

Looking Backwards — And Forward

◀ JOHN M. LOGSDON ▶

After 40 years at George Washington University and 20 years as the director of its Space Policy Institute, this summer I am making the transition to new opportunities. This transition is a natural time to reflect on my “near outside” engagement with the U.S. space program over these four decades. I have focused my research and writing on national space policy decisions, the processes through which they were made, and the various influences that have led to a particular outcome, with particular attention to decisions regarding human spaceflight. My conclusion — the United States has achieved great things in space, but has done so without a coherent policy that links space activities to broad national goals in a sustainable way. Only since 2004 has such a policy been proposed, and it will not become a national commitment until ratified by the next president.

John F. Kennedy sent Americans to the Moon to solve a geopolitical problem, not as part of a long-range plan for space. By carrying out Apollo as a peaceful —

but war-like — mobilization of financial and human resources, he created an institutional and technological base for continued high intensity space efforts. NASA became a large organization focused on developing engineering systems for human spaceflight, with its robotic programs growing on the coattails of Apollo. Continuing a space effort on the Apollo model was not sustainable, although the momentum developed during the program has enabled NASA to move forward since, even in the absence of a new national commitment to space.

Richard Nixon rejected any ambitious follow-on to Apollo, and in the process reduced the priority of space in national affairs, a reduction that the space community has never fully accepted. Nixon approved the development of the space shuttle for a complex mixture of political and institutional reasons and on the basis of technological and economic promises, almost none of which have been realized. The decision to develop the space shuttle carried with it the certainty that NASA would seek ap-

proval to develop a space station as soon as the shuttle was declared operational. The shuttle-station partnership has dominated U.S. space activities for the past 36 years; only now are we nearing its end game. It has done so without any overriding policy rationale.

Over the years, I have written several evaluations of Kennedy’s decision to go to the Moon. My basic point has been that Apollo was a smashing success in terms of the clear objective that the president set for it — to demonstrate to the world and to the citizens of the United States American technological and organizational power. The image of an American astronaut on the Moon has become a part of U.S. national iconography.

But in terms of a long-term approach to the U.S. space effort, Apollo was a negative precedent. The NASA budget quickly rose to a level that was impossible to sustain over the long run. The institutional and industrial base created for Apollo has demanded continued funding and, in the absence of a publicly accepted rationale for human spaceflight, has been the pri-

mary source of political support for NASA. Apollo quickly “used up” the first exploratory destination beyond Earth orbit; by 1968 there was no political will to build more Apollo spacecraft and Saturn launch vehicles to continue lunar missions or for other purposes once the objective of being first to the Moon was achieved. Rather than being the first step in a multi-decade exploratory effort, Apollo was a glorious dead end.

That there was no political will to continue on the path paved by Apollo came as a surprise to the NASA leadership. The recommendation for a post-Apollo effort sent to the White House in September 1979 called for continued lunar exploration, a rapid buildup of increasingly larger space stations, and a human mission to Mars in the 1980s. This was not at all what Richard Nixon had in mind. In March 1970, he stated: “Space expenditures must take their proper place within a rigorous system of national priorities. ... What we do in space from here on in must become a normal and regular part of our national life and must there-

fore be planned in conjunction with all of the other undertakings which are important to us.”

I suggest that this policy is still in effect, and that the reality — that NASA’s budget has been less than 1 percent of federal spending since the Nixon administration — accurately reflects the priority that space holds in public affairs. Yet the space community still, as the Columbia Accident Investigation Board (CAIB) observed, “has been trying to do too much with too little.” The result has been a program under continuous stress.

Although Richard Nixon was determined to reduce NASA’s budget, he was unwilling to end the human spaceflight program, and in 1971 found that he needed a new aerospace program to maintain jobs in states critical to his 1972 re-election. Only the space shuttle was left as a new major aerospace effort after the cancellation of the supersonic transport program. Nixon allowed his budget and technical advisers to force NASA through a series of frantic re-

SEE LOGSDON PAGE 21

designs to reduce the shuttle's development cost, but ultimately approved the program as the major U.S. civilian space effort for the coming decades. This approval of a transportation system — a means — came without any articulation of the goals it was to pursue. NASA did insist that whatever shuttle was developed should be able to carry space station modules into orbit, thereby joining the two programs in an intimate partnership.

Building the bulk of the NASA program for more than three decades around a technologically very capable, but also very risky and very expensive, vehicle is without doubt the biggest policy mistake in the history of the U.S. space program. The space shuttle has enabled scientifically valuable and publicly exciting missions, and the international space station is finally at a point where its promise can be realized. But limiting humans to repetitive flights to low Earth orbit is certainly not the kind of future that seemed possible when John F. Kennedy said "we should go to the Moon."

The situation has recently changed for the better, although it took the loss of seven lives to make the country recognize the flaws in the space policy the United States had been pursuing since 1972. In the wake of the Columbia accident and in response to the indictment by the CAIB that the lack of a compelling rationale for human spaceflight had been "a failure of national leadership," the White House in January 2004 issued a space policy that in my view for the first time in 50 years gives a clear long-term purpose to the human spaceflight program. What was proposed is "a robust space exploration program" linked to advancing "U.S. scientific, security, and economic interests" and centered on expanding "human presence across the solar system, starting with a human return to the Moon by 2020, in preparation

for human exploration of Mars and other destinations."

So far this is just a proposal, not a national commitment. No hardware uniquely required for going back to the Moon can be built until the shuttle is retired and its budget allocated to the lunar program. It will thus be up to the next president and the next Congress to decide whether the United States will resume human exploration beyond Earth orbit.

When John F. Kennedy announced his decision to go to the Moon, he suggested, in language with striking parallels to the 2004 proposal, that the capabilities developed for a lunar mission might provide "a means for even more exciting and ambitious exploration of space, perhaps beyond the Moon, perhaps to very ends of the solar system itself." He also told the Congress that going to the Moon would require "a firm commitment to a new course of action — a course that will last for many years and carry very heavy costs. ... This is the choice and finally you and the American public must decide."

I am guardedly optimistic that the logic behind resuming human exploration as the central rationale for putting people into space will prevail, and that the next occupant of the Oval Office will make real the vision set forth in 2004.

On the early morning of July 16, 1969, I stood outside the crew quarters at the Kennedy Space Center and watched Neil Armstrong, Buzz Aldrin and Michael Collins walk by me — on their way to the Moon. I will soon be leaving the position I have so thoroughly enjoyed for 40 years, but I intend to stay very engaged with the space program, and I plan on being nearby when the next crew sets off to resume the too long interrupted journeys of exploration.

John M. Logsdon begins a yearlong appointment as Charles A. Lindbergh Chair in Aerospace History at the National Air and Space Museum in September.