
He sank right under. Then he came up
gasp-
ing,
Ready to swear, deny, abjure, recant,
Anything, everything ! Foolish, weak, old
man,
Who had been so proud of his discoveries,
And dared to teach his betters. How we
grinned
To see him kneeling there and whispering,
thus,
Through his white lips, bending his old
grey head :
“ *I, Galileo Galilei, born
A Florentine, now seventy years of age,
Kneeling before you, having before mine
eyes,
And touching with my hands the Holy
Gospels,
Swear that I always have believed, do
now,
And always will believe what Holy Church*

*Has held and preached and taught me to
believe ;*

*And now, whereas I rightly am accused,
Of heresy, having falsely held the sun
To be the centre of our Universe,
And also that this earth is not the centre,
But moves ;*

*I most illogically desire
Completely to expunge this dark suspicion,
So reasonably conceived. I now abjure,
Detest and curse these errors ; and I swear
That should I know another, friend or foe,
Holding the selfsame heresy as myself,
I will denounce him to the Inquisitor
In whatsoever place I chance to be.
So help me God, and these His holy Gospels,
Which with my hands I touch."*

You will observe
His promise to denounce. Beware, Cas-
telli !

What think you of your Galileo now ?

III.

*(Castelli writes, enclosing Scheiner's letter to
Campanella.)*

What think I? This,—that he has laid
his hands
Like Samson on the pillars of our world,
And one more trembling utterance such as
this
Will overwhelm us all.

O, Campanella,
You know that I am loyal to our faith,
As Galileo too has always been.
You know that I believe, as he be-
lieves,
In the one Catholic Apostolic Church ;
Yet there are many times when I could
wish
That some blind Samson would indeed
tear down
All this proud temporal fabric, made with
hands,

And that, once more, we suffered with our
Lord,
Were persecuted, crucified with Him.
I tell you, Campanella, on that day
When Galileo faced our Cardinals,
A veil was rent for me. There, in one
flash,
I saw the eternal tragedy, transformed
Into new terms. I saw the Christ once
more,
Before the court of Pilate. Peter there
Denied Him once again ; and, as for me,
Never has all my soul so humbly knelt
To God in Christ, as when that sad old
man
Bowed his grey head, and knelt—at seventy
years—
To acquiesce, and shake the world with
shame.
He shall not strive or cry ! Strange, is it
not,
How nearly Scheiner—even amidst his
hate—

Quoted the Prophets ? Do we think this
 world
 So greatly bettered, that the ancient cry,
 “ *Despised, rejected,* hails our God no
 more ? ”

IV.

*(Celeste writes to her father in his imprisonment
 at Siena.)*

Dear father, it will seem a thousand years
 Until I see you home again and well.
 I would not have you doubt that all this
 time
 I have prayed for you continually. I
 saw
 A copy of your sentence. I was grieved ;
 And yet it gladdened me, for I found a
 way
 To be of use, by taking on myself
 Your penance. Therefore, if you fail in
 this,
 If you forget it—and indeed, to save you

The trouble of remembering it—your child
Will do it for you.

Ah, could she do more
How willingly would your Celeste endure
A straiter prison than she lives in now
To set you free.

“ A prison,” I have said ;
And yet, if you were here, ’twould not be
so.

When you were pent in Rome, I used to
say,

“ Would he were at Siena ! ” God fulfilled

That wish. You are at Siena ; and I now
say

Would he were at Arcetri.

So perhaps
Little by little, angels can be wooed
Each day, by some new prayer of mine or
yours,

To bring you wholly back to me, and save
Some few of the flying days that yet
remain.

You see, these other Nuns have each their
friend,

Their patron Saint, their ever near *devoto*,
To whom they tell their joys and griefs ;
but I

Have only you, dear father, and if you
Were only near me, I could want no more.
Your garden looks as if it missed your love.
The unpruned branches lean against the
wall

To look for you. The walks run wild with
flowers.

Even your watch-tower seems to wait for
you ;

And, though the fruit is not so good this
year

(The vines were hurt by hail, I think, and
thieves

Have climbed the wall too often for the
pears),

The crop of peas is good, and only waits
Your hand to gather it.

In the dovecote, too,

You'll find some plump young pigeons.

We must make
A feast for your return.

In my small plot,
Here at the Convent, better watched than
yours,
I raised a little harvest. With the
price
I got for it, I had three Masses said
For my dear father's sake.

V.

*(Galileo writes to his friend Castelli, after his
return to Arcetri.)*

Castelli, O Castelli, she is dead.
I found her driving death back with her
soul
Till I should come.

I could not even see
Her face.—These useless eyes had spent
their power

On distant worlds, and lost that last faint
look
Of love on earth.

I am in the dark, Castelli,
Utterly and irreparably blind.
The Universe which once these outworn
eyes
Enlarged so far beyond its ancient bounds
Is henceforth shrunk into that narrow
space
Which I myself inhabit.

Yet I found
Even in the dark, her tears against my
face,
Her thin soft childish arms around my
neck,
And her voice whispering . . . love, un-
dying love ;
Asking me, at this last, to tell her true,
If we should meet again.

Her trust in me
Had shaken her faith in what my judges
held ;

And, as I felt her fingers clutch my hand,
Like a child drowning, "Tell me the
truth," she said,

"Before I lose the light of your dear
face"—

It seemed so strange that dying she could
see me

While I had lost her,—“tell me, before I
go.”

“Believe in Love,” was all my soul could
breathe.

I heard no answer. Only I felt her hand
Clasp mine and hold it tighter. Then she
died,

And left me to my darkness. Could I
guess

At unseen glories, in this deeper night,
Make new discoveries of profounder realms,
Within the soul? O, could I find Him
there,

Rise to Him through His harmonies of law
And make His will my own!

This much, at least,

I know already, that—in some strange
way—

His law implies His love ; for, failing that
All grows discordant, and the primal Power
Ignobler than His children.

So I trust
One day to find her, waiting for me still,
When all things are made new.

I raise this torch
Of knowledge. It is one with my right
hand,
And the dark sap that keeps it burning
flows
Out of my heart ; and yet, for all my
faith,
It shows me only darkness.

Was I wrong ?
Did I forget the subtler truth of Rome
And, in my pride, obscure the world's one
light ?
Did I subordinate to this moving earth
Our swiftlier-moving God ?

O, my Celeste.

Once, once at least, you knew far more
than I ;
And she is dead, Castelli, she is dead.

VI.

*(Viviani, many years later, writes to a friend in
England.)*

I was his last disciple, as you say
I went to him, at seventeen years of age,
And offered him my hands and eyes to
use,
When, voicing the true mind and heart
of Rome,
Father Castelli, his most faithful friend,
Wrote, for my master, that compassionate
plea ;
*The noblest eye that Nature ever made
Is darkened ; one so exquisitely dowered,
So delicate in power that it beheld
More than all other eyes in ages gone
And opened the eyes of all that are to come.*

But, out of England, even then, there
shone

The first ethereal promise of the light
That crowns my master dead. Well I
recall

That day of days. There was no faintest
breath

Among his garden cypress-trees. They
dreamed

Dark, on a sky too beautiful for tears,
And the first star was trembling overhead,
When, quietly as a messenger from heaven,
Moving unseen, through his own purer
realm,

Amongst the shadows of our mortal world,
A young man, with a strange light on his
face

Knocked at the door of Galileo's house.

His name was Milton.

By the hand of God,
He, the one living soul on earth with
power

To read the starry soul of this blind man,

Was led through Italy to his prison door.
He looked on Galileo, touched his hand . . .
*O, dark, dark, dark, amid the blaze of noon,
Irrecoverably dark. . . .*

In after days,

He wrote it ; but it pulsed within him
then ;
And Galileo rising to his feet
And turning on him those unseeing eyes
That had searched heaven and seen so
many worlds,
Said to him, “ You have found me.”

Often he told me in those last sad months
Of how your grave young island poet
brought
Peace to him, with the knowledge that, far
off,
In other lands, the truth he had pro-
claimed
Was gathering power.

Soon after, death unlocked
His prison, and the city that he loved,

Florence, his town of flowers, whose gates
in life

He was forbid to pass, received him dead.

You write to me from England, that his
name

Is now among the mightiest in the world,
And in his name I thank you.

I am old ;

And I was very young when, long ago,
I stood beside his poor dishonoured grave
Where hate denied him even an epitaph ;
And I have seen, slowly and silently,
His purer fame arising, like a moon
In marble on the twilight of those aisles
At Santa Croce, where the dread decree
Was read against him.

Now, against two wrongs,
Let me defend two victims : first, the
Church

Whom many have vilified for my master's
doom ;

And second, Galileo, whom they reproach

Because they think that in his blind old
age
He might with one great eagle's glance
have cowed
His judges, played the hero, raised his
hands
Above his head, and posturing like a
mummer
Cried (as one empty rumour now declares)
After his recantation—*yet, it moves!*
Out of this wild confusion, fourfold wrongs
Are heaped on both sides.—I would fain
bring peace,
The peace of truth to both before I die ;
And, as I hope, rest at my master's feet.
It was not Rome that tried to murder
truth ;
But the blind hate and vanity of man.
Had Galileo but concealed the smile
With which, like Socrates, he answered
fools,
They would not, in the name of Christ,
have mixed

This hemlock in His chalice.

O pitiful,
Pitiful human hearts that must deny
Their own unfolding heavens, for one light
word
Twisted by whispering malice.

Did he mean
Simplicio, in his dialogues, for the Pope ?
Doubtful enough—the name was borrowed
straight
From older dialogues.

If he gave one thought
Of Urban's to Simplicio—you know well
How composite are all characters in books,
How authors find their colours here and
there,
And paint both saints and villains from
themselves.

No matter. This was Urban. Make it
clear.

Simplicio means a simpleton. The saints
Are roused by ridicule to most human
wrath.

Urban was once his friend. This hint of
ours

Kills all of that. And so we mortals
close

The doors of Love and Knowledge on the
world.

And so, for many an age, the name of
Christ

Has been misused by man to mask man's
hate.

How should the Church escape, then? I
who loved

My master, know he had no truer friend
Than many of those true servants of the
Church,

Fathers and priests who, in their lowlier
sphere,

Moved nearer than her cardinals to the
Christ.

These were the very Rome, and held her
keys.

Those who charge Rome with hatred of
the light

Would charge the sun with darkness, and
accuse
This dome of sky for all the blood-red
wrongs
That men commit beneath it. Art and
song
That found her once in Europe their sole
shrine
And sanctuary absolve her from that
stain.

But there's this other charge against my
friend,
And master, Galileo. It is brought
By friends, made sharper by their pity
and grief,
The charge that he refused his martyrdom
And so denied his own high faith.

Whose faith,—
His friends', his Protestant followers', or
his own ?
Faced by the torture, that sublime old
man

Was still a faithful Catholic, and his
thought

Plunged deeper than his Protestant fol-
lowers knew.

His aim was not to strike a blow at Rome
But to confound his enemies. He believed
As humbly as Castelli or Celeste

That there is nothing absolute but that
Power

With which his Church confronted him.

To this

He bowed his head, acknowledging that
his light

Was darkness ; but affirming, all the more,
That Ptolemy's light was even darker yet.

Read your own Protestant Milton, who
derived

His mighty argument from my master's
lips :

*“ Whether the sun predominant in heaven
Rise on the earth, or earth rise on the sun ;
Leave them to God above ; Him serve and
fear.”*

Just as in boyhood, when my master
watched
The swinging lamp in the cathedral there
At Pisa ; and, by one finger on his pulse,
Found that, although the great bronze
miracle swung
Through ever-shortening spaces, yet it
moved
More slowly, and so still swung in equal
times ;
He straight devised another boon to man,
Those pulse - clocks which by many a
fevered bed
Our doctors use ; dreamed of that time-
piece, too,
Whose punctual swinging pendulum on
earth
Measures the starry periods, and to-day
Talks peacefully to children by the fire
Like an old grandad full of ancient tales,
Remembering endless ages, and foretelling
Eternities to come ; but, all the while
There, in the dim cathedral, he knew well,

That dreaming youngster, with his tawny
 mane
Of red-gold hair, and deep ethereal eyes,
What odorous clouds of incense round him
 rose ;
Was conscious in the dimness, of great
 throng
Kneeling around him ; shared in his own
 heart
The music and the silence and the cry,
O salutaris hostia !—so now,
There was no mortal conflict in his mind
Between his dream - clocks and things
 absolute,
And one far voice, most absolute of all,
Feeble with suffering, calling night and day
“ *Return, return,*” the voice of his Celeste.
All these things co-existed, and the less
Were comprehended, like the swinging
 lamp,
Within that great cathedral of his soul.
Often he bade me, in that desolate house,
Il Giojello, of old a jewel of light,

Read to him one sad letter, till he knew
The most of it by heart, and while he
walked

His garden, leaning on my arm, at times
I think he quite forgot that I was there ;
For he would quietly murmur it to him-
self,

As if she had sent it, half an hour ago :

“ Now, with this little Winter’s gift of
fruit

I send you, father, from our southward
wall,

Our convent’s rarest flower, a Christmas
rose.

At this cold season, it should please you
much,

Seeing how rare it is ; but, with the rose,
You must accept its thorns, which bring
to mind

Our Lord’s own bitter Passion. Its green
leaves

Image the hope that through His Passion
we,

After this winter of our mortal life,
May find the beauty of an eternal spring
In heaven.”

Praise me the martyr, out of whose agonies
Some great new hope is born, but not the
fool

Who starves his heart to prove what eyes
can see

And intellect confirm throughout the world.
Why must he follow the idiot schoolboy
code,

Torture her soul to reinforce the sight
Of those that closed their eyes and would
not see.

To your own men of science, fifty turns
Of the thumbscrew would not prove that
earth revolved.

Call it Italian subtlety if you will,
I say his intricate cause could not be won
By blind heroics. Much that his enemies
challenged

Was not yet wholly proven, though his
mind

Had leapt to a certainty. He must leave
the rest
To those that should come after, swift and
young,—
Those runners with the torch for whom he
longed
As his deliverers. Had he chosen death
Before his hour, his proofs had been
obscured
For many a year. His respite gave him
time
To push new pawns out, in the blindfold
play
Of those last months, and checkmate, not
the Church
But those that hid behind her. He
believed
His truth was all harmonious with her own.
How could he choose between them?
Must he die
To affirm a discord that himself denied?
On many a point, he was less sure than we:
But surer far of much that we forget.

The movements that he saw he could but
judge

By some fixed point in space. He chose
the sun.

Could this be absolute? Could he then
be sure

That this great sun did not with all its
worlds

Move round a deeper centre? What
became

Of your Copernicus then? Could he be
sure

Of any unchanging centre, whence to
judge

This myriad-marching universe, but one—
The absolute throne of God.

Affirming this

Eternal Rock, his own uncertainties

Became more certain, and although his lips
Breathed not a syllable of it, though he
stood

Silent as earth that also seemed so still,

The very silence thundered, *yet it moves!*

He held to what he knew, secured his
work

Through feeble hands like mine, in other
lands,

Not least in England, as I think you know.

For, partly through your poet, as I
believe,

When his great music rolled upon your
skies,

New thoughts were kindled in the general
mind.

'Twas at Arcetri that your Milton gained
The first great glimpse of his celestial
realm.

Picture him,—still a prisoner of our light,
Closing his glorious eyes—that in the dark,
He might behold this wheeling universe,—
The planets gilding their ethereal horns
With sun-fire. Many a pure immortal
phrase

In his own work, as I have pondered it,
Lived first upon the lips of him whose
eyes

Were darkened first,—in whom, too, Milton
found
That Samson Agonistes, not himself,
As many have thought, but my dear
master dead.
These are a part of England's memories
now,
The music blown upon her sea-bright air
When, in the year of Galileo's death,
Newton, the mightiest of the sons of
light,
Was born to lift the splendour of this torch
And carry it, as I heard that Tycho said
Long since to Kepler, "Carry it out of
sight,
Into the great new age I must not know,
Into the great new realm I must not
tread."

V.

NEWTON.

I.

“IF I saw farther, ’twas because I stood
On giant shoulders,” wrote the king of
thought,
Too proud of his great line to slight the
toils
Of his forebears. He turned to their dim
past,
Their fading victories and their fond de-
feats,
And knelt as at an altar, drawing all
Their strengths into his own ; and so went
forth
With all their glory shining in his face,
To win new victories for the age to come.

So, where Copernicus had destroyed the
dream

We called our world; where Galileo
watched

Those ancient firmaments melt, a thin
blue smoke

Into a vaster night; where Kepler heard
Only stray fragments, isolated chords
Of that tremendous music which should
bind

All things anew in one, Newton arose
And carried on their fire.

Around him reeled

Through lingering fumes of hate and clouds
of doubt,

Lit by the afterglow of the Civil War,
The dissolute throngs of that Walpurgis
night

Where all the cynical spirits that deny
Danced with the vicious lusts that drown
the soul

In flesh too gross for Circe or her
swine.

But, in his heart, he heard one instant
voice.

*“ On with the torch once more, make all
things new,
Build the new heaven and earth, and save
the world.”*

Ah, but the infinite patience, the long
months

Lavished on tasks that, to the common eye,
Were insignificant, never to be crowned
With great results, or even with earth's
rewards.

Could Rembrandt but have painted him,
in those hours

Making his first analysis of light
Alone, there, in his darkened Cambridge
room

At Trinity ! Could he have painted, too,
The secret glow, the mystery, and the
power,

The sense of all the thoughts and unseen
spires

That soared to heaven around him !

He stood there,
Obscure, unknown, the shadow of a man
In darkness, like a grey dishevelled ghost,
—Bare-throated, down at heel, his last
 night's supper
Littering his desk, untouched ; his glim-
 mering face,
Under his tangled hair, intent and still,—
Preparing our new universe.

He caught
The sunbeam striking through that bullet-
 hole
In his closed shutter—a round white spot
 of light
Upon a small dark screen.

He interposed
A prism of glass. He saw the sunbeam
 break
And spread upon the screen its rainbow
 band
Of disentangled colours, all in scale
Like notes in music ; first, the violet ray,

Then indigo, trembling softly into blue ;
Then green and yellow, quivering side by
side ;

Then orange, mellowing richly into red.

Then, in the screen, he made a small
round hole

Like to the first ; and through it passed
once more

Each separate coloured ray. He let it
strike

Another prism of glass, and saw each hue
Bent at a different angle from its path,
The red the least, the violet ray the most ;
But all in scale and order, all precise
As notes in music. Last, he took a lens,
And, passing through it all those coloured
rays,

Drew them together again, reemerging all
On that dark screen, in one white spot of
light.

So, watching, testing, proving, he resolved
The seeming random glories of our day

Into a constant harmony, and found
How in the whiteness of the sunlight sleep
Compounded, all the colours of the world.
He saw how raindrops in the clouds of
 heaven
Breaking the light, revealed that sevenfold
 arch
Of colours, ranged as on his own dark
 screen,
Though now they spanned the mountains
 and wild seas.
Then, where that old-world order had gone
 down
Beneath a darker deluge, he beheld
Gleams of the great new order and re-
 called
—Fraught with new meaning and a deeper
 hope—
That covenant which God made with all
 mankind
Throughout all generations : *I will set*
My bow in the cloud, that henceforth ye
 may know

*How deeper than the wreckage of your
dreams*

Abides My law, in beauty and in power.

II.

Yet for that exquisite balance of the mind,
He, too, must pay the price. He stood
alone

Bewildered, at the sudden assault of fools
On this, his first discovery.

“ I have lost
The most substantial blessing of my quiet
To follow a vain shadow.

I would fain
Attempt no more. So few can understand,
Or read one thought. So many are ready
at once

To swoop and sting. Indeed I would
withdraw

For ever from philosophy.” So he wrote
In grief, the mightiest mind of that new
age.

Let those who'd stone the Roman Curia
For all the griefs that Galileo knew
Remember the dark hours that well-nigh
 quenched
The splendour of that spirit. He could
 not sleep.
Yet, with that patience of the God in man
That still must seek the Splendour whence
 it came,
Through midnight hours of mockery and
 defeat,
In loneliness and hopelessness and tears,
He laboured on. He had no power to see
How, after many years, when he was
 dead,
Out of this new discovery men should
 make
An instrument to explore the farthest stars
And, delicately dividing their white rays,
Divine what metals in their beauty burned,
Extort red secrets from the heart of Mars,
Or measure the molten iron in the sun.
He bent himself to nearer, lowlier tasks ;

And seeing, first, that those deflected rays,
Though it were only by the faintest bloom
Of colour, imperceptible to our eyes,
Must dim the vision of Galileo's glass,
He made his own new weapon of the sky,—
That first reflecting telescope which should
 hold
In its deep mirror, as in a breathless pool
The undistorted image of a star.

III.

In that deep night where Galileo groped
Like a blind giant in dreams to find what
 power
Held moons and planets to their constant
 road
Through vastness, ordered like a moving
 fleet ;
What law so married them that they could
 not clash
Or sunder, but still kept their rhythmic
 pace

As if those ancient tales indeed were true
And some great angel helmed each gliding
sphere ;

Many had sought an answer. Many had
caught

Gleams of the truth ; and yet, as when a
torch

Is waved above a multitude at night,
And shows wild streams of faces, all con-
fused,

But not the single law that knits them all
Into an ordered nation, so our skies

For all those fragmentary glimpses, whirled
In chaos, till one eagle-spirit soared,

Found the one law that bound them all
in one,

And through that awful unity upraised
The soul to That which made and guides
them all.

Did Newton, dreaming in his orchard
there

Beside the dreaming Witham, see the moon

Burn like a huge gold apple in the
boughs
And wonder why should moons not fall
like fruit ?
Or did he see as those old tales declare
(Those fairy-tales that gather form and
fire
Till, in one jewel, they pack the whole
bright world)
A ripe fruit fall from some immortal
tree
Of knowledge, while he wondered at what
height
Would this earth-magnet lose its darkling
power ?
Would not the fruit fall earthward, though
it grew
High o'er the hills as yonder brightening
cloud ?
Would not the selfsame power that plucked
the fruit
Draw the white moon, then, sailing in the
blue ?

Then, in one flash, as light and song are
born,
And the soul wakes, he saw it—this dark
earth
Holding the moon that else would fly
through space
To her sure orbit, as a stone is held
In a whirled sling ; and, by the selfsame
power,
Her sister planets guiding all their moons ;
While, exquisitely balanced and controlled
In one vast system, moons and planets
wheeled
Around one sovran majesty the sun.

IV.

Light and more light ! the spark from
heaven was there,
The flash of that reintegrating fire
Flung from heaven's altars, where all light
is born,
To feed the imagination of mankind

With vision, and reveal all worlds in one.
But let no dreamer dream that his great
work
Sprang, armed, like Pallas from the Thun-
derer's brain.
With infinite patience he must test and
prove
His vision now, in those clear courts of
Truth
Whose absolute laws (bemocked by shal-
lower minds
As less than dreams, less than the faithless
faith
That fears the Truth, lest Truth should
slay the dream)
Are man's one guide to his transcendent
heaven ;
For there's no wandering splendour in the
soul,
But in the highest heaven of all is one
With absolute reality. None can climb
Back to that Fount of Beauty but through
pain.

Long, long he toiled, comparing first the
curves

Traced by the cannon-ball as it soared and
fell

With that great curving road across the
sky

Traced by the sailing moon.

Was earth a loadstone
Holding them to their paths by that dark
force

Whose mystery men have cloaked beneath
a name ?

Yet, when he came to test and prove, he
found

That all the great deflections of the moon,
Her shining cadences from the path
direct,

Were utterly inharmonious with the law
Of that dark force, at such a distance act-
ing,

Measured from earth's own centre. . . .

For three long years, Newton withheld
his hope

Until that day when light was brought
from France,

New light, new hope, in one small glisten-
ing fact,

Clear-cut as any diamond ; and to him
Loaded with all significance, like the point
Of light that shows where constellations
burn.

Picard in France—all glory to her name
Who is herself a light among all lands—
Had measured earth's diameter once more
And with a new precision.

To the throng,
Those few corrected ciphers, his results
Were less than nothing ; yet they changed
the world.

For Newton seized them and, with trem-
bling hands,

Began to work his problem out anew.

Then, then, as on the page those figures
turned

To hieroglyphs of heaven, and he beheld
The moving moon, with awful cadences

Falling into the path his law ordained,
Even to the foot and second, his hand
shook

And dropped the pencil.

“ Work it out for me,”

He cried to those around him ; for the
weight

Of that celestial music overwhelmed him ;
And, on his page, those burning hiero-
glyphs

Were Thrones and Principalities and
Powers . . .

For far beyond, immeasurably far

Beyond our sun, he saw that river of suns
We call the Milky Way, that glittering
host

Powdering the night, each grain a solar
blaze

Divided from its neighbour by a gulf

Too wide for thought to measure ; each a
sun

Huger than ours, with its own fleet of
worlds,

Visible and invisible. Those bright throngs
That seemed dispersed like a defeated host
Through blindly wandering skies, now, at
the word
Of one great dreamer, height o'er height
revealed
Hints of a vaster order, and moved on
In boundless intricacies of harmony
Around one centre, deeper than all suns,
The burning throne of God.

v.

He could not sleep. That intellect, whose
wings
Dared the cold ultimate heights of Space
and Time
Sank, like a wounded eagle, with dazed
eyes
Back, headlong through the clouds to
throb on earth.
What shaft had pierced him? That which
also pierced

His great forebears—the hate of little men.
They flocked around him, and they flung
 their dust
Into the sensitive eyes, and laughed to see
How dust could blind them.

 If one prickling grain
Could so put out his vision and so torment
That delicate brain, what weakness ! How
 the mind
That seemed to dwarf us, dwindles ! Is he
 mad ?
So buzzed the fools, whose ponderous
 mental wheels
Nor dust, nor grit, nor stones, nor rocks
 could irk
Even for an instant.

 Newton could not sleep,
But all that careful malice could design
Was blindly fostered by well-meaning folly,
And great sane folk like Mr Samuel Pepys
Canvassed his weakness and slept sound
 all night.
For little Samuel with his rosy face

Came chirping into a coffee-house one day
Like a plump robin, “Sir, the unhappy
state

Of Mr Isaac Newton grieves me much.

Last week I had a letter from him, filled
With strange complainings, very curious
hints,

Such as, I grieve to say, are common
signs

—I have observed it often—of worse to
come.

He said that he could neither eat nor
sleep

Because of all the embroilments he was in,
Hinting at nameless enemies. Then he
begged

My pardon, very strangely. I believe
Physicians would confirm me in my fears.
'Tis very sad. . . . Only last night, I
found

Among my papers certain lines composed
By—whom d’you think?—My lord of
Halifax

(Or so dear Mrs Porterhouse assured me)
Expressing, sir, the uttermost satisfaction
In Mr Newton's talent. Sir, he wrote
Answering the charge that science would
 put out
The light of beauty, these very handsome
 lines :

“When Newton walked by Witham stream
 There fell no chilling shade
To blight the drifting naiad's dream
 Or make her garland fade.

The mist of sun was not less bright
 That crowned Urania's hair.
He robbed it of its colder light,
 But left the rainbow there.”

They are very neat and handsome, you'll
 agree.
Solid in sense as Dryden at his best,
And smooth as Waller, but with something
 more,—

That touch of grace, that airier elegance
Which only rank can give.

'Tis very sad

That one so nobly praised should—well, no
matter!—

I am told, sir, that these troubles all
began

At Cambridge, when his manuscripts were
burned.

He had been working, in his curious way,
All through the night; and, in the morning
greyness

Went down to chapel, leaving on his desk
A lighted candle. You can imagine it,—
A sadly sloven altar to his Muse,

Littered with papers, cups, and greasy
plates

Of untouched food. I am told that he
would eat

His Monday's breakfast, sir, on Tuesday
morning,

Such was his absent way!

When he returned,

He found that Diamond (his little dog
Named Diamond, for a black patch near
his tail)

Had overturned the candle. All his work
Was burned to ashes.

It struck him to the quick,
Though, when his terrier fawned about
his feet,

He showed no anger. He was heard to
say,

“O Diamond, Diamond, little do you
know . . .”

But, from that hour, ah well, we'll say no
more.

Halley was there that day, and spoke up
sharply,

“Sir, there are hints and hints! Do you
mean more?”

—“I do, sir,” chirruped Samuel, mightily
pleased

To find all eyes, for once, on his fat face.

“I fear his intellects are disordered, sir.”

—" Good! That's an answer! I can deal
with that.

But tell me first," quoth Halley, " why he
wrote

That letter, a week ago, to Mr Pepys."

—" Why, sir," piped Samuel, innocent of
the trap.

" I had an argument in this coffee-house
Last week, with certain gentlemen, on the
laws

Of chance, and what fair hopes a man
might have

Of throwing six at dice. I happened to
say

That Mr Isaac Newton was my friend,
And promised I would sound him."

" Sir," said Halley,

" You'll pardon me, but I forgot to tell
you

I heard, a minute since, outside these
doors,

A very modish woman of the town,
Or else a most delicious lady of fashion,

A melting creature with a bold black
 eye,
 A bosom like twin doves; and, sir, a
 mouth
 Like a Turk's dream of Paradise. She
 cooed,
 'Is Mr Pepys within?' I greatly fear
 That they denied you to her!"

Off ran Pepys!

"A hint's a hint," laughed Halley, "and
 so to bed."

But, as for Isaac Newton, let me say,
 Whatever his embroilments were, he solved
 With just one hour of thought, not long
 ago

The problem set by Leibnitz as a challenge
 To all of Europe. He published his result
 Anonymously, but Leibnitz, when he saw it,
 Cried out, at once, old enemy as he was,
 "That's Newton, none but Newton! From
 this claw

I know the old lion, in his midnight lair."

VI.

*(Sir Isaac Newton writes to Mrs Vincent
at Woolthorpe.)*

Your letter, on my eightieth birthday,
wakes
Memories, like violets, in this London
gloom.

You have never failed, for more than three-
score years,

To send these annual greetings from the
haunts

Where you and I were boy and girl to-
gether.

A day must come—it cannot now be far—
When I shall have no power to thank you
for them,

So let me tell you now that, all my life,
They have come to me with healing in
their wings

Like birds from home, birds from the
happy woods

Above the Witham, where you walked
with me

When you and I were young.

Do you remember
Old Barley—how he tried to teach us
drawing ?

He found some promise, I believe, in you,
But quite despaired of me.

I treasure all
● Those little sketches that you sent to me
Each Christmas, carrying each some
glimpse of home.

There's one I love that shows the narrow
lane

Behind the schoolhouse, where I had that
bout

Of schoolboy fisticuffs. I have never
known

More pleasure, I believe, than when I beat
That black-haired bully and won, for my
reward,

Those April smiles from you.

I see you still

Standing among the fox-gloves in the
hedge ;

And just behind you, in the field, I know
There was a patch of aromatic flowers,—
Rest-harrow, was it ? Yes ; their tangled
roots

Pluck at the harrow ; halt the sharp
harrow of thought,

Even in old age. I never breathe their
scent

But I am back in boyhood, dreaming there
Over some book, among the diligent bees,
Until you join me, and we dream together.

They called me lazy, then. Oddly enough
It was that fight that stirred my mind to
beat

My bully at his books, and head the
school ;

Blind rivalry, at first. By such fond tricks
The invisible Power that shapes us—not
ourselves—

Punishes, teaches, leads us gently on
Like children, all our lives, until we grasp

A sudden meaning and are born, through
death

Into full knowledge that our Guide was
Love.

Another picture shows those woods of
ours,

Around whose warm dark edges in the
spring

Primroses, knots of living sunlight, woke ;

And, always, you, their radiant shepherdess

From Elfland, lead them rambling back

for me,

The dew still clinging to their golden fleece,

Through these grey memory-mists.

Another shows

My old sun-dial. You say that it is known

As "Isaac's dial" still. I took great

pains

To set it rightly. If it has not shifted

'Twill mark the time long after I am gone ;

Not like those curious water-clocks I made

Do you remember ? They worked well at

first ;

But the least particles in the water clogged
The holes through which it dripped ; and
so, one day,

We two came home so late that we were
sent

Supperless to our beds ; and suffered
much

From the world's harshness, as we thought
it then.

Would God that we might taste that
harshness now.

I cannot send you what you've sent to me ;
And so I wish you'll never thank me
more

For those poor gifts I have sent from
year to year.

I send another, and hope that you can
use it

To buy yourself those comforts which you
need

This Christmas-time.

How strange it is to wake

And find that half a century has gone by,
With all our endless youth.

They talk to me
Of my discoveries, prate of undying fame
Too late to help me. Anything I achieved
Was done through work and patience ;
and the men
Who sought quick roads to glory for
themselves
Were capable of neither. So I won
Their hatred, and it often hampered me,
Because it vexed my mind.

This world of ours
Would give me all, now I have ceased to
want it ;
For I sit here, alone, a sad old man,
Sipping his orange-water, nodding to sleep,
Not caring any more for aught they say,
Not caring any more for praise or blame ;
But dreaming—things we dreamed of, long
ago,
In childhood.

You and I had laughed away

That boy and girl affair. We were too
poor
For anything but laughter.

I am old ;
And you, twice wedded and twice widowed,
still
Retain, through all your nearer joys and
griefs,
The old affection. Vaguely our blind old
hands

Grope for each other in this growing dark
And deepening loneliness,—to say “good-
bye.”

Would that my words could tell you all
my heart ;

But even my words grow old.

Perhaps these lines,
Written not long ago, may tell you
more.

I have no skill in verse, despite the
praise

Your kindness gave me, once ; but since
I wrote

Thinking of you, among the woods of
home,
My heart was in them. Let them turn to
yours :

*Give me, for friends, my own true folk
Who kept the very word they spoke ;
Whose quiet prayers, from day to day,
Have brought the heavens about my way.*

*Not those whose intellectual pride
Would quench the only lights that guide ;
Confuse the lines 'twixt good and ill
Then throne their own capricious will ;*

*Not those whose eyes in mockery scan
The deeper, simpler dreams of man ;
Not those keen wits, so quick to hurt,
So swift to trip you in the dirt.*

*Not those who'd pluck your mystery out,
Yet never saw your last redoubt ;
Whose cleverness would kill the song
Dead at your heart, then prove you wrong.*

*Give me those eyes I used to know
Where thoughts like angels come and go ;
—Not glittering eyes, nor dimmed by books,
But eyes through which the deep soul
looks.*

*Give me the quiet hands and face
That never strove for fame and place ;
The soul whose love, so many a day,
Has brought the heavens about my way.*

VII.

*Was it a dream, that low dim-lighted room
With that dark periwigged phantom of Dean
Swift
Writing, beside a fire, to one he loved,—
Beautiful Catherine Barton, once the light
Of Newton's house, and his half-sister's
child ?*

“ Yes, Catherine Barton, I am brave
enough
To face this pale, unhappy, wistful ghost

Of our departed friendship.

It was I

Savage and mad, a snarling kennel of sins,
“Your Holiness,” as you called me, with
that smile

Which even your ghost would quietly turn
on me—

Who raised it up. It has no terrors, dear,
And I shall never lay it while I live.

You write to me. You think I have the
power

To shield the fame of Newton from a lie.

Poor little ghost! You think I hold the
keys

Not only of Parnassus, then, but hell.

There is a tale abroad that Newton owed

His public office to Lord Halifax,

Your secret lover. Coarseness, as you
know,

Is my peculiar privilege. I'll be plain,

And let them wince who are whispering in
the dark.

They are hinting that he gained his public
post

Through you, his flesh and blood; and
that he knew

You were his patron's mistress!

Yes, I know

The coffee-house that hatched it—to be
scotched,

Nay, killed, before one snuff-box could say
“snap,”

Had not one cold malevolent face been
there

Listening,—that crystal-minded lover of
truth,

That lucid enemy of all lies,—Voltaire.

I am told he is doing much to spread the
light

Of Newton's great discoveries, there, in
France.

There's little fear that France, whose
clear keen eyes

Have missed no morning in the realm of
thought,

Would fail to see it ; and smaller need to
lift

A brand from hell to illumine the light from
heaven.

You fear he'll print his lie. No doubt of
that.

I can foresee the phrase, as Halley saw
The advent of his comet,—*jolie nièce*,
Assez aimable, . . . then he'll give your
name

As *Madame Conduit*, adding just that spice
Of infidelity that the dates admit
To none but these truth-lovers. It will be
best

Not to enlighten him, or he'll change his
tale

And make an answer difficult. Let him
print

This truth as he conceives it, and you'll
need

No more defence.

All history then shall damn his death-cold
lie

And show you for the laughing child you
were

When Newton won his office.

For yourself

You say you have no fear. Your only
thought

Is that they'll soil his fame. Ah yes,
they'll try,

But they'll not hurt it. For all time to
come

It stands there, firm as marble and as
pure.

They can do nothing that the sun and
rain

Will not erase at last. Not even Voltaire
Can hurt that noble memory. Think of
him

As of a viper writhing at the base
Of some great statue. Let the venomous
tongue

Flicker against that marble as it may
It cannot wound it.

I am far more grieved

For you, who sit there wondering now,
too late,

If it were some suspicion, some dark hint
Newton had heard that robbed him of his
sleep,

And almost broke his mind up. I recall
How the town buzzed that Newton had
gone mad.

You copy me that sad letter which he
wrote

To Locke, wherein he begs him to forgive
The hard words he had spoken, thinking
Locke

Had tried to embroil him, as he says,
with women ;

A piteous, humble letter.

Had he heard

Some hint of scandal that he could not
breathe

To you, because he honoured you too
well ?

I cannot tell. His mind was greatly
troubled

With other things. At least, you need not
fear
That Newton thought it true. He walked
aloof,
Treading a deeper, stranger world than ours.
Have you not told me how he would forget
Even to eat and drink, when he was wrapt
In those miraculous new discoveries,
And, under this wild maze of shadow and
sun
Beheld—though not the Master Player's
hand—
The keys from which His organ music rolls,
Those visible symphonies of wild cloud and
light
Which clothe the invisible world for mortal
eyes.
I have heard that Leibnitz whispered to
the court
That Newton was an "atheist." Leibnitz
knew
His audience. He could stoop to it.
Fools have said

That knowledge drives out wonder from
the world ;
They'll say it still, though all the dust's
ablaze
With miracles at their feet ; while New-
ton's laws
Foretell that knowledge one day shall be
song,
And those whom Truth has taken to her
heart
Find that it beats in music.

Even this age
Has glimmerings of it. Newton never saw
His own full victory ; but at least he knew
That all the world was linked in one
again ;
And, if men found new worlds in years to
come,
These too must join the universal song.

That's why true poets love him ; and you'll
find
Their love will cancel all that hate can do.

They are the sentinels of the House of
Fame ;

And that quick challenging couplet from
the pen

Of Alexander Pope is answer enough

To all those whisperers round the outer
doors.

There's Addison, too. The very spirit and
thought

Of Newton moved to music when he wrote
The Spacious Firmament. Some keen-eyed
age to come

Will say, though Newton seldom wrote a
verse,

That music was his own and speaks his
faith.

And, last, for those who doubt his faith
in God

And man's immortal destiny, there re-
mains

The granite monument of his own great
work,

That dark cathedral of man's intellect,
The vast 'Principia,' pointing to the skies,
Wherein our intellectual king proclaimed
The task of science,—through this wilder-
ness
Of Time and Space and false appearances,
To make the path straight from effect to
cause,
Until we come to that First Cause of all,
The Power, above, beyond the blind
machine,
The Primal Power, the originating Power,
Which cannot be mechanical. He affirmed
it
With absolute certainty. Whence arises
all
This order, this unbroken chain of law,
This human will, this death-defying love ?
Whence, but from some divine tran-
scendent Power,
Not less, but infinitely more than these,
Because it is their Fountain and their
Guide.

Fools in their hearts have said, " Whence
comes this Power,
Why throw the riddle back this one stage
more ? "

And Newton, from a height above all
worlds

Answered and answers still :

" This universe

Exists, and by that one impossible fact
Declares itself a miracle ; postulates
An infinite Power within itself, a Whole
Greater than any part, a Unity
Sustaining all, binding all worlds in one.
This is the Mystery, palpable here and now,
'Tis not the lack of links within the chain
From cause to cause, but that the chain
exists ;
That's the unfathomable mystery,
The one unquestioned miracle that we
know,
Implying every attribute of God,
The ultimate, absolute, omnipresent Power,
In its own being, deep and high as heaven.

But men still trace the greater to the less,
Account for soul with flesh and dreams
 with dust,
Forgetting in their manifold world the
 One,
In whom for every splendour shining here
Abides an equal power behind the veil.
Was the eye contrived by blindly moving
 atoms,
Or the still-listening ear fulfilled with music
By forces without knowledge of sweet
 sounds ?
Are nerves and brain so sensitively
 fashioned
That they convey these pictures of the
 world
Into the very substance of our life,
While That from which we came, the
 Power that made us,
Is drowned in blank unconsciousness of
 all ?
Does it not from the things we know
 appear

That there exists a Being, incorporeal,
Living, intelligent, who in infinite space,
As in His infinite sensory, perceives
Things in themselves, by His immediate
presence

Everywhere ? Of which things, we see no
more

Than images only, flashed through nerves
and brain

To our small sensories ?

What is all science then

But pure religion, seeking everywhere
The true commandments, and through
many forms

The eternal power that binds all worlds in
one ?

It is man's age-long struggle to draw near
His maker, learn His thoughts, discern
His law,—

A boundless task, in whose infinitude,
As in the unfolding light and law of
love,

Abides our hope, and our eternal joy.

I know not how my work may seem to
others——”

So wrote our mightiest mind—“ But to
myself

I seem a child that, wandering all day long
Upon the sea-shore, gathers here a shell,
And there a pebble, coloured by the wave,
While the great ocean of truth, from sky
to sky

Stretches before him, boundless, unex-
plored.”

He has explored it now, and needs of me
Neither defence nor tribute. His own
work

Remains his monument. He rose at last
so near

The Power divine that none can nearer go ;
None in this age ! To carry on his fire
We must await a mightier age to come.

VI.

WILLIAM HERSCHEL CONDUCTS.

*Was it a dream?—that crowded concert-
room*

*In Bath; that sea of ruffles and laced
coats;*

*And William Herschel, in his powdered wig,
Waiting upon the platform, to conduct*

*His choir and Linley's orchestra? He stood
Tapping his music-rest, lost in his own
thoughts*

*And (did I hear or dream them?) all were
mine:*

My periwig's askew, my ruffle stained
With grease from my new telescope!

Ach, to-morrow

How Caroline will be vexed, although she
grows

Almost as bad as I, who cannot leave
My workshop for one evening.

I must give
One last recital at St Margaret's,
And then—farewell to music.

Who can lead
Two lives at once ?

Yet—it has taught me much,
Thrown curious lights upon our world, to
pass

From one life to another. Much that I
took

For substance turns to shadow. I shall
see

No throngs like this again ; wring no more
praise

Out of their hearts ; forego that instant joy
—Let those who have not known it count
it vain—

When human souls at once respond to
yours.

Here, on the brink of fortune and of fame,
As men account these things, the moment
comes

When I must choose between them and
the stars ;
And I have chosen.

Handel, good old friend,
We part to-night. Hereafter, I must
watch
That other wand, to which the worlds
keep time.

What has decided me ? That marvellous
night

When—ah, how difficult it will be to guide,
With all these wonders whirling through
my brain !—

After a Pump-room concert I came home
Hot-foot, out of the fluttering sea of fans,
Coquelicot-ribboned belles and periwigged
beaux,

To my Newtonian telescope.

The design

Was his ; but more than half the joy my
own,

Because it was the work of my own hand,
A new one, with an eye six inches wide,
Better than even the best that Newton
made.

Then, as I turned it on the *Gemini*,
And the deep stillness of those constant
lights,

Castor and Pollux, lucid pilot-stars,
Began to calm the fever of my blood,
I saw, O, first of all mankind I saw
The disk of my new planet gliding there
Beyond our tumults, in that realm of
peace.

What will they christen it ? Ach—not
Herschel, no !

Nor *Georgium Sidus*, as I once proposed ;
Although he scarce could lose it, as he lost
That world in 'seventy-six.

Indeed, so far
From trying to tax it, he has granted me

How much ?—two hundred golden pounds
a year,

In the great name of science,—half the cost
Of one state-coach, with all those worlds
to win !

Well—well—we must be grateful. This
mad king

Has done far more than all the worldly-wise,
Who'll charge even this to madness.

I believe
One day he'll have me pardoned for that
. . . crime,

When I escaped—deserted, some would
say—

From those drill-sergeants in my native
land ;

Deserted drill for music, as I now
Desert my music for the orchestral spheres.
No. This new planet is only new to man.
His majesty has done much. Yet, as my
friend

Declared last night, “ Never did monarch
buy

Honour so cheaply ” ; and—he has not
bought it.

I think that it should bear some ancient
name,

And wear it like a crown ; some deep,
dark name,

Like *Uranus*, known to remoter gods.

How strange it seems—this buzzing con-
cert-room !

There’s Doctor Burney bowing and, behind
him,

His fox-eyed daughter Fanny.

Is it a dream,
These crowding midgets, dense as cluster-
ing bees

In some great bee-skep ?

Now, as I lift my wand,
A silence grips them, and the strings
begin,

Throbbing. The faint lights flicker in
gusts of sound.

Before me, glimmering like a crescent moon,

The dim half circle of the choir awaits
Its own appointed time.

Beside me now,
Watching my wand, plump and immacu-
late
From buckled shoes to that white bunch
of lace

Under his chin, the midget tenor rises,
Music in hand, a linnet and a king.
The bullfinch bass, that other emperor,
Leans back indifferently, and clears his
throat

As if to say, "This prelude leads to
Me!"

While, on their own proud thrones, on
either hand,
The sumptuously bosomed midget queens,
Contralto and soprano, jealously eye
Each other's plumage.

Round me the music throbs
With an immortal passion. I grow aware
Of an appalling mystery. . . . We, this
throng

Of midgets, playing, listening, tense and
still,

Are sailing on a midget ball of dust

We call our planet; will have sailed
through space

Ten thousand leagues before this music ends.

What does it mean? O, God, what *can* it
mean?—

This weird hushed ant-hill with a thousand
eyes;

These midget periwigs; all those little
blurs,

Tier over tier, of faces, masks of flesh,

Corruptible, hiding each its hopes and
dreams,

Its tragi-comic dreams.

And all this throng
Will be forgotten, mixed with dust, crushed
out,

Before this book of music is outworn

Or that tall organ crumbles. Violins

Outlast their players. Other hands may
touch

That harpsichord ; but ere this planet
makes

Another threescore journeys round its sun,
These breathing listeners will have van-
ished. Whither ?

I watch my moving hands, and they grow
strange !

What is it moves this body ? What am I ?
How came I here, a ghost, to hear that
voice

Of infinite compassion, far away,
Above the throbbing strings, hark ! *Com-
fort ye . . .*

If music lead us to a cry like this,
I think I shall not lose it in the skies.
I do but follow its own secret law
As long ago I sought to understand
Its golden mathematics ; taught myself
The way to lay one stone upon another,
Before I dared to dream that I might
build

My Holy City of Song. I gave myself

To all its branches. How they stared at me,
Those men of "sensibility," when I said
That algebra, conic sections, fluxions, all
Pertained to music. Let them stare again.
Old Kepler knew, by instinct, what I now
Desire to learn. I have resolved to leave
No tract of heaven unvisited.

To-night,

—The music carries me back to it again!—
I see beyond this island universe,
Beyond our sun, and all those other suns
That throng the Milky Way, far, far
 beyond,
A thousand little wisps, faint nebulae,
Luminous fans and milky streaks of fire ;
Some like soft brushes of electric mist
Streaming from one bright point ; others
 that spread
And branch, like growing systems ; others
 discrete,
Keen, ripe, with stars in clusters ; others
 drawn back
By central forces into one dense death,

Thence to be kindled into fire, reborn,
And scattered abroad once more in a
 delicate spray
Faint as the mist by one bright dewdrop
 breathed
At dawn, and yet a universe like our own ;
Each wisp a universe, a vast galaxy
Wide as our night of stars.

The Milky Way

In which our sun is drowned, to these
 would seem
Less than to us their faintest drift of haze ;
Yet we, who are borne on one dark grain
 of dust
Around one indistinguishable spark
Of star-mist, lost in one lost feather of
 light,
Can by the strength of our own thought,
 ascend
Through universe after universe ; trace
 their growth
Through boundless time, their glory, their
 decay ;

And, on the invisible road of law, more
firm

Than granite, range through all their
length and breadth,

Their height and depth, past, present, and
to come.

So, those who follow the great Work-
master's law

From small things up to great, may one
day learn

The structure of the heavens, discern the
whole

Within the part, as men through Love see
God.

Oh, holy night, deep night of stars, whose
peace

Descends upon the troubled mind like
dew,

Healing it with the sense of that pure
reign

Of constant law, enduring through all
change ;

Shall I not, one day, after faithful years,
Find that thy heavens are built on music,
 too,

And hear, once more, above thy throbbing
 worlds

This voice of all compassion, *Comfort ye,*—
Yes—*comfort ye, my people, saith your God ?*

VII.

SIR JOHN HERSCHEL
REMEMBERS.

TRUE type of all, from his own father's
hand
He caught the fire; and, though he
carried it far
Into new regions; and, from southern
fields
Of yellow lupin, added host on host
To those bright armies which his father
knew,
Surely the crowning hour of all his life
Was when, his task accomplished, he
returned
A lonely pilgrim to the twilit shrine
Of first beginnings and his father's youth

There, in the Octagon Chapel, with bared
head
Grey, honoured for his father and himself,
He touched the glimmering keyboard,
touched the books
Those dear lost hands had touched so long
ago.

“ Strange that these poor inanimate things
outlast
The life that used them.
Yes. I should like to try
This good old friend of his. You'll leave
me here
An hour or so ? ”

His hands explored the stops ;
And, while the music breathed what else
were mute,
His mind through many thoughts and
memories ranged.
Picture on picture passed before him
there
In living colours, painted on the gloom :

Not what the world acclaimed, the great
work crowned,
But all that went before, the years of toil ;
The years of infinite patience, hope, despair.
He saw the little house where all began,
His father's first resolve to explore the
sky,
His first defeat, when telescopes were
found
Too costly for a music-master's purse ;
And then that dogged and all-conquering
will
Declaring, " Be it so. I'll make my own,
A better than even the best that Newton
made."
He saw his first rude telescope—a tube
Of pasteboard, with a lens at either end ;
And then,—that arduous growth to size
and power
With each new instrument, as his know-
ledge grew ;
And, to reward each growth, a deeper
heaven.

He saw the good Aunt Caroline's dismay
When her trim drawing-room, as by wizardry, turned
Into a workshop, where her brother's
hands
Cut, ground and burnished, hour on aching
hour,
Month after month, new mirrors of the
sky.

Yet, while from dawn to dark her brother
moved
Around some new-cut mirror, burnishing it,
Knowing that if he once removed his
hands
The surface would be dimmed and must
forego
Its heaven for ever, her quiet hands would
raise
Food to his lips; or, with that musical
voice
Which once—for she, too, offered her
sacrifice—

Had promised her fame, she whiled away
the hours

Reading how, long ago, Aladdin raised
The djinns, by burnishing that old bat-
tered lamp ;

Or, from Cervantes, how one crazy soul
Tilting at windmills, challenged a purblind
world.

He saw her seized at last by that same
fire,

Burning to help, a sleepless Vestal, dowered
With lightning-quickness, rushing from
desk to clock,

Or measuring distances at dead of night
Between the lamp-micrometer and his
eyes.

He saw her in mid-winter, hurrying out,
A slim shawled figure through the drifted
snow,

To help him ; saw her fall with a stifled
cry,

Gashing herself upon that buried hook,
And struggling up, out of the blood-stained
 drift,
To greet him with a smile.

“ For any soldier,
This wound,” the surgeon muttered, “ would
 have meant
Six weeks in hospital.”

Not six days for her !
“ I am glad these nights were cloudy, and
 we lost
So little,” was all she said.

Sir John pulled out
Another stop. A little ironical march
Of flutes began to goose-step through the
 gloom.
He saw that first “ success ” ! Ay, call it
 so !
The royal command,—the court desires to
 see
The planet Saturn and his marvellous rings
On Friday night. The skies, on Friday
 night,

Were black with clouds. “Canute me no
Canutes,”
Muttered their new magician, and un-
packed
His telescope. “You shall see what you
can see.”
He levelled it through a window; and
they saw
“Wonderful! Marvellous! Glorious!
Eh, what, what!”
A planet of paper, with a paper ring,
Lit by a lamp, in a hollow of Windsor
Park,
Among the ferns, where Herne the Hunter
walks,
And Falstaff found that fairies live on
cheese.
Thus all were satisfied; while, above the
clouds—
The thunder of the pedals reaffirmed—
The Titan planet, every minute, rolled
Three hundred leagues upon his awful
way.

Then, through that night, the *vox humana*
spoke

With deeper longing than Lucretius knew
When, in his great third book, the sombre
chant

Kindled and soared on those exultant
wings,

Praising the master's hand from which he,
too,

—Father, discoverer, hero—caught the fire.

It spoke of those vast labours, incomplete,

But, through their incompleteness, infinite

In beauty, and in hope; the task be-
queathed

From dying hand to hand.

Close to his grave

Like a *memento mori* stood the hulk

Of that great weapon rusted and out-
worn,

Which once broke down the barriers of the
sky.

“*Perrupit claustra*”; yes, and bridged
their gulfs;

For, far beyond our solar scheme, it
showed
The law that bound our planets binding
still
Those coupled suns which year by year he
watched
Around each other circling.

Had our own
Some distant comrade, lost among the
stars ?

Should we not, one day, just as Kepler
drew

His planetary music and its laws
From all those faithful records Tycho
made,

Discern at last what vaster music rules
The vaster drift of stars from deep to deep ;
Around what awful Poles, those wisps of
light

Those fifteen hundred universes move ?
One signal, even now, across the dark,
Declared their worlds confederate with our
own ;

For, carrying many secrets, which we now
Slowly decipher, one swift messenger comes
Across the abyss . . .

The light that, flashing through the im-
measurable,

From universe to universe proclaims
The single reign of law that binds them all.
We shall break up those rays and, in their
lines

And colours, read the history of their stars.
Year after year, the slow sure records
grow,

Awaiting their interpreter. They shall see
it,

Our sons, in that far day, the swift, the
strong,

The triumphing young-eyed runners with
the torch.

No deep-set boundary-mark in Space or
Time

Shall halt or daunt them. Who that once
has seen

How truth leads on to truth, shall ever
dare

To set a bound to knowledge ?

“ Would that he knew ”

—So thought the visitant at that shadowy
shrine—

“ Even as the maker of a song can hear
With the soul’s ear, far off, the unstricken
chords

To which, by its own inner law, it climbs,
Would that my father knew how younger
hands

Completed his own planetary tune ;
How from the planet that his own eyes found
The mind of man would plunge into the
dark,

And, blindfold, find without the help of
eyes

A mightier planet, in the depths beyond.”

Then, while the reeds, with quiet melodious
pace

Followed the dream, as in a picture passed,

Adams, the boy at Cambridge, making his
vow

By that still lamp, alone in that deep night,
Beneath the crumbling battlements of St

John's,

To know why Uranus, uttermost planet
known,

Moved in a rhythm delicately astray

From all the golden harmonies ordained

By those known measures of its sister-
worlds.

Was there an unknown planet, far beyond,
Sailing through unimagined deeps

And drawing it from its path ?

Then challenging chords
Echoed the prophecy that Sir John had
made,

Guided by his own faith in Newton's law :

*We have not found it, but we feel it trembling
Along the lines of our analysis now*

*As once Columbus, from the shores of Spain,
Felt the new Continent.*

Then, in swift fugues, began

A race between two nations for the prize
Of that new world.

Le Verrier in France,
Adams in England, each of them unaware
Of his own rival, at the selfsame hour
Resolved to find it.

Not by the telescope now !
Skies might be swept for æons ere one
spark

Among those myriads were both found
and seen

To move, at that vast distance round our
sun.

They worked by faith in law alone. They
knew

The wanderings of great Uranus, and they
knew

The law of Newton.

By the midnight lamp,
Pencil in hand, shut in a four-walled
room,

Each by pure thought must work his
problem out,—

Given that law, to find the mass and
place
Of that which drew their planet from his
course.

There were no throngs to applaud them.
Each alone,
Without the heat of conflict laboured on,
Consuming brain and nerve; for throngs
applaud
Only the flash and tinsel of their day,
Never the quiet runners with the torch.
Night after night they laboured. Line on
line
Of intricate figures, moving all in law,
They marshalled. Their long columns
formed and marched
From battle to battle, and no sound was
heard
Of victory or defeat. They marched
through snows
Bleak as the drifts that broke Napoleon's
pride

And through a vaster desert. They drilled
their hosts

With that divine precision of the mind
To which one second's error in a year
Were anarchy, that precision which is felt
Throbbing through music.

Month on month they toiled,
With worlds for ciphers. One rich autumn
night

Brooding over his figures there alone
In Cambridge, Adams found them moving
all

To one solution. To the unseeing eye
His long neat pages had no more to tell
Than any merchant's ledger, yet they
shone

With epic splendour, and like trumpets
pealed ;

*Three hundred million leagues beyond the
path*

Of our remotest planet, drowned in night

Another and a mightier planet rolls ;

In volume, fifty times more vast than earth,

*And of so huge an orbit that its year
Wellnigh outlasts our nations. Though it
moves
A thousand leagues an hour, it has not
ranged
Thrice through its seasons since Columbus
sailed,
Or more than once since Galileo died.*

He took his proofs to Greenwich. "Sweep
the skies
Within this limited region now," he said.
"You'll find your moving planet. I'm
not more
Than one degree in error."

He left his proofs ;
But Airy, king of Greenwich, looked
askance
At unofficial genius in the young,
And pigeon-holed that music of the spheres.
Nine months he waited till Le Verrier, too,
Pointed to that same region of the sky.
Then Airy, opening his big sleepy lids,

Bade Challis use his telescope,—too late,
To make that honour all his country's own ;
For all Le Verrier's proofs were now with
Galle

Who, being German, had his star-charts
ready

And, in that region, found one needle-
point

Had moved. A monster planet !

Honour to France !

Honour to England, too, the cry began,

Who found it also, though she drowsed at
Greenwich.

So—as the French said, with some sting
in it—

“ We gave the name of Neptune to our
prize

Because our neighbour England rules the
sea.”

“ Honour to all,” say we ; for, in these
wars,

Whoever wins a battle wins for all.

But, most of all, honour to him who
found

The law that was a lantern to their feet,—
Newton, the first whose thought could
soar beyond

The bounds of human vision and declare,
“ Thus saith the law of Nature and of God
Concerning things invisible.”

This new world

What was it but one harmony the more
In that great music which himself had
heard,—

The chant of those reintegrated spheres
Moving around their sun, while all things
moved

Around one deeper Light, revealed by law,
Beyond all vision, past all understanding,
Yet darkly shadowed forth for dreaming
men

On earth in music . . .

Music, all comes back

To music in the end.

Then, in the gloom

Of the Octagon Chapel, the dreamer lifted
up
His face, as if to all those great fore-
bears.
The quivering organ rolled upon the
dusk
His dream of that new symphony,—the
sun
Chanting to all his planets on their way
While, stop to stop replying, height o'er
height,
His planets answered, voices of a dream :

THE SUN.

Light, on the far faint planets that attend
me !
Light ! But for me—the fury and the
fire.
My white-hot maelstroms, the red storms
that rend me
Can yield them still the harvest they
desire.

I kiss with light their sunward-lifted faces.

With dew-drenched flowers I crown their
dusky brows.

They praise me, lightly, from their pleasant
places.

Their birds belaud me, lightly, from
their boughs.

And men, on lute and lyre, have breathed
their pleasure.

They have watched Apollo's golden
chariot roll ;

Hymned his bright wheels, but never mine
that measure

A million leagues of flame from Pole to
Pole.

Like harbour-lights the stars grow wide
before me,

I draw my worlds ten thousand leagues
a day.

Their far blue seas like April eyes adore me.

They follow, dreaming, on my soundless
way.

How should they know, who wheel around
my burning,
What torments bore them, or what
power am I,
I, that with all those worlds around me
turning,
Sail, every hour, from sky to unplumbed
sky ?

My planets, these live embers of my
passion,
These children of my hurricanes of
flame,
Flung thro' the night, for midnight to
refashion,
Praise, and forget, the splendour whence
they came.

THE EARTH.

*Was it a dream that, in those bright dominions,
Are other worlds that sing, with lives like
mine,*

*Lives that with beating hearts and broken
pinions*

Aspire and fall, half-mortal, half-divine ?

*A grain of dust among those glittering
legions—*

Am I, I only, touched with joy and tears ?

O, silver sisters, from your azure regions,

*Breathe, once again, your music of the
spheres :—*

VENUS.

A nearer sun, a rose of light arises,

To clothe my glens with richer clouds of
flowers,

To paint my clouds with ever new sur-
prises

And wreathe with mist my rosier domes
and towers ;

Where now, to praise their gods, a throng
assembles

Whose hopes and dreams no sphere but
mine has known.

On other worlds the same warm sunlight
trembles ;
But life, love, worship, these are mine
alone.

MARS.

And now, as dewdrops in the dawn-light
glisten,
Remote and cold—see—Earth and Venus
roll.
We signalled them—in music ! Did they
listen ?
Could they not hear those whispers of
the soul ?

May not their flesh have sealed that fount
of glory,
That pure ninth sense which told us of
mankind ?
Can some deep sleep bereave them of our
story
As darkness hides all colours from the
blind ?

JUPITER.

I that am sailing deeper skies and dimmer,
Twelve million leagues beyond the path
of Mars,
Salute the sun, that cloudy pearl, whose
glimmer
Renews my spring and steers me through
the stars.

Think not that I by distances am dark-
ened.

My months are years ; yet light is in
mine eyes.

Mine eyes are not as yours. Mine ears
have hearkened

To sounds from earth. Five moons
enchant my skies.

SATURN.

And deeper yet, like molten opal shining
My belt of rainbow glory softly streams,

And seven white moons around me inter-
twining
Hide my vast beauty in a mist of
dreams.

Huge is my orbit ; and your flickering
planet
A mote that flecks your sun, that faint
white star ;
Yet, in my magic pools, I still can
scan it ;
For I have ways to look on worlds afar.

URANUS.

And deeper yet—twelve million leagues of
twilight
Divide mine empire even from Saturn's
ken.
Is there a world whose light is not as my
light,
A midget world of light-imprisoned
men ?

Shut from this inner vision that hath
found me,
They hunt bright shadows, painted to
betray ;
And know not that, because their night
hath drowned me,
My giants walk with gods in boundless
day.

NEPTUNE.

Plunge through immensity anew and find
me.
Though scarce I see your sun,—that
dying spark—
Across a myriad leagues it still can bind
me
To my sure path, and steer me through
the dark.

I sail through vastness, and its rhythms
hold me,
Though threescore earths could in my
volume sleep !

Whose are the might and music that
enfold me ?

Whose is the law that guides me thro'
the Deep ?

THE SUN.

*I hear their song. They wheel around my
burning !*

*I know their orbits ; but what path have I ?
I that with all those worlds around me turning
Sail, every hour, ten thousand leagues of
sky ?*

*My planets, these live embers of my passion,
And I, too, filled with music and with
flame,
Flung thro' the night, for midnight to
refashion,
Praise and forget the splendour whence
we came.*

EPILOGUE.

ONCE more upon the mountain's lonely
height
I woke, and round me heard the sea-like
sound
Of pine-woods, as the solemn night-wind
washed
Through the long canyons and precipitous
gorges
Where coyotes moaned and eagles made
their nest.
Once more, far, far below, I saw the
lights
Of distant cities, at the mountain's feet,
Clustered like constellations . . .
Over me, like the dome of some strange
shrine,
Housing our great new weapon of the sky,

And mounting, slowly, surely, step by
step,

Entered into its kingdom and its power.

For just as Tycho's tables of the stars

Within the bounds of our own galaxy

Led Kepler to the music of his laws,

So, father and son, the Herschels, with
their charts

Of all those fire-mists, those faint nebulae,

Those hosts of drifting universes, lead

Our new discoverers to yet mightier laws

Enthroned above all worlds.

We have not found them,

And yet—only the intellectual fool

Dreams in his heart that even his brain
can tick

In isolated measure, a centre of law,

Amidst the whirl of universal chaos.

For law descends from law. Though all
the spheres

Through all the abysmal depths of Space
were blown

Like dust before a colder darker wind

Than even Lucretius dreamed, yet if one
thought,
One gleam of law within the mind of man,
Lighten our darkness, there's a law beyond ;
And even that tempest of destruction
moves
To a mightier music, shatters its myriad
worlds
Only to gather them up, as a shattered
wave
Is gathered again into a rhythmic sea,
Whose ebb and flow are but the pulse of
Life,
In its creative passion.

The records grow
Unceasingly, and each new grain of truth
Is packed, like radium, with whole worlds
of light.

The eclipses timed in Babylon help us now
To clock that gradual quickening of the
moon,

Ten seconds in a century.

Who that wrote

On those clay tablets could foresee his
 gift
To future ages ; dreamed that the groping
 mind,
Dowered with so brief a life, could ever
 range
With that divine precision through the
 abyss ?
Who, when that good Dutch spectacle-
 maker set
Two lenses in a tube, to read the time
Upon the distant clock-tower of his
 church,
Could dream of this, our hundred-inch,
 that shows
The snow upon the polar caps of Mars
Whitening and darkening as the seasons
 change ?
Or who could dream when Galileo watched
His moons of Jupiter, that from their
 eclipses
And from that change in their appointed
 times,

Now late, now early, as the watching
earth

Farther or nearer on its orbit rolled,
The immeasurable speed of light at last
Should be reduced to measure ?

Could Newton dream
When, through his prism, he broke the
pure white shaft

Into that rainbow band, how men should
gather

And disentangle ray by delicate ray
The colours of the stars,—not only those
That burn in heaven, but those that long
since perished,

Those vanished suns that eyes can still
behold,

The strange lost stars whose light still
reaches earth

Although they died ten thousand years
ago.

Here, night by night, the innumerable
heavens

Speak to an eye more sensitive than man's,

Write on the camera's delicate retina
A thousand messages, lines of dark and
 bright
That speak of elements unknown on earth.
How shall men doubt, who thus can read
 the Book
Of Judgment, and transcend both Space
 and Time,
Analyse worlds that long since passed away,
And scan the future, how shall they doubt
 His power
From whom their power and all creation
 came ? ”

I think that, when the second Herschel
 tried
Those great hexameters in our English
 tongue,
A nobler shield than ever Achilles knew
Shone through the song and made his
 echoes live :
*There he depicted the earth, and the canopied
 sky, and the sea-waves,*

*There the unwearied sun, and the full-orbed
moon in their courses,
All the configured stars that gem the circuit
of heaven,
Pleiads and Hyads were there and the giant
force of Orion,
There the revolving Bear, which the Wain
they call, was ensculptured,
Circling on high, and in all his courses
regarding Orion,
Sole of the starry train that descends not to
bathe in the ocean."*

A nobler shield for us, a deeper sky ;
But even to us who know how far away
Those constellations burn, the wonder
bides
That each vast sun can speed through the
abyss
Age after age more swiftly than an eagle,
Each on its different road, alone like ours
With its own satellites ; yet, since Homer
sang,

Their aspect has not altered ! All their
flight

Has not yet changed the old pattern of
the Wain.

The sword-belt of Orion is not sundered.
Nor has one fugitive splendour broken yet
From Cassiopeia's throne.

A thousand years
Are but as yesterday, even unto these.
How shall men doubt His empery over
time

Whose dwelling is a deep so absolute
That we can only find Him in our souls.
For there, despite Copernicus, each may
find

The centre of all things. There He lives
and reigns.

There infinite distance into nearness grows,
And infinite majesty stoops to dust again ;
All things in little, infinite love in man . . .
Oh, beating wings, descend to earth once
more,

And hear, reborn, the desert singer's cry :

*When I consider the heavens, the work of
Thy fingers,
The sun and the moon and the stars which
Thou hast ordained,
Though man be as dust, I know Thou art
mindful of him ;
And, through Thy law, Thy light still visiteth
him.*

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[OVER

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Contents.

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Contents.

Volume III.—*Continued.*

—The Heart of Canada—The Search-lights—
The Return of the Home-born—The Bringers
of Good News—The Trumpet-call—The Cry in
the Night—Thrice-armed—Forward—The Re-
peal—The Trumpet of the Law—A Belgian
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