Two Women

Valentina Tereshkova (born on 6 March 1937)

Valentina Tereshkova was born in the village Maselennikovo, Tutayevsky District, in Central Russia. Tereshkova’s father was a tractor driver and her mother worked in a textile plant. Tereshkova began school in 1945 at the age of eight, but left school in 1953 and continued her education through distance learning. She became interested in parachuting from young age and trained in skydiving at the local Aeroclub, making her first jump at age 22 on 21 May 1959. At that time she was employed as a textile worker in a local factory. It was her expertise in skydiving that led to her selection as a cosmonaut.

After the flight of Yuri Gagarin (the first human being to travel to outer space in 1961), the Soviet Union decided to send a woman in space. On 16 February 1962, “proletaria” Valentina Tereshkova was selected for this project from among more than four hundred applicants. Tereshkova had to undergo a series of training that includes weightless flights, isolation tests, centrifuge tests, rocket theory, spacecraft engineering, 120 parachute jumps and pilot training in MiG- 15UTI jet fighters. Since the successful launch of the Vostok -5 on 14 June 1963, Tereshkova began preparing for her own flight. On the morning of 16 June 1963, Tereshkova and her back- up cosmonaut Solovyova were dressed in Space- suits and taken to the space shuttle launch pad by a bus. After completing her communication and life support checks, she was sealed inside Vostok 6. Finishing a two- hour countdown, Vostok 6 launched faultlessly. Although Tereshkova experienced nausea and physical discomfort for much of the flight, she orbited the earth 48 times and sent almost three days in space. With a single flight, she logged more flight time than the combined times of all American astronauts who have flown before that date. Tereshkova also maintained a flight log and took photographs of the horizon, which were later used to identify aerosol layers within the atmosphere.

Vostok -6 was the final Vostok flight and was launched two days after Vostok -5, which carried Valary Bykovsy into a similar orbit for five days, landing three hours after Tereshkova. The two vessels approached each other within 5 kilometers at one point, and from space Tereshkova communicated with Bikovsky and the Soviet Leader Khrushchev by radio.

Much later, in 1997 Tereshkova earned a doctorate in Engineering from Zhukovsky Air Force Academy. Afterwards she turned to politics. During the Soviet regime she became one of the presidium members of the Supreme Soviet. Now this living legend is a member in the lower house of the Russian legislature. On her 70th birthday when she was invited by the Russian Prime Minister Vladimir Putin, she expressed her desire to fly to Mars, even if for a one- way trip.

Kalpana Chawla (17 March 1962 – 1 February 2003)

Chawl was born in Karnal, India. She completed her earlier schooling at Tagore Baal Niketon Senior Secondary School, Karnal. She is the first Indian - born woman and the second person in space from thois subcontinent. After graduating in Aeronautical Engineering from Punjab Engineering College, India, in 1982, Chawla moved to the United States the same year. She obtained her Master’s degree in Aerospace Engineering from the University of Texas in 1984. Later she did her Ph.D. in Aerospace Engineering in 1988 from the University of Colorado. Determined to become an Astronaut even in the face of the Challenger disaster 1986 that broke apart 73 seconds into its flight, leading to the deaths of its seven crew members, Chawla joined NASA in 1988. She began working as a Vice President where she did Computational Fluid Dynamics (CFD) research on vertical take-off and landing. In 1991 she got U.S. citizenship and started her career as a NASA astronaut in 1995. She was selected for her first flight in 1996. She spoke the following word while travelling in the weightlessness of space, “You are just your intelligence.” She had travelled 10.67 million miles, as many as 252 times around the Earth.

Her first space mission (Mission STS 87) began on 19 November 1997 with six other astronauts on the space shuttle Columbia. On her first mission that lasted for 15 days, 16 hours, 34 minutes and 4 seconds, she travelled 6.5 million miles. She was responsible for deploying Spartan Satellite which however malfunctioned, necessitating a spacewalk by Winston Scott and Tako Doi, two of her fellow astronauts, to retrieve the satellite.

In 2000 she was selected for her second space mission STS 107. The mission was repeatedly delayed due to scheduling conflicts and technical problems. On 16 January 2003, Kalpana Chawla finally started her new misson specialists. Chawla’s responsibilites included the Cloumbia. She was one the mission specialists. Chawla’s responsibilities included the Columbia. She was one of the mission specialists. Chawla’s responsibilities included the microgravity experiments, for which the crew conducted nearly 80 experiments studying earth and space science, advanced technology development, and astronaut health and safety.

After a 16 day scientific mission in space, on 1 February 2003, Columbia disintegrated over Texas during its re- entry into the Earth’s atmosphere. All the crew in Columbia including Chawla died only 16 minutes prior to the scheduled landing. Investigation shows that this fatal accident happened due a damage in one of Columbia’s wings caused by a piece of insulating foam from the external fuel tank peeling off during the launch. During the intense heat of re-entry, hot gases penetrated the interior of the wing, destroying the support structure and causing the rest of the shuttle to break down.