Space Program Said to Lack Direction

A report by former astronaut Sally K. Ride criticizes lack of leadership, cautions against moving ahead soon on manned exploration of Mars

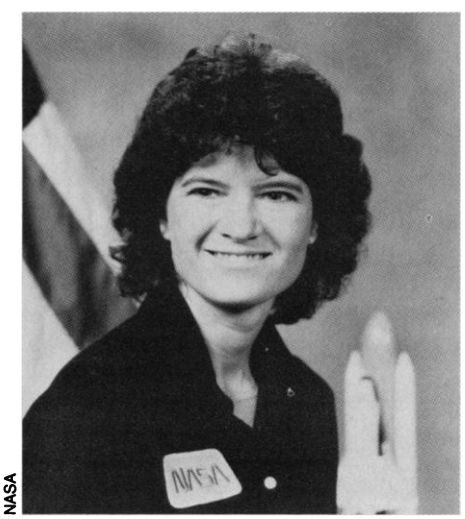
In a report that decries the lack of leadership and direction in the U.S. space program, former astronaut Sally K. Ride has recommended that the National Aeronautics and Space Administration (NASA) should set its sights again on the moon and "should not rush headlong toward Mars," as some have suggested. The immediate priority, however, is to rebuild the badly eroded technological base for the space program and conduct a thorough scientific study of Earth and the solar system, the report says.

The chief message is that the U.S. space program has been drifting rudderless since the Challenger disaster 19 months ago. The Administration and Congress have been consumed with debates over whether to build a fourth shuttle orbiter to replace Challenger, how to pay for a space station whose cost estimates have been escalating rapidly, and how to develop a more robust launch capability to loft the scores of military and civilian satellites that are currently grounded. In this turmoil, there has been little sense of where the space program is, or should be, headed. "Without an eye toward the future, we flounder in the present," the report says.

Ride, who is leaving NASA next month to take up a fellowship at Stanford University's Center for International Security and Arms Control, was asked by NASA administrator James C. Fletcher to study four possible space missions that would be undertaken in addition to already planned programs. In other words, the study was not to reopen debate over the fourth orbiter and the space station, even though these pieces of hardware are supposed to be stepping stones to future ventures in space. The four missions were:

- **Mission to planet Earth:** an intensive program to study global-scale processes on Earth from a series of free-flying orbiting platforms.
- **Exploration of the solar system:** a set of missions including a rendezvous with a comet and close-up study of an asteroid; a new mission to Saturn; and unmanned study of Mars, including return of a sample from the planet's surface.
- **Outpost on the moon:** establishment of a permanent scientific base on the lunar surface.
- **Human exploration of Mars:** a series of manned expeditions to the planet, culminating in the establishment of a permanent base.

The report, which took Ride and a small team of NASA officials 11 months to complete, argues that NASA should not pursue any one of these missions to the exclusion of others. To nobody's surprise, it strongly recommends that the first two missions be undertaken. Both have been thoroughly examined by various advisory groups and given high marks by the space science community. Its recommendations concerning the lunar and Mars missions are likely to be more controversial.



NASA

Sally Ride: *"Without an eye toward the future, we flounder in the present."*

For some time, a debate has been going on between those advocating a return to the moon and a loose-knit group headed by the Planetary Society that would like to see NASA pursue the more dramatic goal of sending astronauts to Mars. The lunar base idea has considerable support within NASA but it is not so popular among space scientists.

The Ride report essentially comes down cautiously on the side of the lunar base enthusiasts, suggesting that manned exploration of the moon is technically within NASA's grasp and would provide the expertise needed for future human exploration of the rest of the solar system. The timetable could also be made relatively flexible to fit in with budgetary and technical developments.

As for a full-scale human venture to Mars, aimed at a first landing sometime early in the 21st century, the report says such a mission would be technologically risky, would put enormous fiscal strains on the space budget in the next few years, and would potentially fall into the same trap as the Apollo program—a one-shot spectacular conducted more for political than scientific reasons. "Settling Mars should be our eventual goal, but it should not be our next goal," the report says.

Before any new space programs can be undertaken, however, there is a critical need to develop a reliable means of getting into space. The report points out, for example, that neither the shuttle nor current expendable rockets have the required capacity to launch some anticipated payloads. Both NASA and the Air Force are working on preliminary designs for a heavy-lift rocket, but there is some friction between the two agencies because it is unlikely that both will be built. In addition, the Ride report notes that advanced technology development and life sciences research must be more vigorously supported to provide the basis for virtually every future mission.

The leadership vacuum in the space program extends well beyond NASA. Although the White House settled the debates over the fourth orbiter and the space station, so far it has not provided leadership on long-term goals, according to observers in both Congress and the Executive Branch. For example, the Office of Science and Technology Policy (OSTP) has yet to issue a long-awaited response to a report by the National Commission on Space, which was delivered some 15 months ago.

The National Security Council and OSTP have recently begun a review of space policy, however. According to William R. Graham, Jr., President Reagan's science adviser, it "will help chart out the possible courses for the U.S. space program over the next half-century." ■ COLIN NORMAN