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Youth Wants to Know interview between Barber and Mr. Webb, 1962 May

Name for Jane -
Will be of interest to you -
I think this was on Sunday 6 May 62

YOUTH WANTS TO KNOW

ANNOUNCER: American Security and Trust Company, one of the 100 largest banks in the nation, presents YOUTH WANTS TO KNOW.

QUESTION: Mr. Webb, are we losing the space race to the Russians?

QUESTION: Mr. Webb, is it possible for us to send manned aircraft into orbit and return it?

QUESTION: Mr. Webb, when will we develop an atomic powered rocket?

BARBER: In just a moment, Space Administrator James E. Webb will answer these and other penetrating questions on YOUTH WANTS TO KNOW, created and produced by Theodore Granik.

ANNOUNCEMENT:

BARBER: Ladies and gentlemen, welcome to YOUTH WANTS TO KNOW. In 1956 for the fiscal year ending June 30, the National Aeronautics and Space Administration or NASA, spent $71.1 million for research and development. In the current fiscal year, the expenditure is $1.8 billion. President Kennedy for fiscal '63 is requesting nearly $4 billion. The man charged with administering this vital program is James E. Webb. Mr. Webb also is a member of the National Aeronautics and Space Council. Mr. Webb, it's a pleasure to welcome you to YOUTH WANTS TO KNOW.

MR. WEBB: Thank you very much.

BARBER: Now let's begin our questioning with Al.

QUESTION: Sir, are we losing the space race to the Russians?

MR. WEBB: No we are not. The situation, I think, is that the Russians built a big booster for their military program and have used it for a lot of space spectaculars. Now we have used the boosters that we have to do a tremendous amount of scientific work. We have really explored the universe and even shown that we could use the Atlas for successful manned space flight.

QUESTION: Well do their boosters put them ahead of us in the military space field?

MR. WEBB: No I don't think so, because the large bombs that they were able to make in the original go round required big boosters. We

were able with our manned aircraft program to develop the smaller bombs and, therefore, could use the smaller rockets. I do not think so.

QUESTION: Mr. Webb, it has been predicted that the USSR will use a vast amount of cargo rockets to deposit foodstuffs on the moon and then send a one-way three-man rocket. Will this be feasible for the United States?

MR. WEBB: No, it would not in my opinion. It's pretty hard to guess what they're going to do. You can hear a lot of reports.

QUESTION: Mr. Webb, do you think it is possible for the United States to send manned aircraft into orbit and then return it back to earth?

MR. WEBB: Yes. As you know, we have the X-15 program, which has been a transitional type of combination airplane and spacecraft. Now the Air Force has a Dynosaur program which is aimed at the same type of winged aircraft recovery as we have used in the X-15. This is a very active program under development, and I'm sure it's going to give us a great deal of the operating experience in this area.

QUESTION: Mr. Webb, in order to equal the Russian feats, why don't we combine our military and civilian programs?

MR. WEBB: I think that this is not a very simple question. First of all, the 1958 act requires the National Aeronautics and Space Administration program to conduct a civilian program for the benefit of all mankind in close cooperation with the scientific community and with other nations. Now it does specifically reserve to the Defense Department the development of weapons systems for use in space as required by the national security. Now it would be pretty difficult to conduct a program in cooperation with other nations in classified areas. I think we are stronger with the two programs.

QUESTION: If the NASA program is strictly for peaceful purposes, why is there so much security surrounding it?

MR. WEBB: Well, it isn't strictly for peaceful purposes. The basic aeronautical technology was developed by the National Aeronautics and Space Administration just as it was in the earlier days by the National Advisory Committee for Aeronautics. We developed the basic technology which can be used for peaceful purposes or for military purposes. We do it for commercial airplanes as well as for military airplanes. Now there is very little classification in our program. Your question implies there is a lot. The only classification or secrecy has to do with those technologies

developed for military use or where we borrow rockets and launch them under military technology.

QUESTION: Sir, in peaceful purposes, are we cooperating with the Russians to any appreciable extent in the space program?

MR. WEBB: Certainly we are. We, under the law, do publish the results of our program. They have these available just as all other nations in the world, but the point is we're moving very rapidly forward with advancing technology, and whether you call it cooperation to publish this material and have them read it, or whether you simply say this is a way of spreading the problems over the entire scientific community of the world so that the problems come from the men best qualified to answer them, this is another question.

BARBER: Mr. Webb, are the Russians reciprocating at all or to any degree? Are we getting any knowledge from them?

MR. WEBB: Yes, we have some knowledge from them. They have cooperated in the International Geophysical Year Program. They have cooperated in some of the magnetic survey programs, but not to any appreciable degree.

QUESTION: Sir, in 1960 you stated that in either '61 or '62 you felt the Russians could not land a man on the moon. May it be true in '63 or in the near future?

MR. WEBB: I do not think that they have the capability in the near future. You see the requirements for landing on the moon and safe return to earth are very much greater than those for orbital flight or even a fly by of the moon. Now what I stated was that I thought they would do additional spectacular flights before we could do them, using their big booster, that they would probably do a multi-manned orbital flight before we could, they would probably do a multi-manned flight by the moon. But when it came to all of the requirements to land on the moon and return and do a scientific exploration, our total industrial capacity--the great strength of this nation--would show itself, and that we were in a completely competitive position in that regard.

QUESTION: Mr. Webb, Parade Magazine recently stated that 12 women had passed all the qualifying tests necessary for an astronaut. In view of this, don't you think they should be considered for training for future flights?

MR. WEBB: Well, it depends on what you mean by all the qualifications. Now, some women have undergone a number of the ground tests, but in these early experimental flights, using these very high performance boosters and space craft and the control loop in this very complex machine,

the best scientific and technical opinion is that experience in high performance jet aircraft is essential to insure the performance of these flights and to learn what we need to know from them. Now it may be in later flights, after they become more routine, we will certainly consider this. Now the applications that we are asking for people who want to be astronauts, does not exclude women. It doesn't exclude anyone. It simply says, people who are qualified with the necessary experience, should apply and we'll consider their qualifications.

BARBER: Joan, are you going to volunteer or ask a question?

QUESTION: I'm not sure if I'll volunteer, but I'd like to ask you if you think that it's possible that the moon shot would be--the crew of three would be composed of two men and a woman as has been suggested by psychologists?

MR. WEBB: No I do not think so, and I'll tell you why. Actually, the first flights to the moon are going to be under very severe conditions. The problems of launching a spacecraft from the moon with only three people there to participate in the launching is very very difficult. Now we will want some scientific training for the members of this crew, but the problem of getting there and getting back is a very very big problem and will require the utmost training in aeronautical and space technology.

QUESTION: Sir, you mentioned boosters as the one area in which the Russians far exceed us. When do you think we will overtake them in this vital area?

MR. WEBB: Well, as you know, we've flown the first stage of the Saturn C-1 which has a million, 300 thousand pounds of thrust. The next version of it will have a million, 500 thousand pounds of thrust. The largest boosters that we've seen the Russians fly have about 800 thousand pounds of thrust, so we've already tested the first stage of a larger rocket than they have flown. We have a very active flight program coming forward for 1962, 3 and 4, and in that period we are going to have perfected boosters. Remember you've got to fly at least 10 flights of one of these big boosters to do all the tests necessary to feel that you'd be comfortable to put men on the nose of it.

QUESTION: Mr. Webb, in what stages is Project Apollo, and have they chosen a site for it?

MR. WEBB: Well, now Project Apollo is a three-manned spacecraft that will follow the Mercury and the Gemini. Now we are expanding the three-orbit Mercury to a one-day mission--that is, 24 hours of space flight with one man. We'll do that within approximately a year. Now, shortly

behind that will be the first test flights of the two-man space flight, Gemini. Here we will get experience with weightless flight and other conditions up to about a week. Now the Apollo will come shortly after that. This will involve three men. The first flights will be in orbit around the earth. The second stage will be to make a fly by of the moon and other flights out beyond the area of the earth, and the third stage is the moon landing. Now we are going to launch all of these from Cape Canaveral because we gained the benefit of the rotation of the earth in adding to the speed of the vehicle and it takes a smaller booster to launch eastward across the Atlantic than it would in another direction.

BARBER: Mr. Webb, you've mentioned several ambitious projects. What, in your opinion, will be the most spectacular and most advanced U.S. effort--the most successful one--during this decade of the Sixties? This calls for a lot of guesswork.

MR. WEBB: Well, I don't know. There's a lot of phases of this program. It would be very spectacular to have a communications satellite in orbit which would perform the first intercontinental television. It's very spectacular to find that we could launch one week after the Glenn flight an orbiting solar observatory, which is establishing the relationship between the earth and the sun. Now this is very important for scientists. It didn't create a great deal of speculation in the range of flight; although the radio failed, we still showed we had the guidance that permitted us to put the Ranger on the leading edge of the moon, and let the Aegina pass by the trailing edge of the moon and get enough of a kick from the gravity of the moon to pass it on out into a solar orbit. Now when you can straddle the moon like that, you've done a spectacular thing.

BARBER: Indeed so.

MR. WEBB: Obviously, the manned space flight program is the real spectacular thing. I think the landing on the moon will probably be the most spectacular thing in this generation.

QUESTION: Mr. Webb, so far all of the recoveries have been from the water. Will Project Apollo also be recovered from the water? And how soon will we start recovering over land?

MR. WEBB: Well, we expect with the Gemini to be able to start recovery over land. As a matter of fact, the Mercury could be recovered over land, but you might have a little rough landing because it comes down fairly fast. It's a safer and a surer process to do it over water, but we are proceeding rapidly to incorporate the land landing technique in the program.

QUESTION: Mr. Webb, wouldn't a little increase in security at Cape Canaveral help reduce the tension on the missile men there? Is the circus atmosphere necessary?

MR. WEBB: Well, now here we are on one of the mass media--television. How do you decide whether it's a circus atmosphere or not? A thousand newspaper, television and radio correspondents wanted to come there and report the Glenn flight. I asked today if there would be as many down there for the Carpenter flight, which will take place this month. Well I don't know how you can prevent service for the millions of people around the world who want to see these things. It's a free country and the government doesn't try to set the atmosphere. We are there to do the work and we expect to do the work, and we expect to get as good service as we can to those media that want to report it. I don't know how you can avoid people going on the beach and sleeping all night to see this flight.

QUESTION: Mr. Webb, on one of these space probes, is it possible that we will contaminate the moon or another body in the solar system for further scientific study?

MR. WEBB: Well now, every effort is being taken to prevent this. Every one of these space craft that we send outward to the moon and other planets is thoroughly sterilized before going out. The Ranger was completely sterilized. The Mariner which we'll send out in another 60 days or so toward Venus will be completely sterilized, so there's no risk of contamination from these particular vehicles. Now, if you have an active program with many vehicles and some from different nations, there's always some risk of course.

QUESTION: Sir, is it in the national interest to give to the AT&T, the largest corporation in America, the space communications monopoly?

MR. WEBB: No. The President has said that this wasn't wise and that is not the program of the government. There is a program to move forward to establish a satellite system which will increase the common carrier capacity of all of the common carriers. Now the President has recommended that there be public participation in this. Congress has adopted it. They are debating this on the floor of the House this afternoon.

QUESTION: Sir, last week Drew Pearson wrote in his column that you did support this proposal that AT&T take over the space communication monolopy. Is this a false allegation of Drew Pearson?

MR. WEBB: Well, I don't want to call it false. The situation is that the Federal Communications System recommended that those people in the business as common carriers be called on to establish the system of satellites to augment their present capacity. Now, my own position has been

that the thing we needed most of all was to get it before a forum where the decision could be made--namely, Congress. I participated actively there. I participated in hearings. I've appeared before most of the committees down there and my testimony is on record, which is that we need a system to expand our capacity urgently, that this offers many new and revolutionary capabilities for the future of this nation. Now, we do have a monopoly in the common carrier traffic now for seven companies, and the telephone company carries most of the traffic. It will furnish about 80% of the load on this new system. So, it's not so simple as to say a monopoly of one company in this. The actual benefit to the customer so that any business man or any person wanting to use the system has service available, is one of the main objectives in our whole common carrier system.

QUESTION: But Mr. Webb, why should AT&T or any company who put not a penny into this space program and its development, on which the United States government spent billions, why should these companies reap profits from this satellite program?

MR. WEBB: How do you know they haven't put a penny into it? They have, as a matter of fact, conducted a great deal of research. They've agreed to pay the United States government between $3 and $6 million a shot to fire the satellites that they have prepared with their own money for flight. Now it certainly is true that the major cost of the capability we have for launching satellites has been paid by the United States government. But you must bear in mind that the problem is to establish a system of international communications. It must tie into the system by which the messages are collected in the United States and taken to a station that will transmit them to the satellite. They have to be collected at the other end and then sent out over the network in the foreign country. This is not so simple as your question seems to imply. The profits on this operation will probably not come for a number of years. There are very grave risks in it, but more importantly, the regulation of the Federal Communications Commission is aimed at furnishing a service that will not be downgraded as these new capabilities come in and the profit or loss on the system will depend on how much traffic goes on it. AT&T has now a large proportion of the telegram traffic that moves between this country and other countries--about 80% of it. So they have an obligation here to develop additional resources to carry increased traffic.

QUESTION: Mr. Webb, which steps have been taken to guard against price fixing by NASA contractors?

MR. WEBB: Well, I'm not sure what you mean by price fixing. Most of the money that we spend is spent under competitively arranged contracts under which proposals are made by those companies in the business. Now when you have competition, and ask the companies capable to come in and make their proposals and evaluate them, it's pretty hard to find price fixing. This is not like buying shoes or buying concrete roadways. These are research contracts to develop things that are more difficult to make than anything the human mind has ever made. These rockets have to be able to boost tremendous loads, use liquid hydrogen fuel. These are very difficult problems and the real problem is how do you get able people working on the contracts.

QUESTION: In other words, the point is not so much if the government gets the cheapest job as it gets the best job?

MR. WEBB: Well, I saw a little cartoon the other day that had an astronaut up on top of a big rocket and he was going through the countdown down to about three, and this guy said: "Hold it, hold it. Did you say everything under me was built by the lowest bidder?" I mean there's a problem here with respect to reliability. We are taking the companies who are best qualified to do the work and improve the reliability of these systems.

QUESTION: Mr. Webb, you stated that upcoming flights would be from Cape Canaveral. Then why are the astronauts being moved to Houston?

MR. WEBB: Well, the manned spacecraft center in Houston is designed to work with the system we have for building the boosters and getting them to the Cape. Now we looked all over the world and selected Cape Canaveral as the best place to launch because we already had a very large investment there, instruments down range. We had ships on station. There were already active programs by the military there. So we expanded the Cape. Now Werner von Braun and his group at Huntsville--about 5,000 or 6,000 people--were already in the big booster business. We had one booster, as you know, landlocked because a dam went out on the river. Now we decided then we would do the actual fabrication of the big rockets at the mouth of the Mississippi River near New Orleans in a government plant that was vacant and that we'd let the parts be made anywhere that companies could make them in the United States, and assemble at this point, test it over in a facility nearby. Bear in mind, we have to clear out a radius--a circle with a radius of about 10 miles for these tests because there's so much noise and the explosion danger is so great. Now, having Canaveral to launch, Huntsville is the main center of management of the boosters, New Orleans is the place where we fabricate them and put it together and 35 miles away a test facility, Houston was the logical place in which to build a spacecraft for integration here. Bear in mind, we may have to go beyond the Apollo

three-man spacecraft to large multi-man--12 man, 15 man--orbiting stations. Here we have to move these things by water, and we have to have ability to work year around outdoors. So this is a pattern. Let me point out to you that if we have to fight in space, if we have to turn this into a military program, the concentration of these facilities where the final assembly comes together would be a very valuable thing to the military.

QUESTION: Mr. Webb, you've consistently emphasized the amount of training that is needed to put on a program like this. What are we doing to train men for the future? We need intensive cross training, and we need many more engineers and scientists than we have now. What is being done to put forward this program?

MR. WEBB: Well, one important thing is that we hire bright people who have graduated from college and then permit them to go on for advanced degrees in college. Down at Langley Field, for instance, there are 300 of our employees going to Virginia institutions to get masters degrees and doctors degrees. This is going on at all of our ten stations around the country. Second, we have just instituted a training program for pre-doctoral students. We have 100 students to be selected and trained in ten institutions and we are encouraging the training of these people in every way that we possibly can. We agree with you.

QUESTION: Mr. Webb, you mentioned a moment ago a man in Space station. What progress has been made towards this, and when do you expect this to be completed?

MR. WEBB: Well, I just told you that we've got the one-day mission with Mercury following the three orbit mission, the Gemini following that, the Apollo following that. Now the Gemini is a two-man orbiting space station with the capability of existing up to a week. The Apollo will be able to exist up to a month or two. Now, this is the kind of experience we need to find out how men adapt to space, how long they can stay under the weightless condition and still return to earth without being damanged in the process.

QUESTION: I was speaking about a permanent man in space station, probably with military capabilities?

MR. WEBB: Well, the first thing you must bear in mind is that we do not know if a man can adapt to weightlessness and live three, four or five days and still safely return to earth, or whether he can live a week or a month. We have to find this out. If it is not possible for him to return safely and take the high stress of reentry after say a few days or a week in

space, then we have to make a very large station that has some kind of artificial gravity through a spin process. Now the first thing to do is to find out if a man requires this or if he doesn't. We're going to be flying every 60 or 90 days from now on with the Mercury, Gemini and Apollo, to find this kind of thing out, and as we find it out, we'll develop the next step. It's just like the X-15 program. We'll fly and fly and fly, and experiment will determine the questions of what needs to be done next.

BARBER: Mr. Webb and panel, I'm sorry to have to interrupt. We're almost out of time, but we will have time for a final question. We'll be back in just a moment.

ANNOUNCEMENT:

BARBER: All right, Jeff, we have about a minute.

QUESTION: Mr. Webb, what is being done about the danger of cosmic rays, solar rays, even X-Rays, on the moon and in space around the earth and on trips to the moon? How will men be protected?

MR. WEBB: Well, the first thing we're doing is studying the pattern for the last 50 years of the solar activity so as to be able to predict the times when men can fly safely. Then we also are equipping these spacecraft with enough rockets so that they can return to earth in a hurry should solar flare or other danger come about. Then we are making complete studies of how you can best shield men in the spacecraft and the spacecraft itself. Remember with a nuclear rocket, we've got to provide shielding from the nuclear reactor in the rocket itself. So, we are really after that problem.

BARBER: On that note, Mr. Webb, I'm sorry I'll have to terminate our discussion. I wish we had more time. It's been a pleasure having you, sir, as guest on YOUTH WANTS TO KNOW. And our thanks to our panel of questioners and to you, ladies and gentlemen, for joining us. Now this is Julian Barber inviting you to be with us again next week when our guest will be Republican Senator Clifford Case of New Jersey.

ANNOUNCER: Tune in again next Sunday at 6:30 for YOUTH WANTS TO KNOW, presented by American Security and Trust Company, where Greater Washington banks .