

ing those whose will to accelerate appeasement of the East seems to him to be the most obvious.

Thus a few days before Mr. Andrei Gromyko's visit to Washington, Mr. Ronald Reagan was indoctrinated at length by Mr. Henry Kissinger. And Henry Kissinger, contrary to all expectations, had already recently crossed Central and South America on his request, in order to give him a full briefing on the balance of forces there and to draw the main lines of a settlement in these troubled regions.

"Dear Henry" is known to be a luminary of the Trilateral Commission, yet this honorable international enterprise gathers Western figures for whom success in business is worth some concessions on the altar of Marxism-Leninism. . . . Isn't it bizarre that these people, who had been courteously but firmly ousted from power just four years ago, came back through the window after having left through the service door? Isn't it bizarre that one of the moving forces of Reagan's first presidential campaign was the slogan, "Kick out the Trilateroids," and now we can see them coming back in force? This is a puzzle which disturbs many supporters of the White House.

### Six months later

The propaganda campaign around Mr. Gromyko's visit has displeased the circles which are fighting to get the United States to be itself again. . . . It is clear that the defense secretary, Mr. Weinberger, and the Pentagon have been kept away from the discussions in which they should have taken part. Thus an idea is becoming popular in the political circles of the American capital: that, in matters of foreign policy, Mr. Reagan is following a scenario prearranged by more or less occult advisers, a scenario that would push him to do just the opposite of what he stood for just six months ago. According to these same circles, this tendency goes beyond the framework of the electoral campaign, in which the most optimistic of these circles at first saw the reasons for this surprising shift.

There also can be observed now the recently renewed activities of rundown so-called "liberals," such as Cyrus Vance and Harriman, among others, who are dancing a war dance around the presidential couple. . . . Even the secretary of state, Mr. Shultz, does not remain insensitive to the charm of these sirens. As for the vice-president, Mr. Bush—a true Janus—nobody would dare to claim to know the depth of his thoughts on these fundamental problems. What is becoming clear, anyway, to informed observers, is that if Mr. Reagan does not change his team when he starts his second term, including by putting at the top personalities cast in the same mold as Mrs. Jeane Kirkpatrick, for example, we may end up watching events which are as decisive as they are surprising, and which would call into question the fate (so far perfectly defined) of the United States and its Western allies on the issues of the East-West relations.

## United States plans a return to the Moon

by Marsha Freeman

During the last three days of October, a historic conference sponsored by the National Aeronautics and Space Administration (NASA) convened in Washington, D.C., to plan the return of the United States to the Moon. Conference participants included some of the men who have been to the Moon, the NASA administrator who led the space effort when Apollo 11 landed there, and scientists and engineers who are taking on the job of planning how and when the United States will return.

This time, the people who go to the Moon will not just visit and explore. They will move human civilization off the planet Earth to the heavenly body nearest to our own, with one eye always on Mars. The great task between now and the end of the century will be to prepare the technology and infrastructure for human settlements on the Moon, which will prepare for even more ambitious voyages to Mars and beyond.

For the past three years, small groups of space scientists and engineers at NASA's Johnson Space Center, the Los Alamos National Laboratory, and elsewhere have been studying all aspects of this question. NASA's Washington conference, introduced by NASA administrator Jim Beggs, gave needed legitimacy to the "bootleg" work already under way, and laid the basis for a serious planning effort for extra-terrestrial colonization.

### Why the Moon?

Not only is the Moon the nearest heavenly body to the Earth, this airless and desolate world is actually much more like the Earth than any other planet. It is so close, only a quarter-million miles, that we can go and return in a few days. The resources of the Moon, including lunar oxygen and metals, can support a multitude of industries, providing shielding material for spacecraft, construction materials, oxygen for space fuel, and even food from the fertile lunar soil.

The Moon will also be a laboratory for scientific study. Study of the Moon will teach us much about the evolution of the solar system. Radio and other telescopes placed there, perhaps on the "dark" side, will give us a new window on the universe. Whole cities, with new universities for the study of

astronomy and space science, will be built there.

Because the Moon is so close to Earth, settlements there will not have to be self-sufficient from the start. New experimental technologies will be tried for agriculture, closed-cycle life support systems, materials processing, and other needs. In this fashion, the techniques necessary for trips to, for example, Mars, will be tested and refined. In that case, the 35-million-mile distance is so great that voyagers will have to be self-sufficient from the moment they land.

Space scientist Krafft Ehrlicke has described the Moon as the seventh continent of the Earth. It takes less time to get there than it does to cross the ocean by ship. It creates an "open world" for our home planet by making available an array of new resources. It ends forever the notion that there are limits to growth.

During his conference presentation, Ehrlicke stated that some people have said: "If God had meant man to fly, he would have given him wings." To which he replied: "If God had meant man to be a space traveler, he would have given him a Moon."

But the United States is not yet ready to go back to the Moon. The Saturn V rockets that carried the Apollo astronauts there the first time could not be produced today. Instead, we would base our space transportation on the reusable Shuttle. The U.S. space station, planned for early-1990s operation, will be many things, including a transportation node for trips to higher Earth orbits, the Moon, and the planets. From the space station, orbital transfer vehicles will need to be developed for such journeys.

In addition to transport, more detailed unmanned survey work needs to be done. As former Apollo astronaut and ex-Senator, Harrison Schmitt, stressed at the conference, we know enough about the Moon now to pick a site and go back, but the lunar poles and other areas have never been adequately mapped. Scientific advisory bodies to NASA have recommended a lunar polar-orbiter mission to do a comprehensive mapping of the Moon.

New energy technologies will have to be developed for lunar colonization. In addition to the fact that reliance on solar energy would have you literally in the dark for two weeks out of every month, megawatt-sized energy requirements cannot be efficiently met with solar power. Nuclear energy will be needed to power the lunar cities of the next century.

### **What's the hurry?**

In his conference presentation, Tom Paine, administrator of NASA at the time of the Apollo 11 lunar landing, described one possible scenario for the year 1995. The year opens "with a triumphant Soviet expedition to Mars. Spectacular docking scenes at Phobos (one of the moons of Mars) show extravehicular activities by seven men and four women that dominate world television. The President of the United States receives

an electronic postcard from the cosmonauts reading: 'Having a wonderful time—wish you were here,' and a golden fleece from an elderly senator for relinquishing America's 'scientific preeminence' to the Soviet Union. In response, he orders the Vice-President to overhaul the American space program; the President begins by firing the administrator of NASA for lack of boldness. A joint session of Congress applauds the President's fiery speech setting a new national goal to lead the world in opening the solar system for human occupation and development, and approves doubling the NASA budget."

Most conference speakers similarly stressed that the Soviet commitment to manned space flight cannot be ignored in U.S. space plans. Schmitt stated that "the exploration and settlement of the space frontier is going to occupy the creative thoughts and energies of major portions of generations for the indefinite future. The only principal historical issues in doubt are the roles that will be played by free men and women. . . ."

Schmitt called for a millennium project, Mars 2000, which would put in place a Mars settlement in the first decade of the century. "No matter what other justifications may be given," he stated, "the ultimate rationale for today's generations to return to deep space, and to establish a permanent presence there, is to create the technical and institutional basis for the settlement of Mars. This will be the first great adventure for humankind in the second millennium after the birth of Christ."

Schmitt described today's children, who will be the inhabitants of our lunar colonies, as the parents of the first Martians. Their enthusiasm will be the major reason for the "hurry." His plan calls for the establishment of a permanently occupied base on Mars, resupplied by regular interplanetary space stations, soon after the establishment of a permanent lunar settlement, in approximately the year 2010.

The dozens of papers presented at the lunar symposium covered many specific proposals for growing food, producing energy, providing transport systems, and even a legal framework for industrializing and colonizing the Moon. But the foundation for the plans is the spirit of adventure and excitement, to push through to new frontiers and broaden human vision.

On Sept. 16, 1969, Apollo astronaut Mike Collins addressed a joint session of Congress, and closed with: "We have taken to the Moon the wealth of this nation, the vision of its political leaders, the intelligence of its scientists, the dedication of its engineers, the careful craftsmanship of its workers, and the enthusiastic support of its people.

"We have brought back rocks, and I think it is a fair trade. . . . Man has always gone where he has been able to go. It's that simple. He will continue pushing back his frontier, no matter how far it may carry him from his homeland."

The work to return to the Moon has begun. Only the quality of political leadership will determine whether or not it is done.