

# 2002



**NEXT MEETING**  
**THURSDAY, 21<sup>st</sup> March 2013**  
**THE ASTRONOMICAL SOCIETY OF HARINGEY**  
**VOLUME 41 : ISSUE 5 : March 2013**  
[www.ashastro.co.uk](http://www.ashastro.co.uk)

# SOCIETY NEWS

## MEETING VENUE :

**Sixth Form Hut, Ashmole School, Southgate, London N14 5RJ.**

The day for meetings is usually the third Thursday of each month. The exceptions are August, when currently we do not hold a meeting, and December, when the Christmas Meet has always traditionally been held during the second week.

However, in case of changes, it is always advisable to double-check the dates below.

**Note we have a change of meeting room. The old Music Room building has gone the way of our original meeting place at the School, and has been demolished. We will now be meeting in the Sixth Form Centre, which is a similar building, but to the right, not left, of the car park. However it is closer to the playing field, so conveniently for any viewing sessions. See the next page.**

**There are also on-going discussions as to whether we hold more regular 'observing evenings', likely in the week before the main meeting.**

**For more on this, and general meeting information, also check the website:  
[www.ashastro.co.uk](http://www.ashastro.co.uk). Latest update March 2013**

**Doors open - 7.30pm : Main speaker - 8.00pm : Finish - 10.00pm sharp!**

New or updated information is in *italics*

## 2013

March 21<sup>st</sup> : *Mat Irvine* : "Deep Skies"

April 18<sup>th</sup> : Roy Goldsmith : "The Discovery of Neptune"

May 16<sup>th</sup>

June 20<sup>th</sup>

July 18<sup>th</sup>

August : summer break

September 19<sup>th</sup>

October 17<sup>th</sup> : AGM

November 21<sup>st</sup> December 12<sup>th</sup> : Christmas Do – *possibly...*

### COVER :

Taken on 13<sup>th</sup> March by your Editor, using a Nikon D7000 and an 18mm – 200mm DX lens, Comet PanSTARRS *is* in this picture. But unless you know exactly where to look you will be hard pressed to see it. It is extremely faint in the digital version and it is even fainter for those with the hard copy, due to printing processes. Since the Comet moved into the northern hemisphere, weather conditions in the UK have not been favourable. The 13<sup>th</sup> was the best day - arguable to date the *only* day - when viewing conditions were even approaching favourable. It took some digital processing to find the Comet – and that's knowing exactly (well approximately) where to look! For the record the Comet is located at 5 o'clock from the Moon, just above the thin faint wisp of cloud, itself just above a darker patch. See [Sky Views](#) for slightly clearer details.

## SOCIETY NEWS

### MEETING ROOM – ALL CHANGE



Those who turned up for the last meeting will have realised that if we met in our usual venue, it would be a trifle chilly, as the Music Room building had been demolished.

(It was actually due for demolition, but we thought for a later date, hence the lack of a warning!)

We are now meeting in the Sixth Form Centre, (see the view left). The building has two rooms, though we won't know which one we will be using until that evening.

### MEETING PREVIEW : 21<sup>st</sup> March Mat Irvine : "Deep Skies"



Apologies for the late announcement of the Meeting this month, but your Editor will be presenting a new version of his Deep Skies talk – based around the Space Sites of the South Western States. Everything from observatories; radio telescopes; launch sites - and - possible??? - landing sites of shall we say 'more extra-terrestrial' craft???

### MEETING REVIEW :

#### Jim Webb : "Close Encounters of the Endeavour Kind"

On my way to Anaheim, I spent several days in Los Angeles. It was an excellent opportunity to go and see the Space Shuttle 'Endeavour' at the California Science

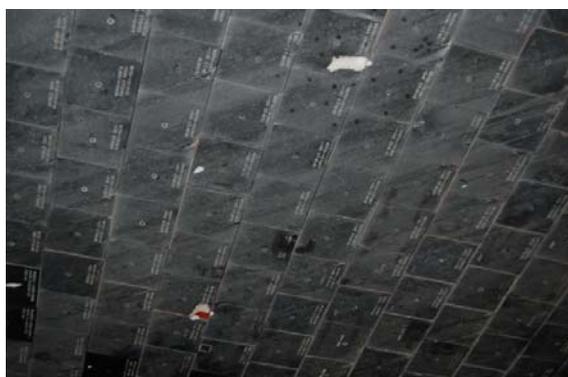


Center. On the way in, you are greeted with a couple of fighter planes hanging from the ceiling. Then before going into the main exhibition hall there are also the Mercury 2 spacecraft that took chimpanzee Ham, for a 15 minute hop into space; the Gemini 11 spacecraft of Charles Conrad and Richard Gordon and the Apollo Command Module, from the Apollo-Soyuz Test Project, that docked with the Soviet Soyuz in 1975. Entering

the main exhibition, one is greeted with the tyres from the landing gear of the Shuttle. These are big and show the damage marks from the landing. The Michelin tyres were only used once, (by a very careful pilot). Next was the 'space potty' (right) for astronauts to do their business in free-fall



conditions – things will float away so the potty has a suction device to ensure everything ends up where it should! Also on display was the control console of the Rocketdyne Operations Support Center. After that, one enters the main hall housing the Shuttle itself which is a “Wow” moment on entry – Endeavour is bigger than one imagines. It is also the most complex manned craft ever sent into space.



The technical staff of the Shuttle project are now out of work, consequently two of them ended up working for the Science Center. It was great chatting to one who showed me, in great detail, small



damage marks on the underside heat tiles (above) and which ones were likely to need replacing if another mission had to have flown. Each heat tile has a unique shape and marked with its own part number so that if a replacement was needed, it could be looked up in a database and specifically made to order. The heat tiles themselves are



very light and porous – capable of withstanding the temperatures reached during re-entry. They are also very fragile (there were none on display) and had to be handled with great care, however once in place the whole structure is very tough but still prone to damage from glancing blows.

described in great detail. The space shuttle main engine (SSMEs) is still the most advanced and efficient large rocket engine in the world. The Shuttle Orbiters had three which used liquid oxygen and liquid hydrogen as their fuel. The SSMEs and the two solid booster engines were enough to send the Shuttle into orbit around the Earth in one stage.

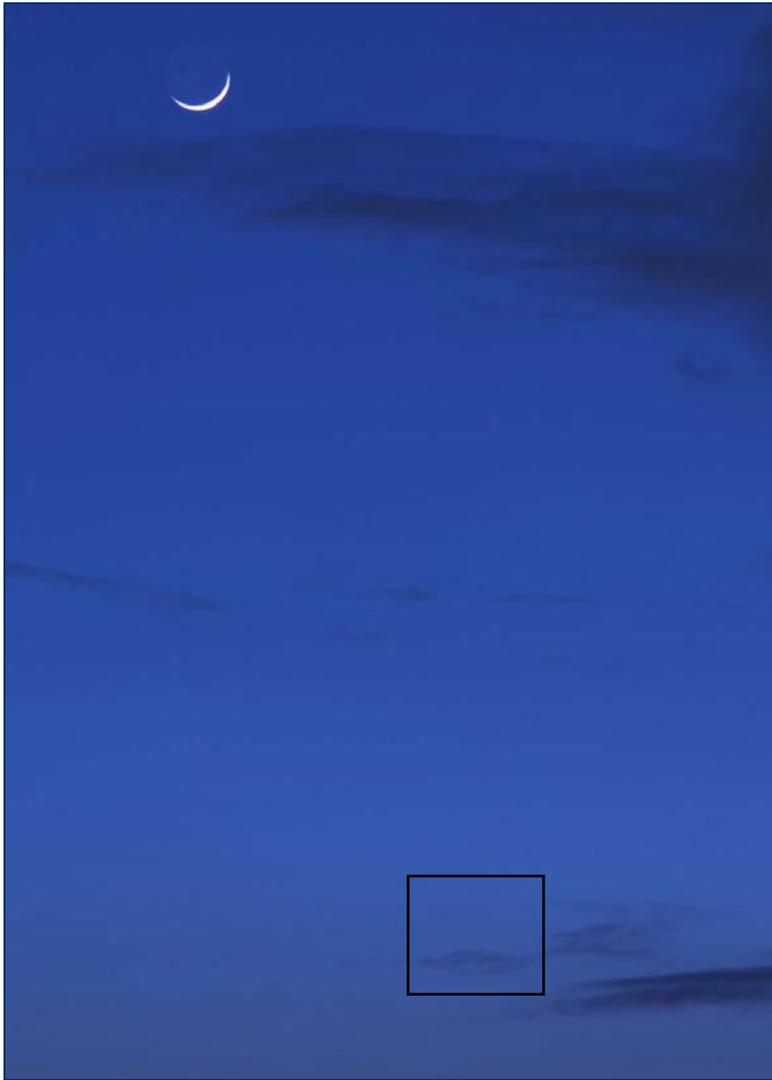
Also walking about was one of the designers of the Shuttle Orbiter's rocket engines, (one of which was on display - left), whose workings he

A very worthwhile and inspiring visit – recommended to all.

Jim Webb

# Sky Views

Perhaps not the most exciting photograph of a comet ever produced, but as can be seen in the enlargement (directly below) it is just about there! (Apologies if you have the paper version, it shows up slightly better in the digital.)



(lower right) This photo, taken from Mount Dale, Western Australia, shows the Comet in much more detail.

Photo: Astronomy Education Services/Gingin Observatory.

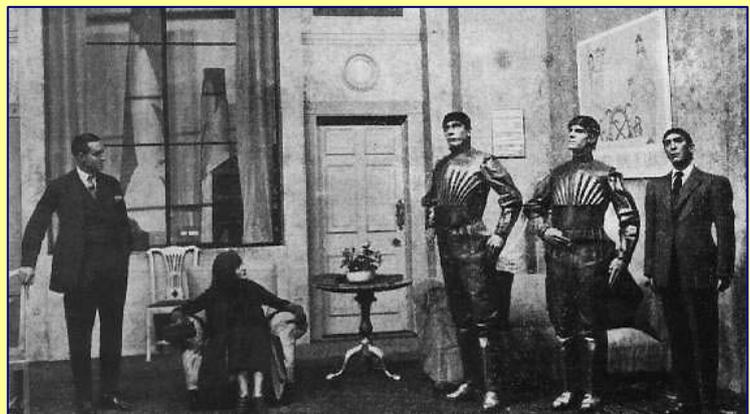
(below) NASA diagram of positions up to March 24th



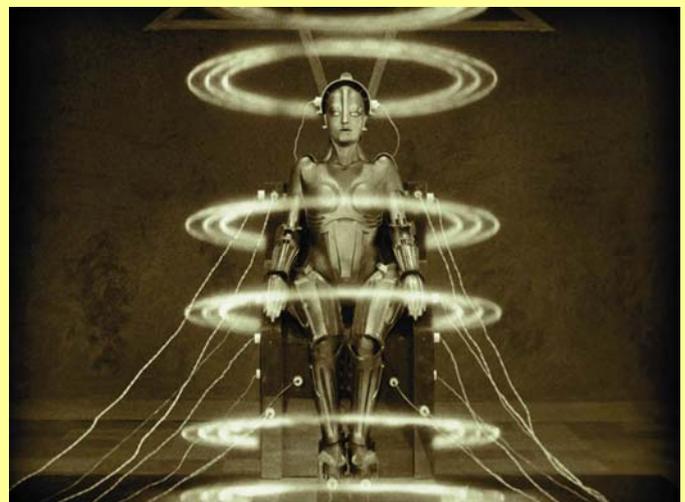
# CHAIRMAN'S QUARTERS



There is a lot of talk these days about robots especially with the release of the film 'Robot and Frank'. The term 'robot' in the modern sense was first used in 'R.U.R. – Rossum's Universal Robots', by Czech playwright, Karel Čapek. It came from the Czech word *robota*, meaning 'worker', (more precisely in the sense of 'forced labour'). (below) It in turn was developed from Russian word *работа*.



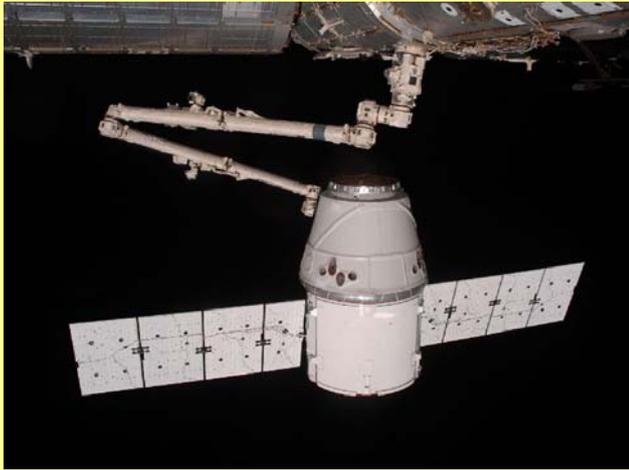
The concept of a robot is a machine that will do work for us at our bidding – ie the ultimate servant. From the beginning, robots have invariably been given an anthropomorphic look, especially in film and television. From Maria in 'Metropolis', (below right) through Gort in 'The Day the Earth Stood Still' and onto Data in 'Star Trek : The Next Generation'. (Data is usually referred to as an 'android', but this all goes to show that sorting out your 'types of robot' is not straightforward, something I may return to in the future.) Then there is the more machine-like variant, such as Robby the Robot in 'Forbidden Planet' and his close relative, the un-named Robot from 'Lost in Space'; but whatever the purpose of our robot, the visual media has invariably tended towards the humanoid appearance.



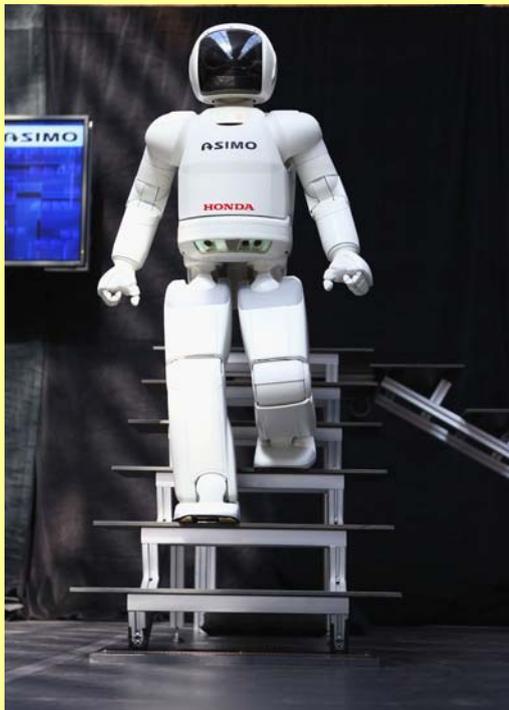
The reality of robots is, not surprisingly, quite different. A 'robot' is generally a device that will work for us in a way that we are not generally capable of. It is noteworthy that a robot does not necessarily have to



move which implies that even a computer can be considered to be a robot – jiggling billions of electrons a second without fail or complaint, (well, most of the time!). In a similar vein, software which automatically trawls the Internet looking for new website activity (as used by search-engines and other agencies, or even nefarious individuals) is referred to as a 'web-bot'.



However, in the general sense, a robot is a programmable or remotely controlled piece of hardware that carries out a specific task. In industry there are many machines with multiple articulated arms that perform tasks that our limbs cannot – mostly due to having more joints than we do. One good example here, and in keeping with ASH's interests, is of course the various 'robot arms' used on the Space Shuttle and International Space Station. (images : left and previous page)



All these are directly motor controlled, very different to the way our muscles operate on the bones in our bodies. And, of course our limbs cannot continuously rotate on their axis as motorised machine parts can rotate on a spindle.

The creation of more humanoid robots is the 'holy grail' of many researchers and companies. For whatever reason, the Japanese have been putting a lot of energy into this area of robotics. Honda is currently leading the field since 1986 with 'Asimo' – the company's four-foot tall humanoid model, with the ultimate aim of providing aids to



those with mobility impairments. Remarkably, Asimo can walk with relative ease and even climb stairs. One of the main breakthroughs was Asimo's ability to bend

its knees when walking. Despite this, Asimo's joints are still all directly motor driven. The University of Zurich have now created 'Roboy', a humanoid with exposed inner workings whose joints are connected to the drive motors via tendons, giving it smoother and more human movements.

It is of note that there appears to be a push in Japan and South Korea to create humanoids for the care of children, elderly people and those with disabilities. Furthermore, South Korea has already tried out robot prison guards, and three years ago launched a plan to deploy more than 8,000 English-language teachers in kindergartens. This has started to raise great debates about the acceptance of robots among humans in the home for anything other than entertainment. An ethical survey of 'robot nannies' suggests that as robots become more sophisticated, parents may be increasingly tempted to hand them too much responsibility. The survey also raises the question of what long-term effects will result from children forming an emotional bond with a lump of plastic!

See you April (I'm away for March)

Jim

Images above : left - Asimo coming down stairs and -right - with a person you may recognise on the left of picture, Professor Noel Sharky – who was also a judge on Robot Wars - with a Honda engineer.

# THE NIGHT SKY : PLANETS

## March - April 2013

**MERCURY** : In the morning skies, but very low and difficult to spot. At greatest western elongation on 31<sup>st</sup> March. Moon close on April 8<sup>th</sup>.

**VENUS** : At superior conjunction (ie directly 'behind' the Sun) at the end of March. The planet doesn't become visible again until the end of May in the evening skies.

**EARTH** : March 20<sup>th</sup> - Spring Equinox

**MARS** : Still faint in the west after sunset, but will be lost in the glare of the setting Sun by the end of the month. There is a very close conjunction with Uranus on 22<sup>nd</sup> March, but you would need a very clear horizon, very clear skies and very good seeing – all that and probably a lot of luck! In conjunction with the Sun on April 18<sup>th</sup>.

**JUPITER** : Remains very prominent in the evening skies, brilliant around magnitude -2.5. Within 5 degrees (10 x Moon widths) of Aldebaran in Taurus on 24<sup>th</sup> March. The Moon very close on 18<sup>th</sup> March and 14<sup>th</sup> April

**SATURN** : Now rising earlier in the evening, magnitude around 0.5. The rings are open at the moment, around 19 degrees, making a worthwhile visit from even the smallest telescope. The Moon is close by on 29<sup>th</sup> March.

**URANUS** : In conjunction with Mars 22<sup>nd</sup> – See : MARS. In conjunction with the Sun on 29<sup>th</sup>.

**NEPTUNE** : Was in conjunction with the Sun 21<sup>st</sup> February. Moon close by 7<sup>th</sup> April.

## COMETS

There has been good news and bad news about Comet PanSTARRS, (C/2011 L4 or Comet Wainscoat). In no way has it turned out to be as bright as many predicted, but on the other hand it has – just about - been visible, especially if you have clear skies and an unrestricted horizon. Its brightest was reckoned to be March 10<sup>th</sup>, but skies over the UK were clouded out. The next two days were similarly bad and the only day so far where the skies were even particularly clear was Wednesday 13<sup>th</sup>, as shown on the Cover and in Sky Views.

However Comet ISON, (initially C/2012 S1 and also known as Comet Nevski-Novichonok), is still being predicted to be, "...one of the brightest comets ever..." But we will have to wait until the end of the year to see if this comes true. It is not due to encounter the Sun until November, though current estimates are predicting it could be magnitude -16, which is brighter than a full Moon, (-12.7)!

Worth repeating from the last issue, the quote from comet specialist David Levy who compares comets to cats, "*Both have tails and both do exactly what they want!*"

## THE MOON



New 11<sup>th</sup> March

First Quarter 19<sup>th</sup>

Full 27<sup>th</sup>

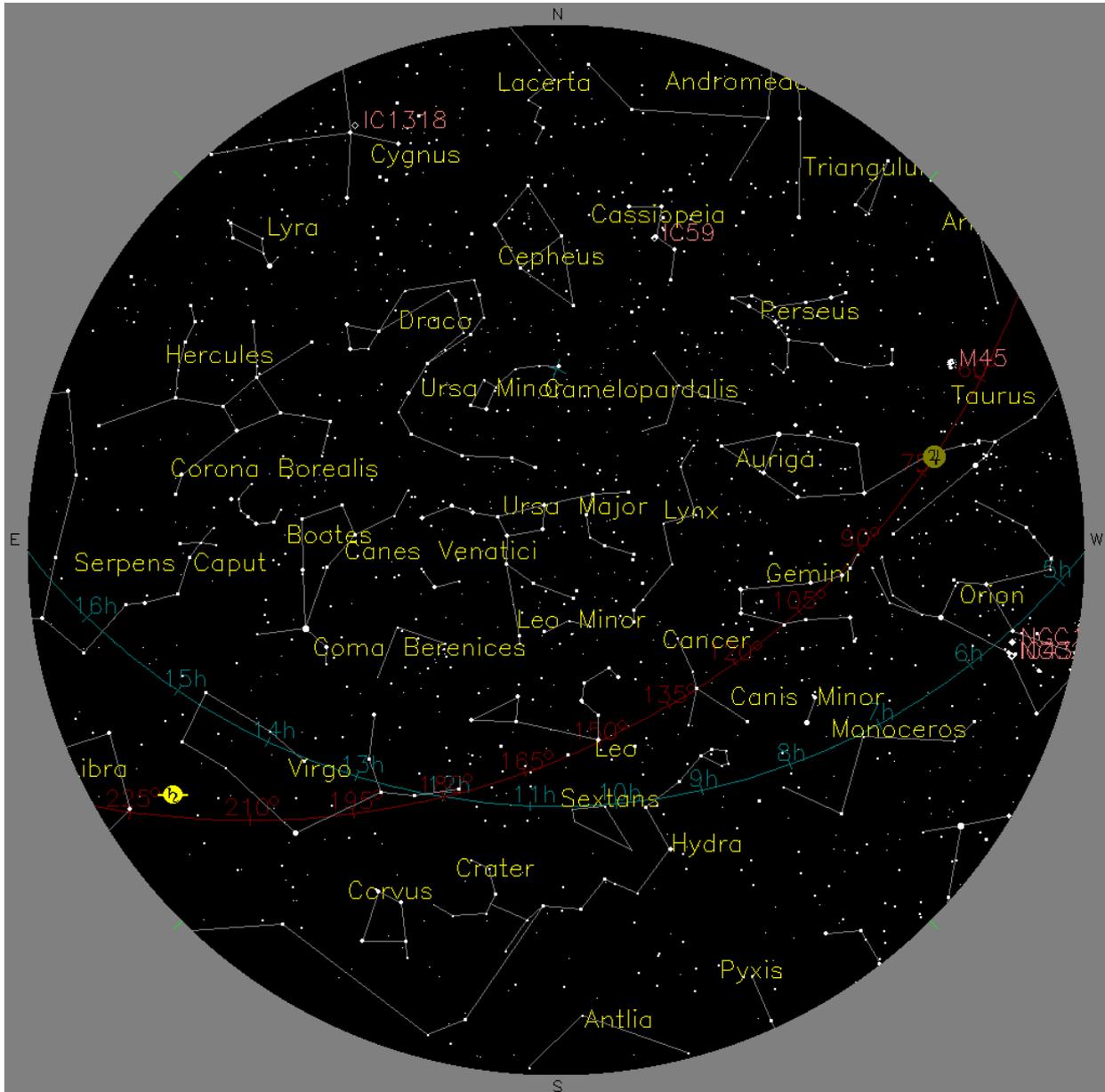
Last Quarter 3<sup>rd</sup> April

New 10<sup>th</sup>

# THE NIGHT SKY : MAP

1<sup>st</sup> April 2013 22:00:00 GMT/ UTC

Still not a very good time for planetary watchers this month. This map is timed slightly later than usual (22.00hrs) so as to show Saturn as well as Jupiter.



KEY	
 <b>MERCURY</b>	 <b>SATURN</b>
 <b>VENUS</b>	 <b>URANUS</b>
 <b>MARS</b>	 <b>NEPTUNE</b>
 <b>JUPITER</b>	 <b>PLUTO</b>



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