

The Role of Women In Space Technology and Space Law-A Special

Reference To Eilene Galloway

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“I’m Tough Ambitious & I Know Exactly What I Want. If That Makes Me a Bitch, Okay-Madonna”

ABSTRACT:

The area of outer space research witnessed several astronauts including several women in them. But their contribution to the field of space research is in immense dark though their roles are primarily recognised in the social, cultural, religious, political and economic spheres. One may post a question to the entire world what is the role of women as a folk³ in the field of space research and whether they can contribute to the same level what they have done in the above said social, economic, cultural, political and religious spheres. The first step is to bring awareness about space research amongst the women folk but there has been various women astronauts who have made their respective contributions to the science of space research by their well defined contributions. This article brings to the world the role of such women- astronauts, Authors, and the nature of their contribution in and to the field of space research, women’s participation in space operations and space technology And the role of women in space law-A special reference to the Eilene Galloway.

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³ People, especially those of a particular group of type (source: from cambridge dictionary)

INTRODUCTION :

The process of human progress is carried on to a top position by the women by playing a vital role therein. Thus they keep themselves in a significant place in the society. The contributions of women to the society also triggered and empowered them to get into every field such as science, arts, politics, sports, games and research. Though their involvement in the research field gets back to only a few centuries their contribution is of on higher side. They progressively stepped into the arena of space research and contributed their better commitment for the development of space science. There has been few women scholars in the field of space research and made their contributions by way of their active participation in the field of space research, writing articles and books on the subject heading several missions and projects connected therewith. In spite of hard realities and new challenges women at present take the lead in shaping and improving the space research. This article discusses women's participation in space operations and the space technology And the role of women in space law-a special reference to the Eilene Galloway.

Astronomy enthusiasts frequently ask, "What are the roles of women astronauts in history?" The answer is that women astronauts have been participating in and contributing to the space journey through the entire history of astronomy. It began with Valentina Tereshkova (Soviet Union) - The first woman in space in 1963 and continued with Sally Ride (United States), the first American woman in the space shuttle from 1983-1984 and Shannon Lucid (United States), the first American woman on a space station. 25 years ago, we lost three extraordinary female astronauts in the Challenger Disaster: Christa McAuliffe, Laurel Clark, and KalpanaChawla. Since then, many women have made their mark high above the sky.

From the very earliest female pioneers, female racing pilots, the first female commercial pilots, all the way up to the women working daily in space, hopeful female astronauts have never given up their dream of flying high.⁴

Critics had plenty of reasons for wanting to disqualify women from space flight in its early stages-but none of them stuck. When the Apollo astronauts went to space in the 1960s. Mae Jamison was a little girl in Chicago, watching the historic launches along with the rest of the country. She remembers being irritated that the crew members all looked the same: They were all white men. Where were the women, she wondered, or anyone of color? “I thought that was the most absurd thing in the entire world,” Jemison says. “I just thought, well, would the aliens actually think this is all there is to humanity. Jemison made her won trip to space three decades later. She flew aboard the space Shuttle Endeavor in September 1992 for a weeklong mission, becoming the first African woman in space. By that time, the United States had been sending women to space for about 10 years, starting with Sally Ride’s Mission in 1983. American astronauts were starting to look less and less like the pioneers that first pierced the boundary between the atmosphere and what lies beyond. As more and more women went up, people stopped, for the most part, wondering how they’d handle their periods in space, or asking them how many tampons they’d need for a weeklong mission.⁵

Space exploration has developed from early, unmanned space probes through the pioneering years of the ‘Manned’ Mercury, Gemini, and Apollo missions, to missions that now include women in the crew as a matter of course. Dave Shayler tells the story of the first woman

⁴ Yu Cao, *Women in the space exploration history*, in PROCEEDINGS OF THE INTERNATIONAL ASTRONAUTICAL CONGRESS, IAC (2012).

⁵ www.theatlantic.com -why women weren’t allowed to be Astronauts-Marina Koren, March 10, 2017

balloonist in 1784 to their breakthrough as astronauts and cosmonauts in a range of professional roles. He covers the contribution women have made to space exploration and draws on interviews with Shuttle and Mir crew members who were women. These interviews detail the achievements of the first female Shuttle commander and the first female resident crew member of the International Space Station. These and many other events are presented in a detailed and highly readable account that recalls the difficult path to space exploration by women.⁶

... Formulating patterns of international cooperation that promote peace among nations. The first Sputnik aroused fears of orbiting weapons of mass destruction, but this quickly turned to hopes for peace when scientists and engineers explained that outer space could be used for developing many peaceful applications. As satellites orbited the Earth in 90 minutes, disregarding national boundary lines, nations welcomed the new space benefits and gave up sovereign claims over this new environment. The combination of fear and hope spurred nations to pass national and international laws based on the policy of maintaining outer space as a safe, orderly place to use for peaceful purposes for the benefit of all mankind.

The system of space law that was established early in the space age has brought the World 47 years of peace, during which spectacular benefits have developed in global communications, meteorology, navigation, medicine, agriculture, education, etc. Those goals were met by establishing national and international space organizations and extending the roles of existing organizations, such as the International Telecommunication Union (ITU), the World Meteorological Organization (WMO), and other international bodies that could benefit from space technology.

⁶WOMEN IN SPACE — FOLLOWING VALENTINA, (2005).

The United States enacted NASA in 1958, as a civilian agency separate from the military, and with authority to engage in international cooperation on space projects.

The United Nations established the Committee on the Peaceful Uses of Outer Space (UNCOPUOS), which formulated five space treaties. The 1967 Treaty Governing the Activities of States in the Exploration and Use of Outer Space Including the Moon and Other Celestial Bodies has been ratified by 98 nations. This Treaty specifies what can and cannot be done to maintain peace on the Moon and other celestial bodies. At this time when a number of countries are exploring the Moon and Mars, it is comforting to realize that the legal framework into which any military personnel must fit has already been agreed to by 98 nations. Furthermore, space laws are strengthened by the necessity for compliance with the unchangeable laws of physics that prevail in outer space. The record of 47 years without wars in space, or from space to Earth, should be maintained.⁷

BREAKING THE SHACKLES OF STEREOTYPES AND MALE DOMINATION IN THE SPACE SECTOR.

Ritu Karidhal is the Mission Director Chandrayan-2. Ritu, who hails from Lucknow, joined ISRO in 2007, and played a leading role as deputy operations director for Mangalyaan. Ritu spoke of how the Mars Orbiter Mission proved India's capability to go into outer space. She said "The whole country was watching us, and it suddenly hit me that our aspirations and our expectations paled in comparison to the hopes of the country. And we saw the country's hope being fulfilled right in front of us. I can never forget that moment. I was a simple girl from Lucknow, who was curious to know about outer space and who got a chance to be associated with the Mars Mission. With the success of the Mars mission, 1.3 billion Indian

⁷Impact of Space Activities upon Society, **Co-Sponsored by The International Academy of Astronautics and The European Space Agency**, ESA BR-237 February 2005

proved to the world that we have the capability to go this far into outer space and that we are as competent as anybody out there.”⁸

Eliene M.Galloway is the women behind the creation of the National Aeronautics and space Administration (NASA)

*A prolific researcher and writer with the congressional researcher service at the library of congress, Galloway helped write the National Aeronautics and Space Act of 1958, which created NASA and established the united states civil space program. She was influential in drafting legislation and treaties, while emphasizing the need for international co-operation and peaceful exploration of space.*⁹

In mid-1957, Eilene was working for LRS providing policy analysis to Senators and Representatives on a variety of military issues. A particularly notable report she wrote at the time was entitled "Guided Missiles in Foreign Countries," which was published jointly by the Armed Services Committees in the House and Senate. October 4, 1957, the day Sputnik launched the Space Age, was a Friday. As Eilene told the story, the next Monday she received a call from Senate Majority Leader Lyndon B. Johnson (LBJ) asking for her assistance in determining how the United States should react to this development. In 1992, she recounted: Sputnik exploded on Capital Hill like a psychological bomb, arousing fears of orbiting weapons and consternation

that the Soviet Union had taken the lead in rocketry. The general public reacted with alarm.¹⁰

⁸⁸ Chandrayaan-2 is an advanced follow-up of Chandrayaan-1, which was lanced 10 years ago. The main purpose of this mission is to gather information on minerals, rock formations, and water. This mission even more special is that the Project Director(M.Vanitha) and Mission Director (RituKaridhal) of chandrayan-2 are both women scientists from the Indian Space Research organisation (ISRO), India’s premier scientific organisation, leading the country’s space programmes.-Meet the women scientists leading the Chandrayaan-2 launch by RekhaBalakrishnan July 15, 2019 from yourstory.com

⁹ www.airandspacelaw.olemiss.edu

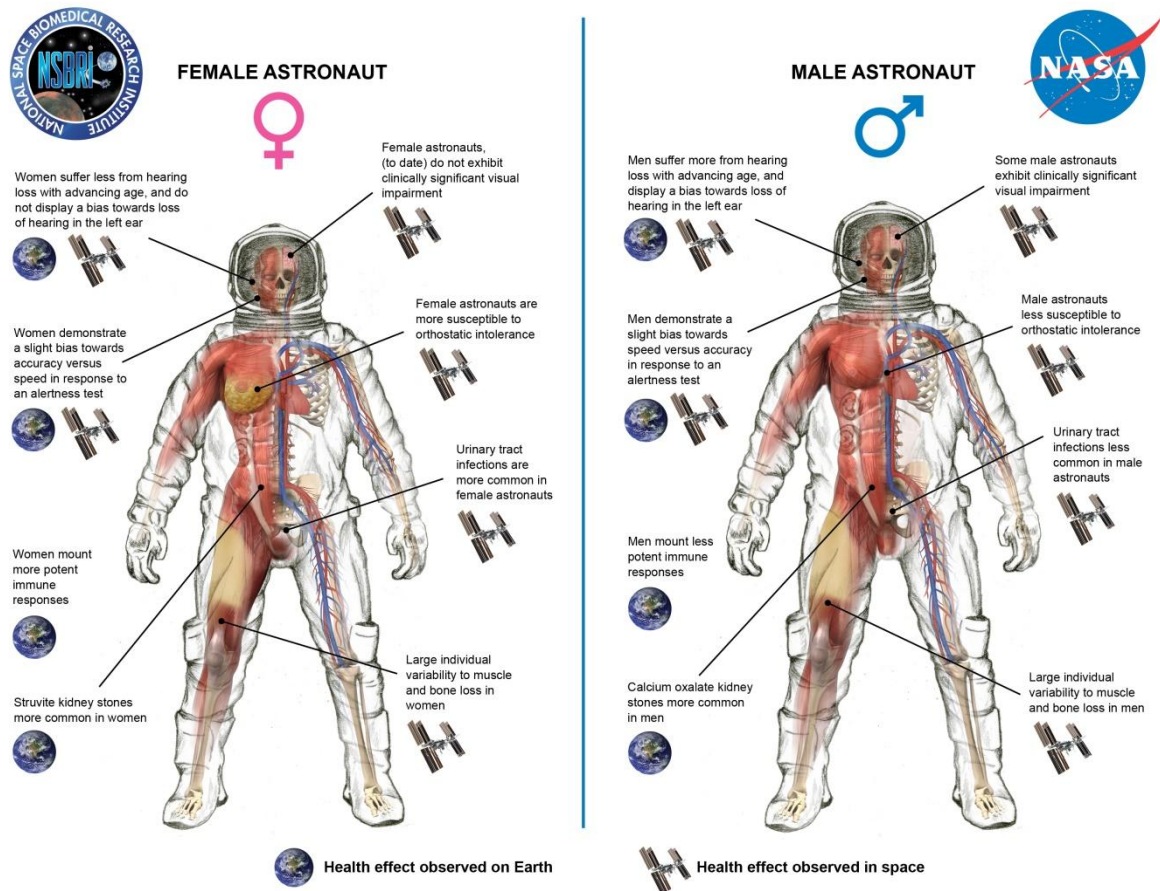
¹⁰NASA. Legislative Origins of the National Aeronautics and Space Act of 1958: Proceedings of an Oral History Workshop Conducted Apr. 3, 1992. Monographs in AEROSPACE HISTORY NUMBER 8.NASA, Washington, D.C., 1998 (hereinafter Legislative Origins). The law is officially called

Peaceful uses of space and International co-operation philosophy: Galloway authored numerous papers, speeches, and opinion pieces about space law and policy. She opposed the weaponization of space and believed International co-operation in space was essential.

Space for women is really a gender mainstreaming project where we will like to work with member states; not only for education but also to help young girls when they graduate to then find their place in their own society without being obliged to leave their own country¹¹

National Aeronautics and Space Act of 1958. Public Law 85-568. 72 Stat. 426. Now it is in Title 51 of the United States Code. During the workshop, which was moderated by Dr. John Logsdon of George Washington University, Galloway recounted her involvement with the drafting of the NASA Act. She also wrote an appendix to the report providing further details of Senator Johnson's reaction to Sputnik's launch.

¹¹Simonetta Di Pippo, -03 October 2018 IAF IDEA "3G" diversity day –UNOOSA SPACE FOR WOMEN –PROJECT UN News, 4 October 2017, New York, UNOOSA and UN women co-host a three day space for women expert meeting.



SPACE RADIATION GENDER ILLUSTRATION: STUDY INVESTIGATES HOW MEN AND WOMEN ADAPT DIFFERENTLY TO SPACEFLIGHT¹²

CONCLUSION:

HAZARD OF HUMAN SPACE FLIGHTS

1. Space Radiation
2. Isolation
3. Distance from Earth
4. Gravity Fields
5. Closed Environments

¹² www.pbs.org-How does pace affect men and women differently? Nov20, 2014 {PBS News Hour}

Women in space face many of the same challenges faced by men:

1. non-Earth conditions
2. psychological stresses of isolation and
3. separation

Women may face difficulties from:

- Pregnancy
- Child Rearing
- Radiation

Current standards are too confining for exposure limits based on treaties and international convention. Space radiation is one of the main health hazards of space flight. It is dangerous because it has sufficient energy to change or break DNA molecules, which can damage or kill a cell. This can lead to health problems ranging from acute effects to long term effects.¹³ So from earth to moon women are the primary care taker and self-sacrifice of world and a key role in supporting their households to space shuttle.

“As woman I have no country. As a woman I want no country. As a woman my country is the whole world”-Virginia Woolf

¹³ www.asc-csa.gc.ca - Canadian space agency