Air and Space this Week

Item of the Week

Two Pivotal Moments in Space Exploration

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The first American woman in Space, Dr. Sally K. Ride, was born ten years (minus a day) before President Kennedy's "I Believe this Nation Should Commit Itself, Before the Decade is Out" speech to Congress, an address that led directly to the funding for Project Apollo.

JFK Addresses Congress

President Kennedy is well remembered two speeches that led Congress and the American public to support the idea of going to the Moon. His famous speech at Rice University on September 12, 1962 contained the line "We choose to go to the Moon in this decade and do the other things, not because they are easy, but because they are hard; because that goal will serve to organize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, and one we intend to win" which resonates down the decades since. His soaring words inspired a Nation to roll up their sleeves and support the program.

But before he could sell Apollo to the American public, he had to sell it first to the American Congress! He did so in another famous address, this one to a joint session of Congress, on **May 25, 1961**, sixty years ago this week.

This speech contains some familiar words, too, but the part about going to the Moon was the last section of the speech. The topics he covered in the first three-quarters of the address are a microcosm of the issues of the day. Concerns included the nature of emerging nations and Soviet domination, economic considerations, social progress at home, military preparedness, and then Disarmament, saying, "I cannot end this discussion of defense and armaments without emphasizing tour strongest hope: the creation of an orderly world where disarmament will be possible." Kennedy did not want a hot war, but he did pursue aggressively a war of ideas, symbolism, and inspiration.

JFK's words, and the structure of this address, skillfully set the stage for the final topic.

"If we are to win the battle that is now going on around the world between freedom and tyranny, the dramatic achievements in Space which occurred in recent weeks [Alan Shepard's sub-orbital flight] should have made clear to us all, as did the Sputnik in 1957, the impact of this adventure on the minds of men everywhere, who are attempting to make a determination of which road they should take." OK, today it would be "people" instead of "men," but remember, this is 1962, and this was a very important and influential speech.

There were several paragraphs expanding on the present state of rocketry in the USA and USSR and other related issues, before he got to the part that became famous, both because of the beauty of his prose and the effect they had on the congressional purse-strings:

"I believe that the nation should commit itself to achieving the goal, before the decade is out, of landing a man on the Moon and returning him safely to the Earth. No single Space project in this period will be more impressive to mankind, or more important for long-range exploration of Space; and none will be so difficult or as expensive to accomplish."

President Kennedy closed with the statement, "I feel confident in asking today for a similar response to these new and larger demands. It is heartening to know, as I journey abroad, that our country is united in its commitment to freedom – and is ready to do its duty."

Americans benefitted greatly from this great endeavor. New technologies, products, computing power, and managerial techniques had to be developed for a project this large and complex, and the socio-economic benefits have been making out lives better for decades. In some cases, we have goods and services that would not exist were it not for Apollo, in others, the goods and services would have eventually been developed because it makes economic sense for them to exist, but they got to us much sooner because their development was catalyzed by the needs of the Apollo program.

And by the way, don't think that our accomplishments with Apollo are ancient history. They are still very important from both a status point of view and a symbolic point of view. Don't think so? Have to deal with someone who doesn't think so? Ask them about advertising symbolism, a necessary shorthand to set the stage for the engaging pitch. As often as not, the background used by a company looking to extol its technical expertise is Apollo astronauts walking on the Moon. **This even though the event they use to symbolize "high tech" is the age of the *grandparents* of the target audience.** Madison Avenue folks get big bucks for being effective; they wouldn't use Apollo symbols if they didn't resonate with their public. And why do you think the Chinese are working so hard to accomplish the same feat?

Sally Ride, first USA Women in Space

Ten years, minus one day, before JFK's momentous speech, a daughter was born to Dale and Carol Ride, in Los Angeles (**March 26**, 1951). She grew up in the LA area, attending public schools and developing a talent for tennis, before receiving a scholarship to attend Westlake School for Girls. She then attended Swarthmore College for three semesters, but was a good enough tennis player (nationally ranked) to pursue a professional career. When that proved to be non-optimally lucrative, she went back to school, first with a brush up at UCLA and then two years at Stanford, graduating with a degree in both English and Physics. Physics won her over, and she stayed at Stanford to earn both an M.S. and Ph.D. degree, finishing up in early 1978. Prophetically, her primary field of research was on the interaction of X-rays with the interstellar medium.

After earning her Ph.D., Dr. Ride applied to become an astronaut. NASA was recruiting its eighth cadre, and this time would be the first where women would be allowed to apply and the first time that both pilots and mission specialists were recruited.

Now this was 1978, and a lot has changed in our society since then, especially regarding the proper role of women in our society. Characteristically, she'd be beset with questions that would be considered (properly so) as sexist and insulting today. But she persevered, focused only on becoming an astronaut.

Thirty-five astronauts and mission specialists were selected for Group 8. Six of the new mission specialists were women: Anna Fisher, Shannon Lucid, Judith Resnick, Rhea Seddon, Sally Ride, and Kathryn Sullivan.

All six women would make trips to Space.

Fisher, a physician, made two Shuttle flights (STS-51A and STS-61H). After a family hiatus, she returned to hold important positions in the Astronaut Office and planning for the International Space Station.

Lucid flew on two (STS-51G, STS-58) and twice more with *Atlantis* first going to (STS-34), then coming home from (STS-43), Space Station *Mir*. She served as CAPCOM on a number of Shuttle flights, and would eventually become NASA's Chief Scientist.

Resnick flew on *Discovery*'s first trip to Space (STS-41D), and perished tragically on *Challenger* (STS-51L).

Seddon flew three Shuttle missions (STS-51D, -40, and -58). Like Fisher, she is a physician, and helped prepare a series of cardio-vascular experiments flown on the Neurolab Spacelab Shuttle flight (STS-90).

Sullivan flew three Shuttle missions (STS-41G, -31, and -45). She made the first Spacewalk by and American woman on the first, helped deploy the *Hubble Space Telescope* on the second, and was an integral part of NASA's first "Mission to Planet Earth" on the third. After NASA, she became NOAA's Chief Scientist, and served as a NOAA Undersecretary during the Obama administration.

And Sally Ride became the first American woman in Space.

Her first trip was aboard *Challenger* (STS-7), her second was also on *Challenger* (STS-41G); she was scheduled for a third (STS-61M), but it was cancelled in the aftermath of the *Challenger* disaster.

Dr. Ride was named to the Board investigating the *Challenger*'s loss (she would later have the same sad duty after the loss of *Columbia*, too, the only person to serve on both Boards). After that, she led NASA's first large-scale strategic planning effort for NASA's Office of Exploration, which resulting in the important "NASA Leadership and America's Future in Space" report. The first section of the Ride Report is on "Mission to Planet Earth," the subject of the experiments on STS-45 with Kathryn Sullivan.

The Ride Report also contained strong statements of support for expanding NASA's planetary exploration efforts, a permanent lunar outpost, and eventually manned Mars landings.

Dr. Ride joined the Stanford Center of International Security and Arms Control in 1987, and would later join the Physics faculty at UCSD. But she hadn't finished with NASA.

NASA expanded their education and public outreach (E/PO) programming during the mid-1980s, and Dr. Ride helped that effort significantly when she served as E/PO Lead on the *ISS* EarthKAM and *GRAIL* MoonKAM projects. Middle school students could actually request images of the Earth and/or Moon for their own projects.

Dr. Ride would later expand her E/PO efforts by forming "Sally Ride Science," an organization dedicated to creating engaging educational programs and materials for upper elementary and middle school students, especially young girls. She also (co-)wrote seven books for young people, encouraging them to study STEM topics.

Sally Ride and her five companions from Astronaut Group 8 were gender pioneers, no doubt. They opened the door for greater inclusion not only for NASA, but for the entire country as well. They have inspired young women to strive for career opportunities that are now available to them.

But they weren't the first women knocking at Space's door. Much earlier in the Space program, a number of folks suggested that women should be included in the astronaut program. Dr. William Lovelace had developed some of the tests the Mercury astronauts were put though, and became curious to see how women would fare under those harsh examinations. His research was privately-funded, unofficial (as far as NASA was concerned), and under-reported. Thirteen women passed the same tests given to the Mercury 7, including famed aviatrix Jackie Cochrane. But while public and political opinions progressively-favored inclusion, NASA remained firm, until a 1972 amendment to the Civil Rights Act of 1964 forced them to reconsider, leading to the selection of the six women, all eminently qualified) in Group 8. BTW: Group 8 also included an Asian-American (Ellison Onizuka) and three African-Americans, including Guion Bluford, who would become the first Black American in Space.

Sally Ride died on July 23, 2012, in La Jolla, of pancreatic cancer. Her career has been serving as an inspiration of young people for decades, before and since.

[Personal Note: A few years ago, I had the pleasure of serving as a Smithsonian Guide on one of their Journey program's cruises, going from Venice to Athens via the eastern Adriatic. We had arranged to get to Venice a bit early, so as to be fully-prepared to serve the guests. That first evening, we had some open time, and my wife and I visited the hotel lobby to look around. There we met a most personable couple, so we stopped and visited awhile. I had my Smithsonian Guide badge on, and the gentleman asked me in what capacity I served SI. When I told him that I was with NASM, he gave an odd, but interesting smile, and admitted he knew a bit about Space exploration. I had not recognized him until further questioning by me revealed that he was Fred Hauck, an astronaut that had flown with Dr. Ride on STS-7! He and his wife were on the same cruise, but with a different group. The discussion quickly attracted first a

round of drinks, then a stroll over to St. Mark's Square after a very pleasant dinner. I loved his stories, and he spoke highly of his crewmates, especially Dr. Ride, with all the media attention she had endured. A fine couple, indeed; and, wow, what a great way to start the trip!]

DIDJA KNOW: That Nichelle Nichols, *Star Trek*'s original Lt. Uhura, a gender pioneer in her own right, is a big-time NASA advocate and was deeply involved in setting up the selection program that resulted in the inclusion of the six women in NASA's Astronaut Group 8? I met her when I worked the GRAIL launch, and she really wowed the crowd!

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DIDJA KNOW: That not only did the *Apollo 11* landing affect American culture broadly, and advertising explicitly, it also affected music. Duke Ellington, for example, composed a special piece called *Moon Maiden* for premiering on ABC during the landing coverage. And Duke wasn't the only one; the Moody Blues, Jethro Tull, Alan Parsons, The Byrds, and even Up with People all released Moon-related songs. ***Check out this really cool Moon Song poster by someone you know: https://moon.nasa.gov/resources/9/moon-in-song!*** It's suitable for framing!

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