

With Eilene Galloway

Interview by James W. Canan

You played a big part in the creation of NASA. I would like you to tell us all about that, but first, tell us how you got started, about your early years.

I was born in Kansas City, Missouri, on May 4, 1906, and grew up there. The public schools in Kansas City were wonderful, and when I graduated from Westport High School, I was awarded a four-year scholarship to Washington University in St. Louis. I went there in the fall of 1923. The first week I was there, I met George Galloway, who was working on his MA degree, and we fell in love.

We got married at the end of my sophomore year and came here, to Washington, D.C., where he finished studying for his doctor's degree, and then he got a job in Philadelphia. I enrolled at Swarthmore College, which is right outside Philadelphia, in a new honors program in the social sciences. I graduated with high honors and Phi Beta Kappa, and then taught for two years at Swarthmore in the political science department. Then my husband got a job in Washington with the NRA [National Recovery Administration], so we moved back here.

When did you begin working for the Congressional Research Service?

It didn't happen right away. I worked for the Federal Emergency Relief Administration [FERA], and then my husband became field representative of the National Economic and Social Planning Association, and we spent a year touring the United States, doing research for reports my husband wrote. And then we came back to Washington and I began working at the Legislative Reference Service—the research arm of the Congress—in the Library of Congress. The Legislative Reference Service later became the Congressional Research Service.

I was hired in August 1941 for the position of editor of post-war abstracts—to do research on post-war problems. We weren't at war yet, but the State Depart-

ment anticipated that we would be, and that we would win and would have problems afterward. I wrote all of the abstracts on international relations and national security, and when the Legislative Reference Service created the position of national defense analyst, I applied for it and got it.

And that led to your participation in creating NASA?

Yes. When the atomic bomb went off in 1945, I started studying the science—all of the scientific aspects—of atomic energy, and wrote a public affairs bulletin called "Atomic Energy: Issues Before Congress" [1946]. I also wrote a report on "Guided Missiles in Foreign Countries" that came out just before the Russians launched Sputnik on October 4, 1957. So my work as national defense analyst was relevant to my later work on space, because both topics were connected to war and peace. Lyndon Johnson, who was the majority leader of the Senate at that time, brought me into it after Sputnik went up.

Lyndon Johnson played a major role in all this, didn't he?

Oh yes. He was the chairman of the Johnson committee—the preparedness investigations subcommittee of the Senate Armed Services Committee. When Sputnik first went up, it was perceived as a military problem. Everyone was worried that the Russians might drop bombs on us from space, with Sputnik going around

the Earth in 90 minutes over a lot of countries. People were really terrified, all over the world. There was a lot of fear in this city.

At the time, I had been working on all kinds of military matters for the Legislative Reference Service. So that's why Johnson wanted me to help out with his hearings. He called on me immediately after Sputnik went up.

We tend to forget the fear that Sputnik caused.

Oh yes. Fear was very great that Friday afternoon. I was in my office, calmly working on something or other, when I heard that Sputnik was going around the Earth. Everybody was kind of paralyzed. The whole city was scared to death. And that was why it was so wonderful that Lyndon Johnson stepped forth with his hearings on whether we were prepared. The executive branch of the government didn't step forth until later.

When did the Johnson hearings start? What were they all about?

They began on November 25, 1957, as an inquiry into military satellite and missile programs. That was their purpose. Johnson and many others were afraid that the Russians were ahead of us in military technology, including missile-launching technology. A lot of scientists and engineers testified. It was also the International Geophysical Year, and there were plans to send up American satellites. The

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curious thing was that as soon as the scientists and engineers starting talking about the weapons they were working on and about whether we were prepared for Russian advances in technology, they also began telling us about all the wonderful

things we could do in outer space that did not have much to do with the military.

Tell us what happened after that.

We quickly went from fear to hope. It was remarkable how quickly our per-

ception of the problem was changed from fear to hope. Instead of being animated solely by fear of military developments in space, we became animated by hope for all those wonderful things we could do in outer space—in communications, trans-

Eilene Marie Galloway, who will celebrate her 102nd birthday on May 4, 2008, played a major role in the legislative process that led to the creation of NASA in the National Aeronautics and Space Act of 1958. She remains active as a NASA consultant and as a member of various advisory committees on space.

A native of Kansas City, Mo., Galloway joined the Legislative Reference Service of Congress in 1941. She later became national defense analyst and then senior specialist in international relations [national security]. In this capacity, she was appointed special consultant to the Senate Select Committee on Space and Astronautics in 1958. She also served as a special consultant to the Senate Committee on Aeronautical and Space Sciences from 1958 to 1977, and the Senate Committee on Commerce, Science, and Transportation from 1977 to 1982.

Galloway has also served on nine NASA advisory committees and as a consultant to the FCC and the State Dept. She worked for several decades with the United Nations Committee on the Peaceful Uses of Outer Space and was also instrumental in creating the International Institute of Space Law, which has served as the forum for legal scholars and others from around the world in studying and debating the legal issues associated with the exploration and utilization of space.

In her work on space legislation and as a consultant and public speaker, Galloway has emphasized international cooperation in space and the peaceful exploration of space. She



represented the U.S. in drafting the U.N. treaties that govern such cooperation and exploration, and that shaped the fields of space law and international space law.

Galloway received a NASA Public Service Award in 1987 "for her outstanding achievements of advising the Con-

gress on legal and technical aspects of outer space, and for further services to the United Nations and other international organizations in helping to develop a rational basis for international space law." She was honored by Johnson Space Center in 1997 "in appreciation for your personal dedication, visionary leadership, and technical support of America's endeavors in space exploration and development for the benefit of all humankind."

In 1999, Galloway was awarded flag and crew emblems of the International Space Station "in appreciation for serving the National Aeronautics and Space Administration and the nation as a member of the Advisory Committee on the International Space Station, and for your invaluable contribution in making the dream a reality."

Her professional attainments and contributions led to her selection as an Honorary Fellow of AIAA. She received the Theodore Von Karman Award of the International Academy of Astronautics, the Lifetime Achievement Award from Women in Aerospace, and numerous other awards and citations.

Galloway is a 1928 Phi Beta Kappa graduate of Swarthmore College, and holder of honorary doctorate degrees from Swarthmore and Lake Forest College. She was married to the late George Galloway, a widely recognized authority on the U.S. Congress.

portation, in improving agriculture and medical research, all kinds of things.

Instead of thinking that we had to prepare for war in space, we began thinking more about preparing for peace in space and creating the kind of organization in our government that could do it. Before we got too involved with preparing for war in space, we got involved with preparations for peace in space. It was amazing. The hearings showed that there must have been 200 ways of using space for peaceful purposes. And then the Senate and the House created special committees to look into setting up NASA, which happened in the National Aeronautics and Space Act of 1958. When I look back, I just marvel that we got it all done in nine months.

Our policymakers immediately focused on preserving space for peaceful functions and prohibiting hostilities. They undertook to match the order achieved by scientists and engineers with an international order of space law. NASA was created with Congress declaring our policy for peaceful purposes to benefit all mankind, and for international cooperation with nations and groups of nations.

Tell us about your work on the bill to create NASA.

Well, when President Eisenhower sent the original bill to create the National Aeronautics and Space Agency to Congress, John McCormack, the majority leader of the House, called me over to his office and asked me what I thought of it. I said I do not like it being called an agency, because that will lead to problems. He said it was already being called NASA, and I replied that we can call it an administration, with an administrator, and keep the “A” in NASA.

Why didn't you like it being called an agency?

Because I knew that if NASA were only an agency, it would be limited—too narrowly defined—and it would not have the authority to carry on international programs, and space is an international subject. So I told McCormack that changing it to “administration” was absolutely essential, because space covered so many subjects. I knew the authority that an administration has in contrast to an agency.

I had studied this, and I knew that an administration was the only organization in the executive branch of our government that had enough power to enable NASA to do what it would have to do.

What happened then?

McCormack called somebody into the room and said, “take this bill and wherever it says ‘agency’ and ‘director’ change it to ‘administration’ and ‘administrator.’” While I was sitting there. Just like that. And so the bill was changed immediately before it was sent to the House for voting. It passed the House and went to the Senate.

How many times did you meet with him?

Twice. In my first meeting with McCormack, he asked me whether I thought the House should have a committee on space. I said yes, and urged him to form such a committee because space was such an important subject and should go through the normal legislative process. So he created the House Select Committee on Astronautics and Space Exploration and made himself its chairman.

What happened after the bill to create NASA went from the House to the Senate?

I was sitting there behind the senators while they were considering the bill, and at the last minute, Senator Green [of Rhode Island], the chairman of the Foreign Relations Committee, suddenly said that all international space matters would have to have the advice and consent of the Senate. Well, I was in a state of shock at that, and I said to Lyndon Johnson, if everything has to be by the advice and consent of the Senate, we won't be able to have international space programs. It would take too long to get them going, because NASA would not have the independent authority to enter into international agreements about things that were not at the level of a treaty.

I knew that NASA had to be given the power to do certain things, like land astronauts in different places around the world and fly over foreign countries, and plan and manage orbits around the globe.

How did Johnson respond?

He gave me authority to go over to

the State Department and talk to them about this. The result was that when President Eisenhower signed the bill, he said that this does not preclude NASA entering into less-formal international agreements and arrangements for space programs. Then I was afraid that a lot of people wouldn't know what was meant by “less formal arrangements,” so I researched and wrote a Senate document for Johnson on all the different ways that NASA would be able to cooperate with other nations on space, such as memoranda of understanding, executive agreements, letters, and so forth.

The line between NASA and the Pentagon seems to be blurring. They seem to be cooperating more and more on R&D programs for military and nonmilitary purposes. Some critics fault NASA for this. How do you see it?

Oh, NASA and the Pentagon are supposed to cooperate under the guidance of the president of the United States. There isn't anything unusual about that. It is in the law. We knew from the start that we couldn't put them into separate categories when they are using the same technology. It wasn't that they had a choice in the matter.

So it is up to the president to set the tone for such cooperation?

Yes it is. President Eisenhower set the tone, and in different ways. He was a Republican president, and he asked Lyndon Johnson, the Democratic leader in the Senate, to go to the United Nations and set up the Committee on the Peaceful Uses of Outer Space. He chose Johnson to do this to show the unity between the executive and legislative branches of government, which we don't have now.

You played a part in that, didn't you?

Yes, I did. I happened to be in Texas, at a conference on space, trying to find out everything I could, and the president sent a plane for some of us there. So we all got on the plane and went to the U.N. That was so exciting. Lyndon Johnson gave a speech proposing that the U.N. organize the committee. I was standing right behind him with Henry Cabot Lodge, our ambassador to the U.N. Someone mentioned that Johnson was a Demo-

crat and Eisenhower was a Republican. Johnson replied that this was just a distinction, not a difference.

And so the U.N. created its Committee on the Peaceful Uses of Outer Space.

Yes, and we set it up. There were three nations that didn't want to join in this at first—the Soviet Union, Czechoslovakia, and Poland—because we were going to make decisions by majority vote, and they felt they would be outvoted. However, a year later, we decided to have the committee make all decisions by consensus instead of by majority vote. There

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were about 65 nations involved. This was one of the most important things that happened. It takes a little longer to get a decision by consensus, but when it happens, it is very solid, because all of the differences have been ironed out ahead of time, and you end up with a very strong instrument. The committee is responsible for all international agreements on space, including five treaties.

What have those agreements meant to the peaceful use of space?

The way I look at it, the scientists and engineers of all nations, and of the U.N., combined to bring peace to outer space so that we could develop it in the way that we have. Millions of people are employed in space-related activities, such as the communications and transportation industries—all kinds of things. And in all this time, we haven't had a war in space or from space to Earth. Just peace—

peaceful operations and cooperation among nations.

This has happened largely because we established the U.N. Committee on the Peaceful Uses of Outer Space and because the U.N. formulated, by consensus, the Treaty on Basic Principles to guide the nations in conducting their space activities. A series of international agreements led to space law becoming a recognized branch of international law.

Compliance with those agreements has been the rule among nations, because without them, there would be a mess in space. For example, if satellites did not conform to their assigned radio frequencies, there would be chaos in communications. Nations have been exploring space for 50 years, developing a variety of beneficial uses and avoiding space wars.

Which international space ventures stand out in your mind?

Apollo-Soyuz, the international space station, sharing information on planetary explorations, and so forth. The space station has taken a long time to live up to expectations, but it is an example of international cooperation for peaceful purposes. Now there is too much emphasis on individuals doing whatever they want in space.

We still have a problem with educating some people that outer space is a much different environment from the earth, the sea, and the air. You have to have special equipment and precise timing and many other characteristics to go into space and operate there. You have to coordinate orbits. We can't have people coming along and regarding space as the Wild West and planning to settle there and do anything they want there. There was one woman who chose an asteroid as a place where people can go to meditate. Ridiculous.

Are you concerned that space is being militarized now?

I am hoping and praying that we go on having peace in space for the next 50 years, just as we have for the first 50. We have done very well so far, and that makes me optimistic. Some people think that it is logical to have weapons in outer space, because we already have weapons

on earth, on the sea, and in the air. That is a leap that I don't want us to take.

I want to do something to make it continue the way it has, so, I am thinking that maybe I should do some writing to help it along. I am interested in what is called the “global exploration strategy,” a framework for the coordination of nations and for educating them and their people

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generally with regard to the characteristics of the outer space environment.

Are you optimistic about the future of space? Do you have the same feeling of optimism that you had back in the days when you helped create NASA?

Well, I feel good about what we did and about the time in which we got it done. We coordinated everything that had to be coordinated, and in a hurry. Now I hope and pray that we will be able to continue concentrating on using space peacefully.

Looking to the future, what do you think about the administration's plan for manned exploration of space—sending astronauts to Mars and back to the Moon? Is it a good idea?

Oh yes. I think that is very important. People will always want to explore space. Once we start doing that, we want to keep going, and we should. We need to keep doing things in space that are something other than military. The Space Treaty of 1967 spells out what the military can and cannot do in space, and the last statement of U.S. policy on space confirmed it. ▲