

Fifty Years After Apollo 11, the Moon Is More Important Than Ever

The moon offers a source of valuable precious metals and a launching pad for future space exploration, writes former investigative reporter Basil Hero

By Basil Hero

March 27, 2019 10:30 am ET

Neil Armstrong and Buzz Aldrin took their first steps on the moon on July 20, 1969. Nearly 50 years after the Apollo 11 landing, the moon continues to offer a logical gateway to the universe, a training ground for astronauts and a potential staging area for Mars exploration.

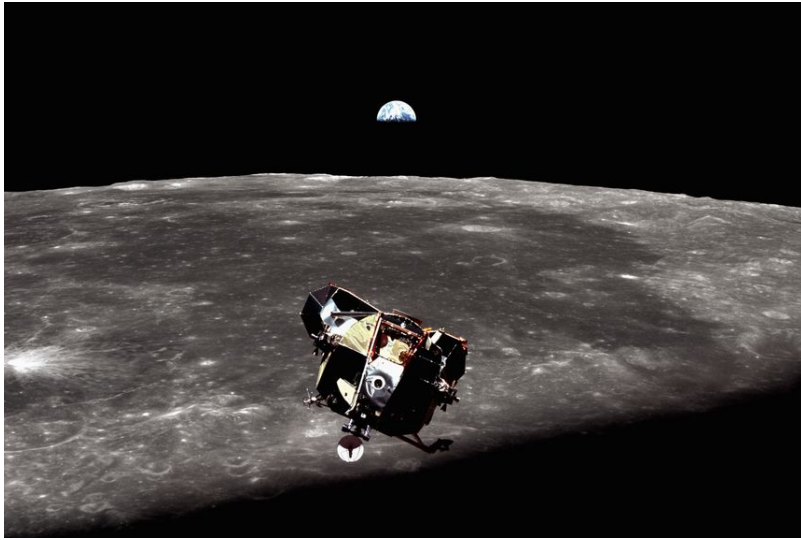
“We can do complex things there that then make it a heck of a lot easier to get to Mars than launching some big rocket off the Earth,” says retired astronaut Nicole Stott.

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The moon has all the resources (water, oxygen, silicon, titanium, iron) to create a base that can be resupplied from Earth, only a three-day journey away. NASA plans to establish a “gateway” orbiting the moon in the coming years, enabling regular missions to the lunar surface. The aim for any entity seeking to build a permanent lunar base, says Charlie Duke, the 10th person to walk on the moon, would be “to learn how to extract minerals from the moon and to set up moon-based telescopes and other kinds of instruments, and then develop the systems where we cycle crews back and forth like we do on the [international] space station, every three months to six months,”

he said.

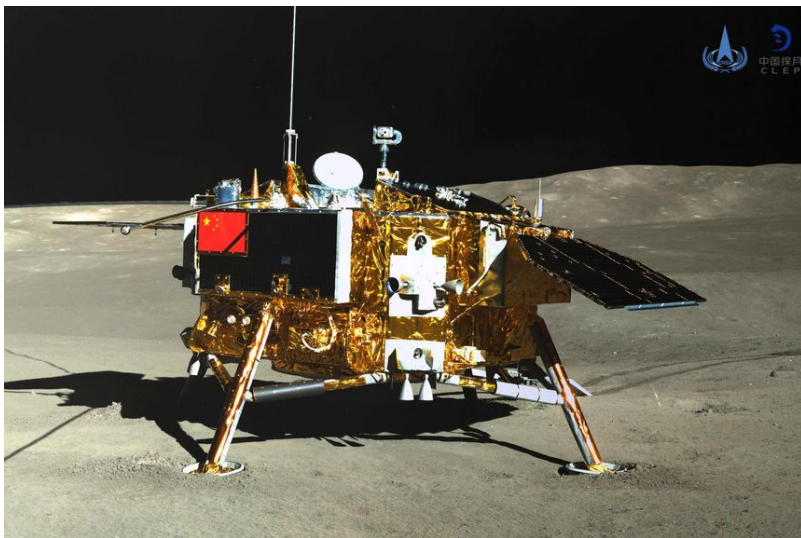
How will nations behave on the moon when precious minerals and gases like helium-3, or He-3, are at stake? Might a new destructive gold rush be unleashed by He-3, which is rare on Earth but abundant on the moon? He-3 is used in fusion power, a more efficient alternative to nuclear fission reactors. It’s valued at roughly \$5 billion per metric ton or more, according to Gerald



The Eagle, the lunar module of Apollo 11, prepares to dock with the command module after ascending from the moon's surface.
PHOTO: CORBIS/GETTY IMAGES

Kulcinski, director of the Fusion Technology Institute at the University of Wisconsin-Madison and a former member of the NASA Advisory Council. (Gold's value is roughly \$42 million per metric ton.)

China, which landed a probe on the far side of the moon in January, has long-term plans to build a permanent lunar base to mine for He-3. Mr. Kulcinski and Harrison Schmitt, who walked on the moon in NASA's last lunar mission in 1972, have called on the U.S. to do the same.



China landed its Chang'e-4 lunar probe on the far side of the moon in January. PHOTO: CNSA/AFP/GETTY IMAGES

In 1967, the U.S. joined more than 100 other countries to sign what's known as the Outer Space Treaty, which prevented

anyone from laying claim to any part of outer space, including the moon. But in 2015, Congress passed the U.S. Commercial Space Launch Competitiveness Act, or the Space Act, giving U.S. citizens the right to extract resources from outer space for personal gain.

What this means is that the moon is open for business. Whether nations will treat it as a common ground for cooperation and scientific advancement remains to be seen.



President Lyndon B. Johnson, right, watches the signing of the Outer Space Treaty in 1967. PHOTO: CORBIS/GETTY IMAGES

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stigative reporter with NBC. This article is adapted from his book, “The Mission of a Lifetime: Lessons from the Men Who Went to the Moon,” to be published April 2 by Grand Central Publishing.

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Appeared in the April 12, 2019, print edition as 'TODAY, THE MOON IS MORE IMPORTANT THAN EVER BEFORE.'