

# THE NEXT GIANT LEAP: MARS?

AN INTERVIEW  
WITH BUZZ ALDRIN

## Summer Fiction Series:

This week,  
Jacquelyn  
Mitchard

Buzz  
Aldrin:  
Next stop  
Mars?



With the Pathfinder expected to probe Mars next weekend, moonwalker Buzz Aldrin sets sights on a human trek by 2020.



after we go to Mars. That's not as important as the people back here who will say, "I was alive when a leader made that commitment to go — and now look how many people are on Mars. And it all happened in my lifetime."

### Q: What's the first step toward putting people on Mars?

Apollo taught me an important lesson. Except for the return capsule that brought us back to Earth, everything that went with us — all the stages of our giant Saturn V booster — was thrown away. That was a situation born of the times: It was a Cold War, space-race strategy, the moon was the finish line, and the motto was "Get there in a hurry and don't spend time developing reusability." But the mind-set of toss-away space hardware still dominates, and we need to make a big change in that.

We need to think about lowering the cost of access to space. You do that with a reusable two-stage-to-orbit launcher. The upper stage will be a winged vehicle like the space shuttle; it will go out into orbit, then come back and land, as the shuttle does now. And the unmanned first stage will launch vertically like the shuttle's booster, and separate — but then it will come back and land on a runway, and be reusable.



These spacecraft should serve not just some short-term government missions, but tourism. Many scientists want to put exploration first, then spin off tourism, but the people want to see it the other way around. And their enthusiasm to support the tourism is going to be what allows NASA to get funding for vehicles for exploration.

When I talk about tourism, people say, "Yeah, I'd just love to go to the moon." And I say, "Wait a minute — hold on, hold on." The tourism I'm talking about is low-Earth orbit — that's experiencing zero gravity, and looking back at the Earth from 200 or 300 miles. That could be done by perhaps 2006, with a low-Earth orbit hotel established by 2007. And by 2008, we make our first phase of landings on the moon. Then around 2013, we'd be able to run an Earth-moon "cycler," a craft that travels in a figure-8 pattern around the moon and back to Earth. It doesn't have to slow down when you get to the moon, or when it comes back to Earth to pick up other people, because reusable landers would join up with it as it swings by. NASA could use it to go to and from the space station; for sightseers, it's tremendous. And it's easy to do.

### Q: What would it cost?

You're talking about government costs of billions, and tourist costs of maybe \$50,000-\$100,000 each. A space corporation could issue shares in the project and pick one lucky shareholder, by lottery, to go. So you are either very lucky or very wealthy.

By 2016, I envision long-haul transportation systems, deep-space cruisers that continuously cycle between the Earth and moon and between Earth and Mars. At first, we leave the tourists at home. We send a precursor mission with humans to Phobos, Mars' closest moon, which orbits Mars every seven hours. From there, they can observe the unmanned landing of spacecraft that will eventually house astronauts on the surface and produce fuel from the Martian soil and atmosphere. As early as 2018, people make the first Mars landing.

### Q: Won't Americans hear projections like these and say it just doesn't seem possible?

As we approach the year 2000, there are going to be more and more people saying, "What are we going to do in the next hundred years?" I say that a commitment should be made in the year 2001 to reach the moon by 2010 and begin establishing permanence on Mars by 2020. I think the survival of humans — of all international backgrounds — on the surface of Mars is one of the noblest things earthlings could ever witness. □

Contributing: Ron Jones, Leonard David and Frank Braun

EDWIN E. "BUZZ" ALDRIN JR. planted his feet in history on July 20, 1969, when the Apollo 11 astronaut became the second man to walk on the moon. Today, at 67, Aldrin circles the globe promoting his vision for the future: a retooled space program that would put humans on Mars by the year 2020. As the Pathfinder probe approaches Mars for a scheduled July 4 landing, USA WEEKEND science editor Patricia Edmonds asks Aldrin about what's on the horizon.

### Q: Walk us through America's plans for studying Mars, now and in the near future.

Next weekend, Mars receives its first visitors from Earth in over two decades. The Mars Pathfinder, a robotic probe, is slated for a July Fourth landing in an ancient flood plain. Pathfinder then will dispatch a small, mobile robot called Sojourner, built to study Martian rock and other surface features. In September, the U.S. Mars Global Surveyor will swing into orbit for an up-close view of its spectacular canyons, terraced polar caps, vast volcanic regions and dried-up river beds — sites that may have once held life, or might even now.

These missions are to be followed by a virtual armada of robotic craft over the next decade. Spacecraft will circle Mars, rovers will roam its landscape, and landers will dig deep into its reddish soil.

Q: Surveys show that Americans aren't as excited about space exploration, or as committed to spending the money on it, as they were at the time of Apollo 11. Will Pathfinder change that? Yes. People will pay attention to the little robot. But they'll get bored with that quickly. As someone observed, we don't give parades for robots. We get excited about human beings because we vicariously share their experiences.

That was the value of going to the moon. People come up to me and they don't talk about how we picked up rocks and what we said — they want me to know where they were, what they were doing. And when you multiply that by millions of people, that's why humanity does things. I don't care what little fossils somebody may find before or

## HOW WE FEEL ABOUT MARS

Americans are ambivalent: Recent polls show most of us think humans will live someplace other than Earth in the next century, but few want to spend more money on space exploration. In a USA WEEKEND poll last fall, 32 percent favored spending billions to go to Mars early in the next century; 34 percent wanted to go themselves, and 41 percent wanted their children to go in the future.