Epilogue

On November 3, 2007, astronauts Scott Parazynski and Doug Wheelock performed a spacewalk to repair a torn solar array on the International Space Station (ISS). The tear formed when the array was being unfurled after its installation by the crews of STS-120 and Expedition 16. What made STS-120 and Expedition 16 special was that both were commanded by women, Shuttle Commander Pamela Melroy and Station Commander Peggy Whitson. This was a historic first for women. But the tear in the solar panel resulted in some negative press for NASA. Was this the result of poor command? Undoubtedly, no. Working in the vacuum of space is difficult, and failures happen. But 2007 was not a good “news” year for women in NASA.

Just ten months before, on February 5, 2007, police at the Orlando International Airport in Florida arrested astronaut and navy captain Lisa Nowak on charges of attempted kidnapping and battery of Colleen Shipman, a woman whom Nowak perceived as a rival for the affections of Nowak’s fellow astronaut William Oefelein. It was arguably the lowest point for NASA since the disintegration of the Space Shuttle Columbia over the skies of Texas on February 1, 2003. The problems faced by ISS in November 2007 were hardly the fault of the women in command, nor was the backlash specifically targeted at them. But combined with the Nowak incident, it led some to question whether NASA and America’s space endeavors were suffering because of the presence of women in the astronaut corps.

This project began based on the assumption that NASA felt pressure to integrate women into the astronaut corps, particularly after Congress passed the Equal Employment Opportunity Act in 1972. As the story of the FLATs has been more widely publicized, it seemed on the surface that perhaps NASA had cultivated a negative attitude about women astronauts since the 1960s. Since it took until 1978 before NASA selected its first women astronauts, fifteen years after the Soviet Union launched its first female cos-
monaut, the basic evidence suggested even more that NASA only opened its doors to women astronauts begrudgingly. The burning question was what political and social factors made it possible for women to become astronauts.

As it turned out, NASA did not discriminate against women in the astronaut corps outright. What the historical record ultimately illustrates is that Cold War politics and the 1961 presidential directive to go to the Moon undermined the agency’s freedom to develop the space program and human spaceflight. Those circumstances left the women tested by Randy Lovelace wishing and politicking unsuccessfully for a chance to fly in the 1960s. But as an agency, particularly under the leadership of Administrators James Webb (1960–68) and James Fletcher (1971–77), NASA committed itself to equality in its hiring practices and promoting diversity. Granted, snapshots of the astronaut corps and Mission Control in the 1960s and early 1970s still appeared white and male. But those pictures reflected the face of college graduates in the sciences and engineering at the time, not discrimination on NASA’s part.

This study never intended to validate NASA’s equal opportunity and diversity records, however. The story represents more than just a case study of top-down organizational efforts to integrate women into its workforce or a prosopography of the bottom-up fight by six women who were the “entering wedge” into one of the most elite professions. By looking at changes in educational patterns for women beginning in the 1960s, the policies that enabled women to enter scientific and technical professions (specifically the astronaut corps), and the social and logistical adaptations that made it possible for the six women of Group VIII to become astronauts, we get insight into the complexity of equal rights for women (or for any minority) in the workplace.

The legacy of the six Group VIII women astronauts was that they were very good at what they did, as good as their male counterparts. As astronaut Rhea Seddon said, “We proved we could do [the job]. There’s not that question anymore.” But Seddon’s interpretation is only partly accurate. They showed that women could do the job of mission specialist. What remained to be seen—at least regarding the Space Shuttle—was whether a woman could do the job of Shuttle pilot and Shuttle commander.

In 1990, NASA announced its latest selection of astronauts, Group XIII. That class contained five women, including U.S. Air Force major Eileen
Collins. The air force opened up pilot training to women in 1976. Collins graduated from undergraduate pilot training in 1979. When the air force opened its test pilot school in 1988, Collins was already serving as a flight instructor. She completed Air Force Test Pilot School at Edwards Air Force Base in California (only the second woman to do so) just before reporting to Johnson Space Center for ASCAN training in June 1990.\(^5\)

Collins became the first female Shuttle pilot with the launch of STS-63 on February 3, 1995. Seven of the thirteen FLATs attended the launch as her guests. What the FLATs had hoped for themselves in the 1960s, Eileen Collins completed in the 1990s. Her “First Woman” achievements continued in July 1999 when she became the first female Shuttle commander aboard STS-93. She also commanded STS-114, the “return-to-flight” mission in July 2005 following the Columbia disaster. Since Collins’s selection, only two other women have served as Shuttle pilots (Pamela Melroy and Susan Still-Kilrain), and only one woman continued on to become a Shuttle commander (Melroy).\(^6\)

From a technological standpoint, selecting a woman as a pilot astronaut meant making sure that she could reach and manipulate the controls on the flight deck in order to fly the Shuttle. But those were issues that the human factors engineers resolved when they were designing the orbiter in the early 1970s. So really the only “challenge” Eileen Collins faced was proving that she—and other women to follow her—could fly the most expensive glider on the planet and command its crew. As one of the most recognizable Shuttle-era astronauts, most Americans would agree that Collins could fly.

In World War II, when women served as pilots to aid in the war effort, many Americans questioned if women could do the job. Historian Deborah Douglas argued in her book American Women and Flight since 1940 that World War II served as a demarcation point in how society viewed women pilots. According to Douglas, during World War II American society was asking “Can women fly?” She identified the years following the war as the period when society asked “Should women fly?” While the first six female mission specialists and then the first female pilot all proved they could do the job, just as Rhea Seddon argued, their successes on the job did not necessarily convince the American public that women should be astronauts. Each time Carolyn Huntoon went to bat to defend the first six, it showed that even the NASA engineers who witnessed all of the successes and skills the women
astronauts brought to the table second-guessed them. It suggests that the question was not “Are they qualified?” or “Can they do the job?” but rather “Should they be here?”

When Orlando police arrested astronaut Lisa Nowak, news stories and editorials asking what went wrong with this female astronaut littered the newspapers and magazines. People criticized NASA for failing to detect what they interpreted to be a major psychological flaw in Nowak. Articles referred to her as the “astro-nut.” Arguably Nowak was suffering emotionally for her to make the poor decision to drive over 950 miles from Houston, Texas, to Orlando, Florida, to confront Shipman. But what does an incident like this mean for women as astronauts and NASA?

Within days of Nowak’s arrest, NASA announced its intentions to evaluate its psychological screening practices for applicants and mental health care for the astronaut corps. Its policy up to then included intensive psychological screening during the selection process, as well as psychological evaluations for astronauts selected to serve on the International Space Station six months and one month prior to their launch, then several times in the month after their return. But Shuttle crews receive no additional evaluation or counseling after they join the astronaut corps. Having already put Nowak (and Oefelein) on administrative leave, all that NASA could do to address what many Americans saw as a problem within the organization—the failure to catch Nowak’s instability—was examine its policies and procedures for addressing the mental health of its astronauts.

Unfortunately, NASA and the astronauts struggle most with these issues. Astronauts want to fly in space. Since NASA flight surgeons grounded Mercury Seven astronaut Deke Slayton in 1962 for an irregular heartbeat, there lingers a fear among the astronauts that acknowledging a potential health problem could undermine their careers. Admitting to an emotional problem practically guaranteed that an astronaut would never fly. Further, as Carolyn Huntoon noted about the psychological testing for the Group VIII selection, “There are no psychological tests for ‘screening in’ people; we have lots of ‘screen out’ tests.” Perhaps Lisa Nowak slipped through the cracks. Perhaps there were signs that she was mentally unfit for the challenges and stresses of being an astronaut that NASA missed during her interviews. But, perhaps there was nothing to catch!

Two days after Orlando police arrested Nowak, Dr. Jon Clark, a former NASA flight surgeon who knew Nowak and her husband (from whom she
had separated in the weeks prior to the incident), spoke about Nowak, but also about women astronauts generally: “They make more sacrifices than the ‘Right Stuff’ guys. They have to balance two careers—to be a mom and wife and an astronaut. You don’t come home at night, like most of the male astronauts, and have everything ready for you.” As with all career women with families, their lives at home demand as much energy and time as their jobs. Adding to that the public fascination with and expectations of being an astronaut, specifically a woman astronaut, understandably the pressures are enormous. Nowak’s fall from grace begins to make sense.

In the long run, Nowak’s actions and the November 2009 trial during which she pleaded guilty to third-degree felony burglary and misdemeanor battery will not have a lasting negative impact on the image of NASA, women astronauts, or their ability to do their jobs as well as men. Americans seem to understand that her case, while mostly just sad, is irrelevant to the larger historical questions about women in the workplace. Nevertheless, the comments made by journalists as well as the general public (specifically, “astronaut”) still resonate. Why do we continue to judge contributions and accomplishments of any group of women by the failures of one?

As an agency, NASA worked hard to integrate women into the most public portion of its workforce. In the process, it treaded carefully around taboos, such as sex and pregnancy, and the real issue of true equality for women since they first entered the astronaut corps. In the intervening years, NASA’s engineers and flight surgeons tackled complicated designs and engineering problems, such as the space toilet and female urine collection devices, which also required sensitivity. Advocates such as Carolyn Huntoon helped smooth the process of integration for women, and NASA’s culture has grown more accepting of its female astronauts’ ability to do their jobs well. Rhea Seddon observed, “When I left NASA in 1996–97, it was a very, very different place. When I came [to Houston] in 1978, I’d go to meetings and I’d be the only woman in the room. When I left, there were women in all levels being given all kinds of opportunities. If you were good at what you did, you were going to go far.” NASA’s integration of women into the astronaut corps largely is complete. Consequently, it is an unfortunate observation that Carolyn Huntoon made about NASA’s ability to deal with the most intimidating social questions of the day, the ones that deal with sex: “There’s always criticism that it’s not the right time, and we’re not the right investigator.”

Given the challenges of putting a human into space, then adding the
struggles of sexually integrating its most public workforce, NASA's introduction of women to the astronaut corps represents one of the success stories. Not everyone at NASA wanted the female astronauts to succeed, and women are nowhere near reaching parity with the men in the astronaut corps. But the women have largely become "one of the guys." When asked what she thought NASA's greatest success was concerning the sexual integration of the astronaut corps, Carolyn Houton said, "We finally got to the point that we had hoped to get to and that was when the crew was named, the only way you would know somebody was a female was if you saw a crew picture and it was 'Oh, yeah. There's a woman on board.' And it didn't start out that way. It started out with 'four guys and Sally Ride.'"

For Sally Ride, a self-proclaimed feminist, being one of the guys was a priority. For Rhea Seddon, giving up "being a girl" was not an option. Seddon said, "Someone asked me in an interview recently, 'What was your proudest achievement at NASA?' I'm sure she wanted me to answer about an experiment or data that we brought back or lives saved or money saved. But my proudest achievement was that I had a life. I was able to be a female astronaut in a male world, yet continue to be female, and continue to do the things I wanted to do as a female." Seddon flew on three Shuttle missions, including both Spacelab Life Sciences flights, got married, and has raised three children with her astronaut husband, Robert "Hoot" Gibson. She continued, "The six women that came in [to the astronaut corps in 1978] were all different, and I sort of chalked that up to the fact that [NASA] didn't know what they wanted. So they picked a variety to see who was going to be successful. I think we all were and that taught them something. But I was able to accomplish the things that I wanted both at NASA and outside. And I think that says something about being able to do something like that as a female."

As a study in women's history—embedded in labor history, wrapped up in the history of technology—this work serves as an example of how women's history is evolving. Initially women's historians shouldered the task of integrating women into the grand narrative. They showed that women were active contributors, not just passive victims. Phase Two investigated how women made themselves heard. It exposed their strategies and tactics and showed how the women we learned about—thanks to the Phase One historians—got there. We have reached Phase Three: trying to understand why we still struggle to see men and women as equal. Even more relevant, why do we insist on judging women as "other" and their contributions as valuable only
as they compare to the contributions of men? The integration of women into NASA's astronaut corps encompasses discussions of how politics and technology create physical barriers to seeing women as equals. But more importantly, it highlights how cultural ideas about sex and gender, even against the strongest efforts to quash them, survive and continue to muddy the waters. When we bring awareness to the debilitating power of gender biases, then the full integration of women into the workplace and in society will move forward.
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