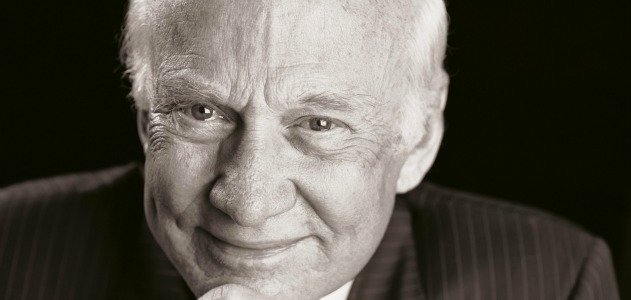
Buzz Aldrin on Why We Should Go to Mars

The Apollo 11 astronaut who walked on the moon dreams of a future where Americans are the first to walk on Mars



A member of the Apollo 11 mission in 1969, Buzz Aldrin was the second man to walk on the moon. In the years since, he has become an advocate for space exploration and technology, calling for renewed U.S. investment in the space program. In *Mission to Mars: My Vision for Space Exploration*, Aldrin lays out a detailed, multi-stage plan for journeying to the red planet that would culminate in the first permanent human settlement beyond the Earth.

**It’s been more than four decades since you landed on the moon. What’s your assessment of the U.S. space program since then?**

The United States has had periods of ambition, but it has not financed them appropriately. Interest waned after the first Apollo landing on the moon. There was the conflict in Vietnam that attracted attention and financing and U.S. government support, and then a general disinterest by the American people in American leadership and technology. Our standing in education in the world, in science, technology, engineering and math, began to go up because of Apollo and then back down again. I’m trying to fix a lot of that.

**The space shuttle has been the most high-profile program in the years since Apollo. Do you think it was a success?**

It killed two crews, it was way over budget, and it hasn’t really accomplished what it set out to do. Of course we pioneered international cooperation and zero gravity experiments and we gained medical knowledge about long-term habitation in space. But the experiments were disappointing for the results of a national laboratory. We had to rely on Russian contributions to build the space station. And now the United States is financing the Russian space program in order to keep our people, in America, at our $100 billion space station, because we had to retire the shuttle.

**NASA ended the space shuttle program in 2011. Do you think that was premature?**

No, the program needed cancelling, but NASA and the U.S. had seven years between the beginning of 2004 and the end of 2010 to come up with a replacement for the shuttle, which it failed to do.

**You’ve worried about the U.S. falling behind. Do you see other government space agencies doing better work? The Russians, for example, or the European Space Agency?**

Well, they’re not well-financed either. But they continue to be able to transport crews to the $100 billion International Space Station. And the Chinese have advanced, with Russian assistance, to potentially surpass the United States.

**During the Apollo program we were in a so-called “space race” with the Soviet Union. Do you think that it’s important for the U.S. to lead the world in space exploration, or should it be more of a partnership between nations?**

Absolutely the United States should lead in space, for the survival of the United States. It’s inspiring for the next generation. If we lose leadership, then we’ll be using Chinese capability to inspire Americans.

**You were critical of President Bush and NASA’s proposal to return to the moon, but the moon does play a role in your conception of a mission to Mars. Can you explain?**

To send humans back to the moon would not be advancing. It would be more than 50 years after the first moon landing when we got there, and we’d probably be welcomed by the Chinese. But we should return to the moon without astronauts and build, with robots, an international lunar base, so that we know how to build a base on Mars robotically.

**What would the moon base look like?**

I think it should be an early version of a habitation module for a U.S. interplanetary spacecraft. We would put it there for testing temperature control, the temperature changes with 14 days of sunlight and 14 days of darkness on the moon, radiation protection—that’s absolutely necessary for venturing beyond the earth’s magnetic field.

**After we build the moon base, you believe we should use what we learned and send humans to Mars’ moon, Phobos, to build a base on Mars.**

That would be my preference. We’ve learned, with the robots Spirit and Opportunity on the surface of Mars, that you can’t control them adequately from the Earth. What we’ve done in five years on Mars could be done in one week—that’s a significant advance—if we had human intelligence in orbit around Mars. It’s much, much easier to send people there for a year and a half and then bring them back, before sending them back later to permanently land on Mars.

**So to return to Earth, it’s easier to launch off Phobos than Mars, because Phobos is a smaller body with less gravity?**

Yes. We need to build the base on Mars from orbit before sending people to the surface. And they will be permanent settlers and not return to earth, like the Pilgrims on the Mayflower left Europe.

**You think we can actually get humans to live out their lives on Mars?**

Absolutely.

**How can people be persuaded to do that? You’d be asking them to sacrifice a lot. It’s a big step.**

It wouldn’t be a problem, getting volunteers, fully capable people, to assume that mission for the rest of their lives. They will realize that they will go down in history. The pilgrims were a big step, too. Columbus was a big step. Magellan was a big step.

**Why should humans colonize another planet?**

There may be diseases, there may be nuclear conflict or there may be an impact by a very large asteroid that endangers the human race. Stephen Hawking says we have about 200 years. And I said to him, I think we could make it to another planet in less than 50 years.

**President Kennedy famously announced in 1961 that we should send a man to the moon by the end of that decade. Do you think we need a similar declaration in order to kick start the Mars mission?**

That is my goal. A leader on Earth who makes such a commitment will go down in history more than Alexander the Great, Queen Isabella or almost anyone. The 50th anniversary celebrations of Apollo 11 through Apollo 17, between 2019 and 2022, should be a very significant time period for the leader of a country on Earth to make a commitment for human beings to establish permanence on another planet in the solar system. But instead of the one decade that Kennedy used for the moon, we would probably require two decades.

**You’ve been a big supporter of space tourism, but so far it’s only been available to a wealthy few. Do you think it can lead to innovation?**

Certainly it can, by inspiring young people, industry and the government. One of the first space tourists [Dennis Tito], buying his own ticket to fly on the Russian spacecraft to the Russian-augmented United States space station, is the initiator and the leader of “Inspiration Mars,” a proposal to fly a married couple around Mars and back in 2018.

**What do you think of that idea?**

It’s a very inspiring mission, which I strongly support. It would be a year and a half, for the crew, and we would learn many things about having people in space for a long duration: radiation exposure, the high-speed reentry, many other things. But the major thing is firing up our leaders and the people to adequately fund further exploration.

**A lot of American technological genius these days seems to be devoted to social media and the Internet. Do you worry that our best minds are working on apps for your iPhone rather than trying to get us to Mars?**

Not necessarily. That’s progress, and I’m trying to keep up with communication enhancement and information technology, so I can communicate with this younger generation. Sometimes people pay more attention to me than they do to the news from NASA. An example is “Dancing with the Stars,” the popular TV program. For many people I’m more known for that and several other television appearances than for the moon landing. I try and remain visible to the public. Your generation developed all of this technology, and I’m trying to catch up with all of it. But it obviously is a distraction, just like the Notre Dame football team and the Lone Ranger were for me growing up.

**What was it like to walk on the moon?**

My observation was, “Magnificent desolation.” It was magnificent for the human race to be able, as Neil Armstrong said, to take that step. But the desolation for the people taking that small step—it was more desolate than any scenery here on Earth.

**What were your emotions when you were taking that step?**

Caution, apprehension and exhilaration. Not fear. That comes after. I was following my commander and executing what we trained for.