

Atlanta Journal-Constitution, The (GA)

June 30, 2003

Section: News

Edition: Home; The Atlanta Journal-Constitution

Page: A1

Some archaeologists see 'space junk' as treasure Scientist: Celestial artifacts left by humans need protection as landmarks or world heritage sites.

MIKE TONER

Staff

Washington -- The ancient landscape is barren and bleak, and the primitive tools and timeless footprints in the dust bear silent witness to the same human ingenuity that mastered fire, stone tools and cave painting. A total of 106 priceless artifacts and an uncertain number of waffle-soled boot prints are scattered across the **lunar** dust of Tranquility Base -- 240,000 miles from the nearest artifact collector, but still in need archaeologists say, of Earthly protection.

"These are the first human tracks on a celestial body," says Beth O'Leary, an anthropologist at New Mexico State University and the founder of the fledgling **Lunar Legacy** Project.

"We think this site needs to be protected, either as a national landmark or a world heritage site," she told the World Archaeological Congress in Washington last week.

In the face of the growing threats to archaeological sites and ancient monuments on Earth, O'Leary concedes that Tranquility Base -- and several dozen "cultural sites" on other planets -- probably doesn't sound like an emergency.

But space agencies in China, Japan and Europe are laying plans for missions to the moon, and a host of private firms are proposing trips as well, ranging from "burials on the moon" for cremated human remains to more serious plans to retrieve some of the debris from Tranquility Base. So O'Leary says the time to protect such places is now, before any threats are imminent.

On Earth, many of the sites that mark humanity's steppingstones to space -- from Wernher von Braun's V-2 rocket center in Germany to NASA's Saturn 5 test stands in Huntsville, Ala. -- are already treated on a par with the Wright Brothers' bicycle shop.

But nearly a half century after the Soviet Union's launch of Sputnik ushered in the space age in 1957, the notion of extending historic preservation beyond the Earth's surface is still a cause in search of a constituency.

After returning from the moon in 1969, Apollo 11 astronaut Neil Armstrong noted laconically that he and astronaut Buzz Aldrin had "left a few things up there." NASA, however, wasn't sure just what had been left and decided to fund a study by O'Leary to find out.

O'Leary's inventory turned up more than 100 items left behind, including two pairs of boot covers, food packages and 12 urine bags. But NASA turned a cold shoulder to her suggestion that the site be designated a historic landmark.

The agency said such action might be construed as a U.S. effort to exert territorial claims to the moon, something that's barred by treaty. The National Park Service politely pointed out it didn't have jurisdiction, a stance that effectively precluded Tranquility Base as a U.N. heritage site.

NASA in the meantime, has declined to fund additional studies of five other Apollo landing sites, which would certainly turn up thousands of additional items, including the golf balls that Alan Shepard hit on Apollo 14, and **lunar** rovers that later astronauts drove across the surface.

When primitive humans broke a spear point or wore out a stone axe, they probably didn't give it a thought when they tossed it. Today, such discarded tools provide archaeologists with priceless glimpses of cultures that no longer exist.

Archeologists say the culture of the space age is not so different. It's just that today's discarded tools are getting flung a little farther from home.

In addition to six Apollo landing sites, there are at least 15 other sites on the moon where spacecraft have either landed, or crashed.

Even Mars, more than 50 million miles distant, now has at least three locations where U.S. spacecraft have landed and several more where U.S. and Russian spacecraft have crashed. Three more landers -- two from the United States and one from the European Space Agency -- are expected to reach the Red Planet within the next seven months. A dozen Russian space probes lie somewhere beneath the murky atmosphere of Venus.

Australian archaeologist Alice Gorman says the artifacts of the space age grow to staggering proportions once one begins counting what is still in space.

More than 8,700 objects larger than a marble are currently being tracked in Earth orbit, ranging from the fragments of exploded rocket boosters to once-functional satellites that have reached the end of their useful lives.

As a potential threat to the space station and functional satellites, this growing accumulation of space debris is a navigation hazard. Some of it will fall back into the Earth's atmosphere and burn. But there is growing interest in the space industry in finding ways, from lasers to incinerate it to robot salvage missions, to get it out of the way.

Just as discarded stone tools are now priceless artifacts, space junk can be treasure, too. Among the debris still being tracked is the grapefruit-sized globe of Vanguard I, which the United States - - striving to match the Soviets -- launched into orbit in 1958.

Gorman reveres the history that the shiny sphere represents.

"This is the material culture of the Earth in the early years of exploration," she says. "It marked the point at which space itself became a cultural landscape."

Photo: The rover Sojourner is still on Mars, and some archaeologists say it should be preserved. The rover began exploring Mars six years ago, but NASA lost communications with it. /

Associated Press

Photo: Edwin "Buzz" Aldrin and Neil Armstrong are said to have "left a few things up there," on their historic 1969 flight to the moon. / NEIL ARMSTRONG / NASA