

SELF-STYLED
MESSIAHS

FASTEST SHARKS
IN THE SEA

ARCHAEOLOGY
BY SATELLITE

NATIONAL GEOGRAPHIC

THE SPACE ISSUE

*THE NEXT
MOON SHOT*

| *IN ORBIT WITH SCOTT KELLY*

| *VOYAGER, 40 YEARS LATER*

| *BEST ECLIPSE IN A CENTURY*

AUGUST 2017

A Moon Museum

As a private lunar industry nears liftoff, preservationists seek to protect the landing sites that are the legacy of the first space race.

AT THE ABANDONED CAMPSITE, occupied for less than a day, the visitors left much behind: sophisticated instruments and part of the ship that carried them on this first-of-its-kind voyage, but simpler things as well—scoops and scales, canisters and brackets, two pairs of boots. The expendable trash of a successful mission, too heavy to carry home, lies exactly where it was tossed.

On the Earth-facing side of the moon 48 years later, undisturbed by wind or water, development or war, Tranquility Base is still tranquil.

“It’s like an archaeologist’s dream,” says Beth O’Leary, of New Mexico State University, one of several preservationists who consider this pristine time capsule as deserving of protection as any archaeological site on Earth.

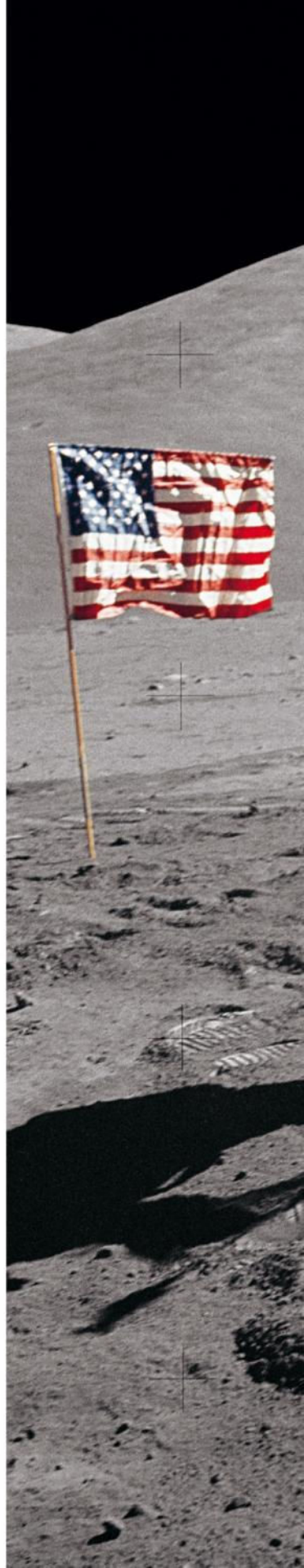
The Google Lunar XPrize has offered a four-million-dollar bonus for close-up footage of an Apollo landing site. While the organizers and teams have pledged caution, O’Leary and others also worry about those who will follow—landing, rolling, or hopping their robots dangerously close to objects of immeasurable value to posterity.

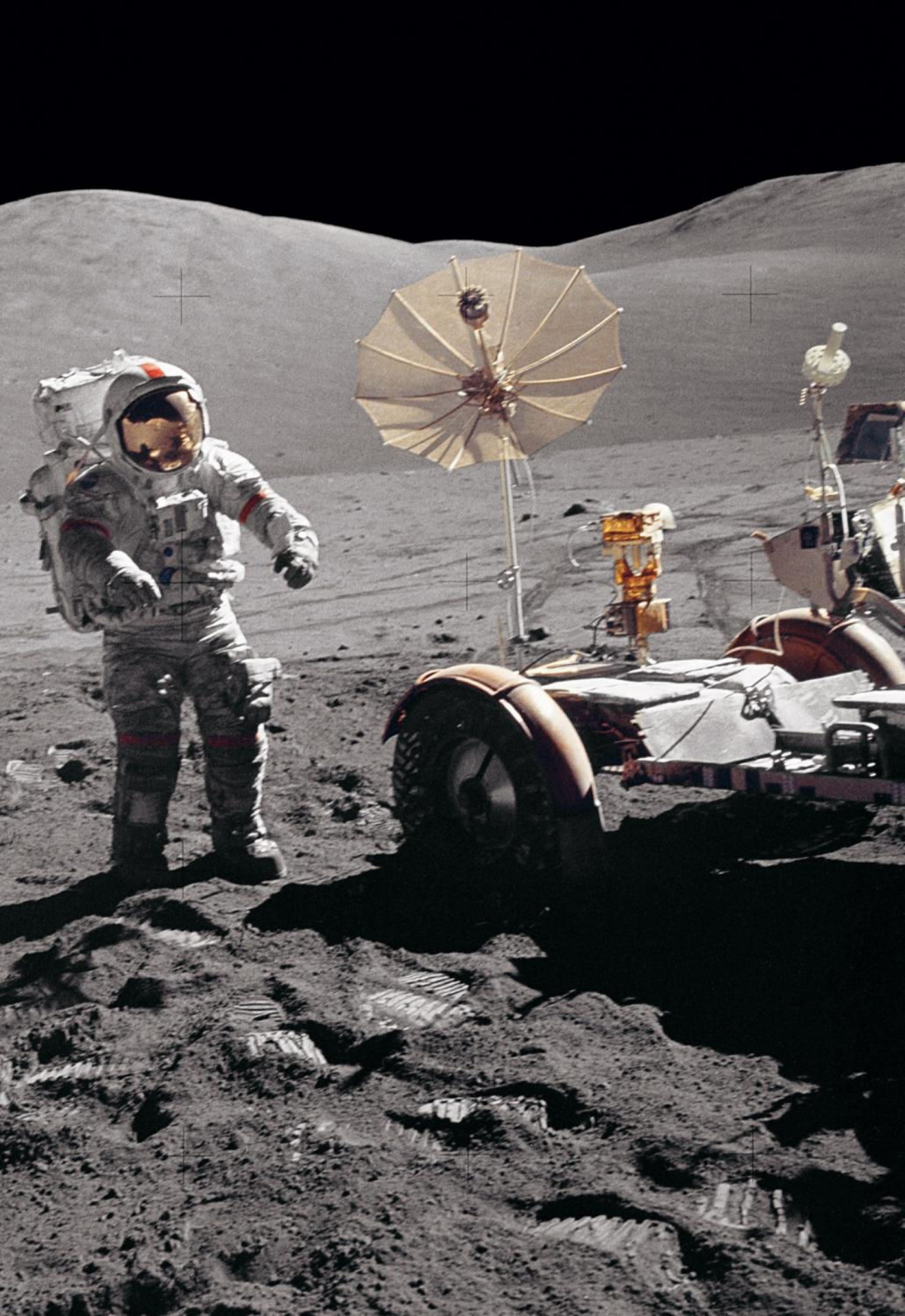
O’Leary and colleagues have secured historic recognition from two states, California and New Mexico, for the objects at Tranquility Base, but federal officials have balked at granting the same for any Apollo site, wary that such a move might be interpreted as a claim on the moon itself. The UN’s Outer Space Treaty, which has governed exploration and use of the moon since 1967, forbids any country from claiming sovereignty over it.

Protection, if it comes at all, will likely require sponsorship from multiple nations, including the growing number of countries whose probes have left their own physical traces on the moon.

—Brad Scriber

In 2011 NASA made a nonbinding request that no craft land within a 1.2-mile buffer around the six Apollo sites. The agency still owns the rovers and other artifacts, but space law gives it no standing to protect iconic footprints such as those made by the last moonwalker, Gene Cernan (right), who said in 1972, “God willing...we shall return, with peace and hope for all mankind.”







Namesakes

Charles Duke never reached what Apollo 16 dubbed Dot Crater, for his wife, Dorothy, or Cat Crater, an acronym for sons Charles and Tom, but he did leave behind a backyard portrait. Decades of exposure have likely faded the image, but perhaps the signatures on the reverse are still legible, along with the inscription that identifies the group as the family of astronaut Duke from planet Earth.

More Than Exploration

Dropped onto moon dust, some Apollo artifacts are a record of human nature: traces of scientific curiosity, nostalgia, and whimsy.



Falcon Landings

"How 'bout that?... Mr. Galileo was correct," declared Apollo 15 commander David Scott with feigned surprise after testing that moon-gazing scientist's law: Without air friction, objects of any weight fall at the same speed. As cameras rolled, Scott released a falcon feather from his left hand and a rock hammer a thousand times as heavy from his right. They hit the ground simultaneously. Three days prior, an understanding of this principle had helped the crew descend safely to the surface in their lunar module, the *Falcon*.



The Fallen

Only 12 men have walked on the moon, but it took the best technological efforts of the 20th century's two dueling superpowers to get them there. Countless people contributed; some lost their lives. "Fallen Astronaut," a 3.3-inch aluminum sculpture, memorializes 14 astronauts and cosmonauts who died in the space race. David Scott placed the stylized spacefarer and a plaque with their names on the moon's surface during the Apollo 15 mission. The next year Paul Van Hoeydonck revealed himself as the artist in an interview with Walter Cronkite during the Apollo 16 launch. A plan to sell replicas of the statue entangled the memorial in a years-long controversy about profiting from moon missions.

Swing and Pitch

Their work nearly complete, the Apollo 14 astronauts turned to sport. Alan Shepard had attached a six iron to the handle of a soil-sampling tool and, after a few attempts, hit two golf balls, with one landing in a crater a short distance away. Edgar Mitchell followed up with a "javelin" throw, hurling the staff of a solar wind collector just past the ball. Both of the objects were visible (foreground) from the window of the lander as the pair prepared to leave the moon.

