

Hi this is Steve Nerlich from Cheap Astronomy [www.cheapastro.com](http://www.cheapastro.com) and this is *Webb*, *James Webb*.

You may have heard about a new space telescope, that is, new after Hubble, Spitzer, Chandra, Compton, Kepler, Herschel, and Planck – for example. Anyway, this new one is the proposed James Webb space telescope which will have the biggest primary mirror of any space telescope, a 6.5 metre segmented mirror. The Webb is scheduled for launch in 2014 and will be parked 1.5 million kilometres away at Lagrange point 2 – which is on other side of Earth from the Sun.

This position will ensure the telescope can maintain an operating temperature below 40 Kelvin – or minus 233 degrees Centigrade – so that it can work effectively as an infrared telescope picking up light from great distances that has been stretched into the longer red wavelengths by the expansion of the universe.

But anyway, who the heck is James Webb? An astronomer? No. In fact James Webb wasn't even a scientist – but a member of that much maligned species, the government bureaucrat.

And why are we naming a telescope that hasn't even been built yet after him. Is it maybe because talking something up as though it's already a given outcome, tends to make that outcome almost inevitable – ooh, like, I don't know, the way they talked up a Moon landing back in the sixties?

It all started back when the Russians launched Sputnik 1 on the 4<sup>th</sup> of October 1957. As the Americans realised they were losing ground – in July 1958, President Eisenhower signed a bill to form NASA – which to the considerable credit of the USA, was and continues to be, a civilian agency dedicated to '*pioneering the future in space exploration, scientific discovery, and aeronautics research*'.

In February 1961, James Webb was appointed the second ever NASA administrator. His commencement was followed by an eventful 3 months where – on the 12<sup>th</sup> of April 1961, the Russians sent up Yuri Gagarin and the Americans sent up Alan Shepherd just 3 weeks later on the 5<sup>th</sup> of May 1961.

Then, on the 25<sup>th</sup> of May 1961 – the then president John F Kennedy makes the following statement to Congress "*I believe that this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the Moon and returning him safely to the Earth.*"

No pressure though.

Some historians describe James Webb as someone who looked at this situation and decided – if we're going to do this, let's do it right. Certainly, Kennedy's footnote statement '*... and return him safely to the Earth*' made it clear that that just lighting the fuse and standing back wasn't going to cut it.

The role of the public administrator in such mammoth human endeavours is perhaps one that deserves more recognition than it gets. They are not the scientists who figure out how to

do things or the engineers that turn those great ideas into reality. But maybe, they are the ones that get the money to the table and perhaps the ones that nurture and sustain the all-important political will that keeps the wheels turning on a huge, multi-billion dollar project with an nearly ten year timeframe.

Webb is described as an expert in lobbying Washington for support for the Moon program. He talked up the economic spin-offs – which was not just the Velcro and the Tang – but also the massive employment and engagement of a generation of youth in studying complex disciplines like maths, science and engineering – an engagement that seems to have faded in recent years.

More controversially, Webb also talked up the red menace angle – never fully convincing anyone that the Russians had a rocket that more than matched the Saturn V – but nonetheless, the Russians subsequently revealed that they had developed a heavy lifting rocket, the N1 – although apart from blowing up on several occasions, it never really made it off the launch pad.

Webb is also described as an early adopter of project and risk management models – using NASA as an ideal test-bed to new approaches to manage rapid deployment of complex and large scale public projects.

During Webb's tenure, there was an intensive program of scientific investigation, starting with the experimental manned missions of the Mercury program, robotic explorations of the Moon including the Ranger, Lunar Orbiter and Surveyor programs – and longer manned missions to perfect key techniques like rendezvous and space walks in the Gemini program. JPL's success in exploring the solar system through robotic spacecraft, such the early Mariner missions, also blossomed during Webb's tenure.

So some pretty good material for a resume there, that is up until the 27<sup>th</sup> of January 1967 – which brings us to another key role of the public administrator – someone to put their hand up when things go wrong. The deaths of Apollo 1 astronauts Grissom, White and Chaffee in a fire on the launch pad was a huge shock following the string of successes by NASA to this date, but many viewed it was an accident waiting to happen due to the continued push to meet Kennedy's deadline and to beat the Russians.

Webb successfully argued that the investigation into the fire should be managed by NASA itself, not a sign that he was immediately viewed as culpable. Webb reported his investigation's findings to various Congressional committees, and he took a personal grilling at nearly every meeting.

It's been argued that Webb stood down in some disgrace after the Apollo 1 tragedy – but in reality he stood down nearly two years after it, on the 7<sup>th</sup> of October 1968 – literally four days before the return to manned flight mission of Apollo 7 – and just over nine months before Apollo 11 landed a man on the Moon.

Different sides of the debate do seem to agree that Webb successfully deflected much of the backlash over the fire from both NASA as an agency and from the then President Lyndon

Johnson's administration. Some argue that in taking on much of the blame himself and then leaving the organisation, enabled everyone else to move on.

NASA has just celebrated its 50<sup>th</sup> birthday with its image and popular support largely intact – though its senior administration continues to be the subject of much critical scrutiny – which is also a key part of the public administrator job description.

After leaving NASA, Webb remained in Washington, serving on various advisory boards, including that of the Smithsonian museum. He died in 1992 at the respectable age of 85, probably unaware that anyone was going to name a space telescope after him.

Thanks for listening. This is Steve Nerlich from Cheap Astronomy, [www.cheapastro.com](http://www.cheapastro.com). Cheap Astronomy offers an educational website which is not overly concerned with the movements of small green pieces of paper. No ads, no profit, just good science. Bye