

Back to the moon

[Science](#), [Astrology](#)



More than thirty years after America's first landed on the moon, the current President of the United States, George W. Bush, recently announced his plan of sending American astronauts back to the moon (BBC News). The President's target is to accomplish this goal by the year 2015 (Lane, 2004). The project can be said to be merely preliminary to Bush's more flamboyant plan, which is to prepare the exploration to Mars. Moreover, the program also intends to make up for the setbacks experienced by the United States space program, such as the Columbia shuttle disaster (BBC News).

The Columbia disaster prompted Bush and a group of administration officials to develop a new plan that would use the existing space shuttles to "complete assembly of the International Space Station (ISS) by 2010" (Lane, 2004). Bush revealed his new vision for the United States human space program in a speech delivered at the National Aeronautics and Space Administration (NASA) headquarters. He called for the retirement of the space shuttle to give way for building new space vehicles that would, in the future, allow travel to Mars (Lane, 2004).

The space shuttle is expected to fly in about 13 or 14 more missions before its expected retirement in 2010 (Hunt, 2007; BBC News). Bush's vision also calls for the use of robots and human manpower in the exploration of the moon. The ultimate aim of the vision is to prepare the moon as a living base and to develop means for explorations to Mars (BBC News). The Space Shuttle The space shuttle is a brainchild of improvements and inventions in rocketry. The craft contains three main engines that provide huge amounts of force compared to previous spacecrafts.

It also boasts of a reusable engine and engines that weighs quite lightly considering their power (The History of Moon Exploration). Considering its characteristics, it is no wonder that Boeing boasts of it as the “ most sophisticated human-rated launch vehicle in the history of space flight” (Boeing). The space shuttle had its first flight in 1981, and since then it was able to aid more than a hundred missions involving hundreds of astronauts (Boeing). Boeing claims that the spacecraft still has 75 percent of its design life to spare (Boeing).

The space shuttle plays a major role in sustaining the International Space Station, being the ISS’ heavy-lift cargo vehicle. The space shuttle is responsible for having lifted the now existing structure in orbit, which comprises two-thirds of the ISS (Boeing). Bush wants to retire the space shuttle by 2010 at the earliest, hoping that by then the International Space Station is already complete (Hunt, 2007; BBC News). Bush also hopes that by the said time, the Crew Exploration Vehicle already becomes operational (Hunt, 2007; BBC News).

However, before such goals are realized and as long as the shuttle remains safe to carry on its tasks, it shall remain as the primary spacecraft aiding the United States’ projects towards space (Boeing). Picture 2. The Space Shuttle. Photoretrieved March 6, 2007, from www.boeing.com/.../hsfe_shuttle/what_is.html The Crew Exploration Vehicle Bush’s vision is an echo of a similar dream by his father in 1989, which did not come to fruition because the cost estimates ballooned up to \$400 billion (Lane, 2004).

Working on the premise that the desire to explore is part of human character, Bush said that his dream is to build space vehicles that could

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travel far beyond the capacity of the space shuttle, which only reaches 386 miles (Lane, 2004). Bush thus announced his plans to develop a new spacecraft called the Crew Exploration Vehicle (CEV). This vehicle would be the first to take man to outer space since the Apollo spaceships (BBC News). The CEV is expected to be a versatile crewed vehicle that could carry American teams in a mission projected to be undertaken in 2014 or 2015.

The CEV is expected to begin flight tests by the year 2008 (Lane, 2004). The CEV's look is designed to look similarly with the bullet-like style of the Apollo-style command module (Lane, 2004). Aside from the design, however, NASA administrator Sean O'Keefe says that no design has yet been approved regarding the way of keeping the CEV boosted in the air (Lane, 2004). Robots in Space It is believed by some that robotic exploration is more beneficial than human exploration, since the former is less expensive (The Washington Post Writers Group, 2007).

Moreover, Professor Robert Park of the University of Maryland claim that robots have less physical limitations than humans, which means robots have better chances of discovering scientific finds over humans (BBC News). Even other countries that spend resources on space explorations, such as China and Russia, are encouraged to use robots in such ventures (BBC News). There are current efforts using robots in space exploration. Just recently, the United States celebrated the successful landing of its robot rover Spirit on Mars (BBC News).

Since the previous space plans formulated by Bush's father failed because of budgetary constraints (Lane, 2004), Bush is careful to get around the same drawback. Naturally, huge projects such as space explorations would cost

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loads of money and other resources. Thus, Bush's ambitious new vision would entail modifications on the current budget of the NASA. The NASA currently has a five-year budget plan. However, Bush requests a \$1 billion boost on this budget (Lane, 2004). This means that additional \$200 million per year would be allotted for the project (Lane, 2004).

This amounts to a 5% yearly increase to NASA's current budget, which amounts to \$15.4 billion per year (BBC News). A rise of another 1% after the first three years is also requested by the U. S. President (BBC News). It is reported that Bush wants that \$11 billion from the existing budget be earmarked for his new vision (Lane, 2004). The exact cost of the vision was not given (BBC News), but one thing is certain: the budget would have to be approved by Congress. (Lane, 2004). The White House, however, maintains that a "sustained focus over time" would help keep the budget for the exploration in check (Lane, 2004).

There is also a need to reorient the current programs of NASA, so that NASA would not exceed its current spending, which only amounts to less than 1 percent of the federal budget, despite the additional goal (Lane, 2004). The Orion Currently, a ship has been built to carry humans to the moon. This spacecraft, called the Orion, is scheduled to debut in 2014 (Hunt, 2007). However, budgetary constraints will cause a delay of about four to six months. The Orion is now set to fly in 2015 (Hunt, 2007).

NASA administrator Michael Griffin stated that Congress only approved the amount in NASA's budget in 2006, which means that the approved budget is \$545 million short of Bush's request (Hunt, 2007). NASA does not welcome this lack of funding and the concomitant delay in the project, as strategic

and practical concerns such as the degradation of equipment and facilities, besiege the institution (Hunt, 2007). A Brief History of Explorations to the Moon A brief review of the development of moon exploration is in order, so that a clear perspective can be had as to the propriety and utility of Bush's proposed space exploration.

Chinese astronomers were perhaps the first people to notice the Moon. For thousands of years, man has been captivated by the Moon, and man's curiosity for it has been first assuaged by the invention of the telescope in 1609 (The History of Moon Exploration). The telescope, invented by Leppershey, made thorough observations possible despite the immense distance between the Earth and the Moon (The History of Moon Exploration). However, this invention was a double-edged sword: man developed an even more intense curiosity for the moon, leading man to dream of someday setting foot on the distant place (The History of Moon Exploration).

Because of the enormous distance of the Moon from the Earth, reaching it would only be possible through flight. Unfortunately, air transportation took quite a while to be fully developed. The groundbreaking invention of the Wright brothers can be considered the first step towards space travel, because they invented the aeroplane, which allowed man to fly (The History of Moon Exploration). In 1943, another milestone in space exploration occurred with the development of rocketry by Von Braun. Braun was responsible for the A 4, which was the first successful ballistic rocket (The History of Moon Exploration).

Despite the United States' exposure to the latest technology at the time, such as the rocketry of Braun, it was Russia that made one of the most significant

developments in space exploration. 1957 witnessed the launch of Sputnik I, which was the first artificial satellite in space (The History of Moon Exploration). Russia was also the first to take pictures of the Moon. In 1959, its Luna satellites were able to obtain pictures of the far side of the Moon (The History of Moon Exploration). In 1963, the United States followed in the affair of obtaining pictures in space.

Its Mariner Series satellites were able to acquire detailed pictures of Venus, and a year later, of Mars (The History of Moon Exploration). Saturn rockets were the next to be developed by the United States; these rockets were later used to power the Apollo Missions (The History of Moon Exploration). The country also ventured into designing moon landing vehicles, and was successful with Surveyor 6 and the Lunar Module, which proved that rocketry could bring man to the Moon (The History of Moon Exploration).

The United States is also responsible for the Command and Service Module, a vehicle designed for the trip back to Earth from the Moon (The History of Moon Exploration). Man's First Walk on the Moon The United States has the credit for sending the first man to walk on the Moon. On 21 July 1969, the whole world watched in awe as clips of Neil Armstrong's first steps on the Moon were aired in international television (BBC News). The video clips were taken by television cameras installed on the Eagle landing craft (BBC News).