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By Peter Symonds
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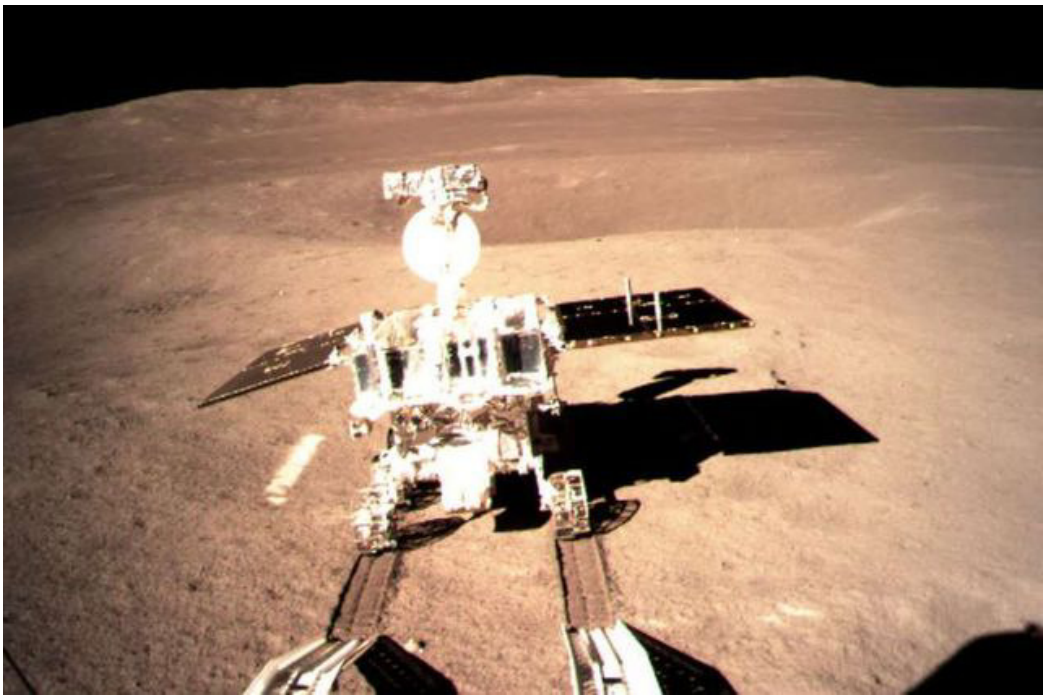
China's moon landing to exacerbate tensions with US

China's landing of a scientific probe on the far side of the Moon has led to a rash of media speculation, in the US in particular, about a new international space race amid heightened tensions between the two countries over economic issues, including trade, and a massive American military build-up in Asia against China.

Washington reacted with shock when the Soviet Union launched the Sputnik satellite in 1957 and in 1961 became the first country to put a human being into space. Yuri Gagarin completed one full orbit in his Vostok spacecraft and successfully returned to Earth. The United States poured billions into the NASA space program, recognising that at stake was not only national prestige but vital military applications. As a result, the US became the first nation to put someone on the Moon—Neil Armstrong and Buzz Aldrin in 1969.

China has now achieved a space first of its own. While probes have previously been landed on the Moon, China's Chang'e-4 was the first to make a soft landing on the side that is perpetually facing away from the Earth—the so-called far side of the Moon. According to the China National Space Administration, the probe landed at 10.26 a.m. Beijing time after hovering to allow a suitable site to be located. A photo—the first close-up image of the Moon's far side—was beamed back to Earth via a relay satellite previously positioned 80,000 kilometres from the Moon.



The first close-up image of the far side of the moon Credit: China National Space Administration

China's space agency declared that the mission's success had "opened a new chapter in humanity's exploration of the moon." The instruments aboard Chang'e-4 and its lunar rover include cameras, ground-penetrating radar and spectrometers that provide data that will assist in understanding the Moon's geology. The lander also carries biological experiments to see if seeds will germinate and silkworm eggs will hatch in the Moon's low gravity.

In an article entitled "The space race is back on—and China is in the lead," *Guardian* journalist Mary Dejevsky commented: "The first response of the US space agency, NASA, was generous, as scientists to scientists: what China had managed was a 'first for humanity and an impressive accomplishment.' The response in political and military quarters in Washington, as in Moscow, however, is likely to reflect trepidation."

In 2003, China became only the third country after the US and Russia to successfully put astronauts into space using its own rockets. Since then, it has sent 11 astronauts into space so far, and in 2016, two of them spent 30 days in China's own space station. Last year, China launched 36 rockets into space—more than any other country, including the US which launched 30.

Moreover, China's space agency has ambitious plans. Another Moon landing of the Chang'e-5 is scheduled later this year. By 2022, China is aiming to have its third space station fully operational. It plans to begin building a base on the Moon in 2025 and to man it by 2030. Probes to Mars are also planned. While the budget for the China National Space Administration is still significantly less than for NASA, it is greater than any other country.

China's space program has already provoked considerable nervousness in Washington. While profitable business opportunities are involved, the concern above all is that the US could be eclipsed by China in military applications, which are inherent in any space program. Large multi-stage rockets, accurate guidance systems and stable communications are just the most obvious developments that have potential military spin-offs.

The US press has highlighted the China's ability to shoot down satellites, which it demonstrated in 2007 when it destroyed one of its own satellites. China is also developing a global navigation system, BeiDou, with clear military significance, independent from the operational American, Russian, and nearly operational European ones. BeiDou has a high-precision mode only available to the Chinese military, and will be fully operational globally by 2020.

Washington, however, is the chief driver of military rivalry in space. In September 2016, a congressional sub-committee convened a hearing, entitled "Are we losing the space race to China?" which criticised the Obama administration for not devoting the necessary resources to winning the race. President Trump signed a new space-policy directive in December 2017 outlining plans for manned missions to the Moon and Mars. The US is aiming to return to the Moon by 2023.

The renewed US space effort is explicitly connected to military plans. Last year the Trump administration announced the establishment of a new branch of US armed forces by 2020 to be known as Space Force, which will operate independently of the other branches—the army, navy, air force, marines and coast guard. In a clear indication that it will get congressional approval, $12 billion was allocated this year for its establishment.

In making the announcement, Vice President Mike Pence declared that the Space Force would be an "elite group of war fighters specializing in the domain of space." A huge space command already exists within the US Air Force. Established in 1982, it is headquartered at the Peterson Air Force base in Colorado and oversees 30,000 personnel.

It includes the Space and Missile Center, monitors ballistic missile launches and manages the Defense Department's satellites.

In an emphatic declaration, Pence insisted, "We must have American dominance in space, and so we will." In the sphere of manned space flight, the US has ground to make up after its space shuttle program had to rely on Russian launches. When the International Space Station in which the US and Russia have collaborated is decommissioned—Trump has mooted ending funding by 2025—China's space station could be the only one in orbit.

At the same time, China's space program suffered a major setback with the failed launch in 2017 of the Long March 5, a new heavy lift rocket needed for its more ambitious projects.

A worried editorial in the *Financial Times* yesterday, entitled "China and the US should be allies, not foes, in space," suggested "greater collaboration between all space powers would be far preferable to the secretive rivalry that characterised the early US-Soviet space race." While noting Trump's plans for a Space Force, the newspaper put the onus on China "to show it commitment to global co-operation" so as to defuse "legitimate concerns about the militarisation of space."

In reality, it is the US that has sought to isolate China from US-led space programs. None of the astronauts sent to the International Space Station has been Chinese. In 2011, US legislation specifically excludes scientific exchanges with China involving NASA. Its sponsor, Republican Frank Wolf, slammed China, declaring: "We don't want to give them the opportunity to take advantage of our technology, and we have nothing to gain from dealing with them."

Wolf's comments are today the basis of the deepening US trade war with China, in which the Trump administration has made alleged Chinese intellectual property theft and its drive for technological advances, as part of the "Made in China 2025," the main bones of contention. Far from collaborating with China in space projects, the US space program is intimately connected to an escalating arms race. Under conditions in which the US is aggressively preparing for war with China, the current undeclared "space race" is even more ominous than the previous rivalry between the US and the Soviet Union.