

The Giant of Gravel Hill

A poem with slides delivered to the Cambridge Astronomical Association by Mark Hurn (Departmental Librarian, Institute of Astronomy) on Friday 13 December 2013. In celebration of 175 years of the Northumberland Telescope (1838-2013).

1

I am the giant of Gravel Hill
I hope you have some time to kill

I have a tale about the past to tell,
So listen up and listen well.

For many long year the hill was bare,
Until astronomers built something there.

It was in the year 1823
That Cambridge built an observatory

SLIDE

Old Tom Plume's money paid the bills
He left them with the best of wills

[Thomas Plume 1630-1704]

The astronomers left the smoky city
And found this hill in fields right pretty

The observatory had a house each end,
One for the Prof, one for his friend.

Along one side the 'scopes peeped out
To see the stars and roundabout!

The other side a library started
For all the books they had collected

Some were old and some were dusty
Some were very, very musty!

And on the top there was a dome
Where a 4 inch telescope had its home

An architect, John Mead by name
Designed it all to win his fame

The astronomers were rather happy,
But just one thing was rather crappy

All the telescopes were rather small
And hardly saw the stars at all!

What they needed was a bigger lens
A bigger one than all their friends

SLIDE

A great big object glass was what they sought
And in Páree, there was one to be bought

The glass from Cauchoix's workshop came
Around by that old River Seine

Across it was eleven inches, plus a bit
And for Cambridge that would do the trick

But who could stump up that much cash?
But a nobleman to cut a dash

Of Northumberland he was the Duke [Hugh Percy 3rd Duke 1785-1847 devt. football]
And they were all a lucky group [High Steward 1834, Chancellor 1840]

Because he went and bought that glass
That product of Parisian craft.

After him that 'scope would named be
So to mark that gener-osity

And so in 1834
that glassed eye was French no more

And in the town upon the Cam
To set it up, it was the plan

A great new telescope to build
The Plumian Professor willed

SLIDE

George Biddell Airy was his name
Mathematical optics was his game

He wrote a paper that was classic
It fixed the eyes of the astigmatic!

That lens he tested in 1835
It was GOOD he did confide.

And so resolved to set it standing
Upon a good old English Mounting

SLIDE

Yes he planned that telescope so fair
With its curious observers chair

Ransomes of Ipswich, the builders were
They also did the motor mower!

Using the wood from old ships spars
They built a catcher of the stars!

The London firm of Troughton and of Simms
Helped with all the brass-work things

And to protect it from the weather
A dome erected, so we gather

SLIDE

Here you see the original plans
And much the same it still stands

2

Astronomer Royal, Airy then became [held post 1835-1881]
Leaving on the Greenwich train [railway in Cambridge not until 1845!]

So Airy moved to Greenwich Palace
His job was taken by James Challis

SLIDE

A Reverend Gentleman was he
Who wrote upon Astronomy

And so we had for our Director
A Reverend Church of England Rector

To set all up, it took some years
One problem was the clockwork gears

Another cause of the delay
Mr Simms fell ill half way

Then in 1838 the work was done
Its ready for its first Observing run

The autumn sky is always great
And that they did appreciate

A target was the planet Mars
Encke's Comet, and some stars

Mars was at its opposition [1838]
Each two years, it always has one [next in 2014 but not that good]

SLIDE

When it looks a little bigger
Surface features you can figure

Encke's Comets orbit's fun
Every three years round the Sun [last in Nov 2013]

SLIDE

When it looks about its best
Puts your telescope to the test

The observing all went very well
As far as anyone did tell

But testing times, they were ahead
A challenge came that they would dread

It seems the planets were too few
And people had to find ones new

William Herschel, down in Bath
Found a planet that did last

SLIDE

He liked to call it Georgium Sidus
But we know it as : Uranus! <GET AUDIENCE TO SHOUT THIS

Uranus did a merry dance
That put the almanacs askance

It didn't turn up where it should
The reason was not understood

But there was a young Cornish lad
Who at this problem had a stab

SLIDE

John Couch Adams was his name
Celestial mechanics was the game

He worked it out by calculations
A reason for these perturbations

Another planet could there be?
So far off we couldn't see?

And could Uranus, bothered be
By that new planets gravity!

He jotted down a note to Airy
But of this theory he was wary

SLIDE

He wouldn't use the Greenwich 'scopes
To build up Adam's faint hopes

Instead he wrote to Cambridge city
Asking Challis to look out quickly

He had the great Northumberland

SLIDE

To search the vault of starry-land

So Challis started searching out
But oh so slow without a doubt

And when he found the sky clear-to-be
He'd rather have a cup of tea!

And that was not the only miss-hap
He didn't have a decent star map

This was 1846
When Adams tried to make a fix

Yet he did not have the idea alone
In France another made it known

SLIDE

Leverrier's planet was in print
His Three Memoirs gave a hint

Yet no French astronomer hunted
For the planet that he'd predicted

They wouldn't start a search for it
They thought Leverrier was a twit

[rather they didn't have confidence in the prediction!]

And to Berlin the Frenchman wrote
It was in French so I'll not quote

But when the German savants spied [discovered 23/24 September 1846]
A great new planet they descried

SLIDE

To Berlin's honour it was a boon
The planet we know as - Neptune! <ENCOURAGE AUDIENCE TO SHOUT

Poor old Challis had missed the planet
He had to read The Times about it

There he read of Galle's find,
Written up, by J R. Hind

And the other journals had their fun
With this new orbiter of the Sun

SLIDE

Punch made a joke of Adams' claim
A Cambridge victory was in vain

The British press got in a huff
With all this new planet stuff

Airy and Challis had failed their nation
The papers cried in consternation

Adams had been robbed of glory
In this nationalistic story

Challis naming tried to do
"Oceanus" called that planet blue

But that name no one would use
Because he no right to choose

No matter if the name would fit
Challis hadn't spotted it!

3

The giant didn't take the blame
It stayed a telescope just the same

SLIDE

Then in the 1850's , James Breen
Wrote about the comets he had seen

Donati's comet gave good views [visible in 1858]
It found it to the London News

That Comet must have been sublime
To get outdoors that Lady-fine

The Gent showed her the stars that night
It was a great romantic sight

But routine work can be a pain
Transit-observing rather lame

Observing every passing star
In life won't get you very far

And if the truth be plainly told
Those domes get very, very cold

Challis tired of being boss
Some thought, he weren't that much a loss

So Adams he took on the post
Although he liked to theorise most

SLIDE

Maths - he rather be doing
Instead of telescopic viewing

Around the site he loved to stalk
With tree's he planted Adams Walk!

He loved to walk around the site
But only in the sun, not night

Frightened of the dark some claim
If it be so, it was a shame!

When Adams died they looked about
To find a scholar with some clout

To Ireland there went out the call
Appointed was, Sir Robert Ball

SLIDE

To popularise astronomy he was a fan
The books he wrote made him a wealthy man

His public talks would never bore

They said he was like Patrick Moore

The public he invited here to see
The best views of Astronomy

Public observing nights - the goal
Gave our Giant - a new role

For pure research there were 'scopes better
But for casual viewing it was a pleasure

But by the year of 1932
The wooden dome had holes right through

SLIDE

The weather, thru one hundred years
Had broken in with wind like spears

A dome of steel was put on top
With the hope, that would not rot

SLIDE

They also took his clockwork drive
Now on electricky he would thrive

Survived, the Giant safely through
World War One and World War 2

A new eye - twelve inches full
Made him even bigger still

A lens Jim Hysom made right true
That observers could look through

Now the Giant can display his might
On each clear public open night

Where he joins the CAA
Celestial treasures to display

Brian Lister helps them spy
All the best things in the sky

And when the clock shows nearly nine
They will pack up, in quick time

Home to bed, a job well done
To astro-heroes, sleep will come

4

In recent years the dome was crumbling
It started letting wind and snow in

SLIDE

A university would get in trouble
If it became a pile of rubble!

The builders had a massive task
To fix things so that they would last

They've, been here all the Summer through
Could they be here all Winter too?

With a brand-new dome of copper
They've fixed it up good and proper

SLIDE

Who knows what we will of seen
By the time the metal, goes green?

We hope our giant keeps on going
Stars and planets to us showing

Einstein – who was a wit
Said Prediction was an iffy trick

That it's very hard to know
What the future has to show

What new comet, galaxy
Will our Giant let us see?

And now I have to say good bye
This long poem is no lie

SLIDE

I hope you have enjoyed my story
With its rhymes, right, wrong and awry

It's not just sums - Astronomy
It has a long, long history

And if you find the words to fit
A poem you can make of it!

So that's the story of Gravel Hill
Where you can see that Giant still

THE END!

Poem by Mark Hurn (December 2013)