

**Wernher Von Braun Oral History Interview –JFK #1, 3/31/1964**  
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Von Braun, Wernher; Director, George C. Marshall Space Flight Center, National Aeronautics and Space Administration (1960-1972). Von Braun discusses his relationship with John F. Kennedy [JFK], JFK's involvement and interest in the space program, and JFK's visits to spacecraft centers, among other issues.

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# Wernher Von Braun

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Oral History Interview

with

WERNHER VON BRAUN

March 31, 1964  
Huntsville, Alabama

By Walter D. Sohier and Eugene M. Emme

For the John F. Kennedy Library

SOHIER: This is an oral interview with Dr. Wernher von Braun, Director of the George C. Marshall Space Flight Center, Huntsville, Alabama, on March 31, 1964. We're seated here in Dr. von Braun's office. Present at the interview in addition to Dr. von Braun are Dr. Eugene Emme, the NASA Historian, and Walter Sohier, General Counsel of NASA.

I wonder if we might kick this off, Dr. von Braun, with your saying something about the first time you met President Kennedy and his wife.

VON BRAUN: This was in the Pathé Studios in New York -- I think 104th Street, somewhere up there in that area. I cannot pin down the year. It must have been 1953, '54, or '55, thereabouts. It was before Sputnik. Both the then Senator Kennedy and I had been invited to help nominate the Man of the Year for the next year. From this I conclude that the meeting must have been in November or December, because the new Man of the Year is usually nominated on New Year's Day.

Senator and Mrs. Kennedy were there and I had also brought my wife along. We had to wait for about an hour until the show was ready for us. During this hour I had a long conversation with Senator Kennedy, while my wife talked a bit to Mrs. Kennedy.

The discussion touched on quite a number of subjects, but I recall that the Senator spent at least half the time on his older brother Joseph who was killed during the war in an

airplane accident that was closely related to the fledgling missile technology. I remember that he said the accident occurred with an obsolescent type of bombing aircraft that had been loaded to the gills with explosives. The idea was that the plane would be piloted by the Senator's brother up to a certain altitude and then set on autopilot, at which time the pilot, still over friendly territory, would bail out. The autopilot and the navigation gear, still somewhat experimental, were rigged in such a way that, upon reaching

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the destination in level flight, the plane would dive into the target. It seems that the aircraft climbed to the prescribed altitude, but during the transfer to autopilot mode, it suddenly blew up. The Senator pointed at the close relationship of the work his late brother was pursuing with guided missile development and said that missilery had come a long way since those pioneering days. He had been following the work of myself and my associates in missile development with the greatest interest. That's about as far as this particular discussion went.

During that hour of waiting we touched upon several subjects -- politics, people, economics, science, and the like. Senator Kennedy was actually doing most of the talking and I found it extremely fascinating to listen to him. Whenever he was through with one subject, I would raise a question on something entirely different, and invariably I found him most responsive and concise. I was greatly impressed by the breadth of his interests and the broad spectrum of his knowledge. In fact, I was so impressed that when we left the studio I told my wife I wouldn't be surprised if Senator Kennedy would one day be President of the United States.

SOHIER:                   The tables turned, I guess -- the next time you saw him he was asking the questions and you were doing the talking. [Laughter]

VON BRAUN:            Yes.

SOHIER:                   I wonder if we might move from that period in the fifties to the time, the sort of transition period, from the Eisenhower to the Kennedy Administration, when there was a good deal of study going on. One of the studies was being conducted by the Wiesner Committee for the incoming President. During this period, did any of the incoming group, such as President-elect Kennedy or Dr. Wiesner, or any members of his committee, get in touch with you to find out what you thought ought to happen in the space program?

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VON BRAUN:            During the period after the election but prior to the inauguration of President Kennedy, I don't think I was directly involved in any high-level planning discussions. However, soon after the Inauguration, particularly after the appointment of the then Vice President Lyndon B. Johnson as head of the National Space Council, I did become involved. I attended two meetings with the Vice

President and at one of these meetings -- it must have been in late April 1961 -- the Vice President specifically asked me to give him my views in writing as to what kind of a space program I felt this country should pursue.

As I remember it, the Vice President handed to each of the five or eight participants, including Mr. Webb, a copy of a memorandum he had received from President Kennedy wherein the President had raise a number of questions on the status and the most desirable future objectives of our space program. I have a copy of this memo before me. It is dated 20 April 1961 and, since it constitutes an interesting historical document, maybe I should read a few excerpts from it.

SOHIER:                    Either that or... I think that will be photographed for the Library but, if it's helpful, you might want to mention portions of it.

VON BRAUN:                Well, President Kennedy in this memo specifically requested that the Vice President, as Chairman of the Space Council, make an over-all survey as to where we stand in space. The memo includes questions such as (and I'm quoting):

“Do we have a chance of beating the Soviets by putting a laboratory in space, or by a trip around the moon, or by a rocket to land on the moon, or by a rocket to go to the moon and back with a man. Is there any other space program which promises dramatic results in which we could win?”

And,

“How much additional would it cost?... Are we working 24 hours a day on existing programs. If no, why not?... In building large boosters should we put our emphasis on nuclear, chemical or liquid fuel, or a combination of these three?... Are we making maximum effort....”

This memo from the President led the Vice President to ask the small group he had summoned to furnish him some thoughts on which he could base his reply to these questions. I do not know what other letters he received as a result of this meeting or what recommendations they contained. I myself replied in a letter dated April 29, 1961.

SOHIER:                    On the lunar question, putting a man on the moon, what were your thoughts as expressed in that letter?

VON BRAUN:                Let me read from it... it says here:

“Summing up, it is my belief that

\* \* \*

b) we *have* a sporting chance of beating the Soviets to a soft-landing of a radio transmitter station on the moon. It is hard to say whether this objective is on their [Soviets'] program, but as far as the launch rocket is concerned, they could do it at any time. We plan to do it with the Atlas-Agena B-boosted Ranger #3 in early 1962.”

Then it goes on...

c) we have a sporting chance of sending a 3-men crew *around the moon* ahead of the Soviets (1965/66). However, the Soviets could conduct

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a round-the-moon voyage earlier if they are ready to waive certain emergency safety features and limit the voyage to one man. My estimate is that they could perform this simplified task in 1962 or 1963.

d) we have an excellent chance of beating the Soviets to the *first landing of a crew on the moon* (including return capability, of course.) The reason is that a performance jump by a factor 10 over their present rockets is necessary to accomplish this feat. While today we do not have such a rocket, it is unlikely that the Soviets have it. Therefore, we would not have to enter the race toward this obvious next goal in space exploration against hopeless odds favoring the Soviets. With an all-out crash program I think we could accomplish this objective in 1967/68.”

In his memo, a little further down, the President’s question was, “Are we making maximum effort? Are we achieving necessary results?” I answered these queries in my letter as follows:

“No, I do *not* think we are making maximum effort. In my opinion, the most effective steps to improve our national stature in the space field, and to speed things up would be to

- identify a few (the fewer the better) goal in our space program as objectives of highest national priority. (For example: Let’s land a man on the moon in 1967 or 1968.)
- identify those elements of our present space program that would qualify as immediate contributions to this objective.”

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SOHIER:                   And about a month after that, May 28, 1961, the decision was made to go ahead with the manned lunar landing program. Did the President ever sort of confirm your thought there that the reason for setting the decade is to set a goal for which we could shoot? Did he express himself on that?

VON BRAUN:           No, he never did. But I think it is rather obvious from his memorandum to the Vice President of April 20 that it was really President Kennedy’s personal idea that putting a man on the moon and bringing him back alive was a worthwhile, high-priority national objective.



SOHIER: Did you have any contacts even before the election, because Senator Kennedy was known as having a brain trust around him, when he was campaigning and so on. Were there any contacts then in terms of sort of thinking through what a good space program would be?

VON BRAUN: No.

SOHIER: Then I guess you were involved in this March 22nd meeting, 1961, which is the budgetary discussion. I think you were in on that.

VON BRAUN: No, I was not. But I did attend the Inauguration Ball; in fact, the Inauguration itself. I had a private invitation to both events and that's when I saw the President from a distance again.

SOHIER: There was, during this transition period, however, a lot of studying going on in NASA and specifically down here at Marshall, wasn't there, on what can we do and what time periods we can do it in? I guess even before the election that we had a conference down at Williamsburg, I think in October of '60... you were in on that conference, weren't you?

VON BRAUN: Yes, I was.

SOHIER: You attended the Williamsburg conference, but I guess there was also a lot of internal studying going on that Marshall took part in...

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VON BRAUN: Yes. It seems that during this time the National Space Council was trying to formulate a new space policy. The Williamsburg Conference included a Panel Conference, on October 18, 1960, moderated by Dr. Dryden and attended by General Ostrander, Dr. Newell, Dr. Pickering, Mr. Abbott, and myself, as panelists. The Panel Conference was entitled "Where should NASA's program be headed?" Thus, it constituted a kind of NASA-internal soul-searching operation in support of the Space Council's plan to come up with a new space policy. Many supporting studies were carried out by all NASA Centers to see what NASA could safely promise and how much it would cost. In this second exercise we did likewise participate.

SOHIER: Did you meet with the Space Council at all? You said that the Vice President and you exchanged correspondence. Were you contacted by the people in the Space Council doing their own studying, or was this pretty much internal NASA work?

VON BRAUN: No, the two meetings I attended were several months after the Inauguration and were called by the Vice President. They were

attended by Mr. Webb and a few additional people, including myself. Neither meeting was a formal meeting or the National Space Council.

SOHIER: Was there just one meeting or were there several of these during this period?

VON BRAUN: I think there were two.

SOHIER: Two. I see. Now, the first time that you met the President as President I guess was February 23, 1962, at the ceremonies at Cape Canaveral after the Glenn flight?

VON BRAUN: Yes... when the President came to the Cape to present a medal to Colonel Glenn... that's right.

SOHIER: Did you have an opportunity to talk to him then, or was this more ceremonial?

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VON BRAUN: No, this was strictly ceremonial. I don't even think that I was in the greeting line, but the President gave a speech there and I remember that I was seated in one of the first rows so I saw him from close up.

EMME: Then, Dr. von Braun, you didn't hear anything after the Shepard flight -- when Shepard flew on the Redstone... suborbital flight... was there any White House comment after that?

VON BRAUN: No, I don't think so. Shepard himself, with a few key people of the Mercury project, was received by the President but nobody from the Marshall Center was invited. At that time the Model 51 Redstone rocket was pretty old hat whereas the manned Mercury capsule was a brand-new and exciting accomplishment.

EMME: It was the first American in space, though.

VON BRAUN: Yes, it was.

SOHIER: Now President Kennedy came down to visit you at Marshall in September of '62 -- September 11, I believe. Could you give us some of the details of that visit?

VON BRAUN: Just for the sake of completion, on my calendar I have one more event. It doesn't involve President Kennedy, but Vice President Johnson. He

came to Seattle on May 10, 1962, to pinch-hit for President Kennedy in connection with the Second Conference on the Peaceful Uses of Outer Space. I attended this Conference.

SOHIER: Did you have any discussion with the Vice President then, or was this again ceremonial?

VON BRAUN: I met him there again but we exchanged only small talk.

SOHIER: Then in September President Kennedy came down here. I guess you spent quite a lot of time with him?

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VON BRAUN: Yes. This was President Kennedy's visit to the Marshall Center on September 11, 1962. I toured the Center with the President, briefed him on the program, showed him our Saturn vehicles including, I believe, a static run on the test stand. He took a great personal interest in every detail of the program.

SOHIER: Did you get into a discussion of any of his philosophy about space at this point -- any of his thinking? Did you have those kinds of discussions?

VON BRAUN: He made a statement that he found it difficult to understand why some people couldn't see the importance of space. He said he wasn't a technical man but to him it was so very obvious that space was something that we simply could not neglect. THAT we just had to be first in space if we wanted to survive as a nation. And that, at the same time, this was a challenge as great as that confronted by the early explorers of the Renaissance.

SOHIER: Did he ask you what your views were about whether we could... because this was after the manned lunar landing decision... whether we could make this in the decade?

VON BRAUN: Yes. Yes, he asked that question. He asked, "Well, do you think we have bitten off more than we can chew?" and I said no, I thought that, Congress willing and the funds forthcoming, we had a very good chance of making that schedule.

SOHIER: Yes. This was the occasion when you had the debate with Dr. Wiesner, wasn't it? Can you comment on that?

VON BRAUN: Yes. Well, what happened was... we had a display table set up in front

of the Saturn I booster in the hangar. I was using a little model of the Saturn V/Apollo there to explain to the President and his party how, step by step, the entire trip from the surface of the earth to the moon and back would proceed. I showed, for example, how the various stages of the Saturn V dropped off and how, after injection into a trajectory to the moon, the Apollo command and service modules would turn around and dock on the lunar

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excursion module, and how thereupon the third stage of the Saturn V would be detached and abandoned. I demonstrated how, 70 hours later, the Apollo spacecraft would enter a circumlunar orbit; how two of the three astronauts would transfer into the lunar excursion module and make their landing; how the two men would return from the lunar surface with the upper stage of the lunar excursion module and make their rendezvous maneuver with the command module that had been left circling in the circumlunar orbit with the third man on board; and how the command module, with all three men happily reunited, would then boost itself back to earth and final reentry into the earth atmosphere.

I explained these various phases of the program by throwing more and more modules of my rocket model away until finally the little nose cone, representing the command module with the three astronauts aboard, was all that was left to reenter the atmosphere and return to the earth's surface.

When I was through with my presentation, the President said, "I understand that there is still quite a dispute among scientists whether this is really the best way of doing it." Then he turned around and said, "Jerry - where's Jerry?" (meaning his Presidential Assistant for Science and Technology, Dr. Jerome Wiesner.) And so Jerry stepped up. This, of course, was a tremendous thing for the newspapermen present because they thought they could scoop a wonderful story.

During the next five minutes a debate developed wherein President Kennedy kind of pitted me against Jerry Wiesner with the horde of newspapermen following. The discussion was picked up by microphones and reverberated throughout the hangar. [Everyone laughs]

Of course, the newspapermen understood only half of what was said, partly because of the poor acoustics and partly because of the many technical terms involved, but they gave it quite a play, and on some occasion the story came out a bit distorted.

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Now the fact of the matter was that Dr. Wiesner and his committee, PSAC, the President's Scientific Advisory Committee, had studied the lunar-landing problem also and in great detail. Of course, PSAC had read up on all the studies NASA had conducted, but it had come to the conclusion that, maybe, the so-called earth-orbit rendezvous method would be somewhat more desirable than the lunar-orbit rendezvous mode which NASA had finally adopted. Well, actually, there was never any disagreement between PSAC and NASA that both methods were entirely feasible -- the one NASA selected and the earth-orbit rendezvous,

which PSAC preferred. So this was never a discussion of what was feasible and what was not, but it was an argument about the relative merits of the two methods.

For example, there was the question of which method was the least expensive. What was the most promising approach within the time frame available? And, finally, which was the most reliable approach from the standpoint of crew survival and success chances of the total operation?

Well, anyway, this broadcast hangar debate went on for a couple of minutes. Finally the President said, "Well, maybe we should have one more hearing and then we'll close the books on the issue." These were, as I remember them, his words. There was, indeed, one more go-around thereafter. The net result was that the PSAC in effect said to NASA: Well, after all, you guys have to deliver the goods, and while we are still not quite convinced that yours is really the most economical and fastest and most promising way of implementing this lunar program, we have no doubts that your approach is quite sound, and we feel we should not tell you how to run your own show. Thus, they finally came around and endorsed the NASA approach.

SOHIER: Did President Kennedy ask you a question like "What do you think the Russians are going to do next?"

VON BRAUN: Yes, he did. I think this was always very close to his mind -- what will the Russians do?

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Another question he often asked, on later occasions in particular, was, "People ask me this or that question -- now what do I tell them?" For instance, I remember at the Cape, the last time I saw him, he raised the question, "People ask me what do our Apollo and Gemini programs do for our national security? I know we need these programs to learn the basics of space flying. But are they also of military importance? What do I tell these people?"

SOHIER: What did you say?

VON BRAUN: My answer was about as follows: The fact that outer space is militarily important has already been amply demonstrated by intercontinental ballistic missiles which travel through outer space even today.

Combined with their nuclear warheads they are probably the most terrifying weapons ever invented. Thus, our military security is deeply affected by the existence of space weapons today. On the other hand, NASA has demonstrated with Program Mercury that Man in a spacecraft is not, as many people had predicted, a liability, but that he is actually a great asset. He can communicate with the ground and compare ground observations with his own. He can consult the instruments on his panel, correlate their readings with what he observes through his windows and make decisions on this basis. Just like an airplane pilot, he can use

his judgment, even when his instruments fail. Thus, he can make the whole operation far more reliable.

Now, since automatic space weapons such as ICBM's have demonstrated that outer space as such is of greatest military importance, and since Man's value in a spacecraft has also been demonstrated, it simply means putting two and two together to conclude that a manned space weapons system will offer a very formidable combination of two demonstrated values.

On the other hand, I also made the point to the President that in my opinion the most important task at this moment was to give more people an opportunity to log practical flight experience in outer space. I expressed my view that, just like during the early years of aviation, useful military

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manned space concepts must be developed on the basis of practical flight experience and that they cannot be perfected solely by the act of crystal-ball gazing behind a desk. For that reason, I thought that our present manned space flight program was about the best program the nation could have: it is aimed at extending the time astronauts will log in space; it will continue to draw the majority of astronauts from the military services; and it provides the astronauts with a great variety of scientific and technological tools whose usefulness in outer space they are expected to prove or disprove.

SOHIER: When you explained it to him, as you are explaining it to us, did he ask you questions as you were going along, or sort of listen to you and mentally record it?

VON BRAUN: In this particular case, he said, "Tell me, how do you answer these kinds of questions that people ask me? What shall I tell them?" And so in this particular case I made a little speech. [Laughter]

SOHIER: As you took him around and showed him models of hardware and explained the program, was this a formal briefing? Or informal? How did he like to absorb this material, and was he absorbing it?

VON BRAUN: The briefings were very informal, and the President absorbed the material very effectively, as could be seen from the questions he asked. Occasionally, when I was trying to explain too much detail to him, I found that he got a little restless and wanted to get close to the hardware and virtually touch it. He was intensely interested in seeing things, in understanding for himself how big or how complex things were. He would interrupt you with a question: "What is this black tube sticking out of the second stage?" He seemed to evaluate things on the basis of what he could really see with his own eyes. Sometimes I had the feeling he didn't like to sit still for more than 15 or 20 minutes and be told with the help of a large array of display charts what was going on. I think he instinctively

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suspected a “snow job” behind too much paper displays. He’d much rather see the results of the work in the flesh and be close to the people who were working in the laboratories and the shops.

SOHIER: Did he ask other people than you? Did he sort of turn to people in the entourage... Was he trying to find out how much everybody knew... or was this a learning experience?

VON BRAUN: No, I’ve never seen him checking up on someone else in the group to see whether the man knew what he was talking about. Some people do that, you know, He didn’t.

SOHIER: He was not asking difficult questions to see if he could find someone who didn’t know the answer?

VON BRAUN: No, I have never seen him do that. But to come back to my observation, here’s a typical incident I remember. When President Kennedy was at the Cape on his last visit, November 16, 1963, we had a whole array of models displayed in the blockhouse. Dr. George E. Mueller, the head of the manned space flight program, gave a presentation to him during which he explained these models. He also showed a few charts and talked about how the whole program was organized, the logic behind it, and the time phasing. Towards the end of George’s presentation, the President got visibly restless. He began to ask specific questions about some of the models... what is this, what is that... As soon as Dr. Mueller was through with his talk, the President got up and took a close-up look at the models. “So this is the ‘Redstone’” he said. It had been explained to him as the missile that had carried Shepard and Grissom on their first suborbital Mercury flights. Now this model of the Redstone rocket was maybe a foot tall. To the right of it was a model of the Saturn V, the big Apollo moon rocket. This model was about six or seven feet tall. The President grabbed the little Redstone model and held it up to the towering Saturn V and demanded, “Are these models to the same scale?” When this was confirmed, he explained, “Gee, looks like we’ve come a long way!” There was something like a boyish enthusiasm about him, at the same time deeply sincere and very charming.

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SOHIER: During a lot of this time, I gather that he was suffering from a bad back... apparently during that last visit to the Cape... did you notice that?

VON BRAUN: I knew about his back and watched him very closely to see whether on

occasion he would give any signs of pain. I marveled at the way he managed to hide it. I noticed once or twice when he was sitting down in the car or so, there was a little twitch in his fact indicating pain, but a second later he was just as cordial as before and again absorbed by what he saw and heard.

SOHIER:                   Going back to the September '62 visit to Marshall -- then you accompanied him to Houston and on to St. Louis, didn't you?

VON BRAUN:            Yes, this was in connection with his official tour of the space centers. It was in September of '62. He landed in Huntsville first. From here he went to the Cape, then on to Houston, then on to St. Louis, and then back to Washington.

                              Since Marshall was the first center he visited, I was among the greeters in Huntsville. He spent, I think, three hours with us. I had planned to stay in Huntsville, of course. But, at the end of our presentation, Vice President Johnson invited me to hop on his plane and go along with the Presidential tour. (I didn't even have a toothbrush or a clean shirt with me, being completely unprepared.) The flight went on to the Cape and then to Houston.

                              Houston was very hot and our (the Vice President's) plane had landed before the President's plane came in. (It was always arranged that way -- first the press plane landed, then the Vice President's plane, then, at the end, the President would land.) There was a fleet of cars waiting there for the President and his entourage. Together with a few other fellows, I was assigned to car No. 15 or 20, which was an air conditioned limousine.

                              President Kennedy, however, was riding in an open convertible. We drove front eh airport first to the Rice Stadium, about 40

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minutes away. It was 110 or 112 degrees, combined with that typical Houston humidity. Even in our air conditioned Cadillac we felt awfully hot, but the President arrived at the Rice Stadium as chipper as ever. They seated him there in the blazing sun on the speaker's rostrum. Then he gave his speech, in the open stadium, again without any sunshade. He sat down again in the sun. There were a couple of other speakers, expressing their joy at the President's presence. Then he went back to his open car and drove all the way from Rice Stadium through jubilant throngs to the Manned Spacecraft Center, again something like 45 minutes. We followed him again in our air conditioned limousine. By now the Presidential entourage had shrunk to a relatively small group to which the briefing Dr Gilruth was given. I was among the fortunate few who could stay with the President. I spent several hours with him and could observe him at very close distance. All I can say is that by that time I was completely pooped and longing for nothing but a drink. Yet the President looked just as fresh and relaxed as in the morning.

SOHIER:                   Did you have any conversations with him?

VON BRAUN:            No. During his visit to the Manned Spacecraft Center, of course, the



President was addressing all of his questions to the Houston people. But I remember that here again he asked very specific questions. For example, they demonstrated a pressurized space suit for him. A man clad with the space suit would walk up and down the little stage, with the suit pressurized. The President wanted to know exactly how the suit's arm joints were designed and how he could freely move his arms under pressure.

SOHIER: Then you went on, I think, to St. Louis...

VON BRAUN: Yes, we went on to St. Louis. There a presentation was given by McDonnell Aircraft by Jim McDonnell personally. I remember they walked the President and his party for miles and miles and miles through that vast plant. Here again, after all the sight-seeing, when the group retired to a conference room, the President would ask

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a great number of very specific questions about the program -- scheduling aspects, and so forth -- which on that occasion, of course, were answered by McDonnell representatives.

After the St. Louis visit was over, he departed directly for Andrews Air Force Base while I went back to Huntsville.

SOHIER: Did you ever get a clean shirt? I've been worrying about that all along!  
[Laughter]

VON BRAUN: [Laughter] Yes. Upon arrival in Houston, I told the hotel manager that I needed a clean shirt, being in the President's party, and he actually managed to get me a clean shirt at 8 or 9 o'clock in the evening. Later on it even turned out that he refused to accept pay for it.

SOHIER: Then I think you saw the President again at a breakfast in the Mayflower Hotel (in Washington), but I guess you didn't have an opportunity to talk to him.

VON BRAUN: The President gave a speech at the Presidential Prayer Breakfast on February 7, 1963. I was not at the speaker's table so I saw him only from a distance. I watched him talk at length with Billy Graham, who was sitting right next to him. But I was seated at a table together with the President's younger brother, Edward, the junior Senator from Massachusetts. He and I talked about a few things there. It seemed from the way Senator Ted Kennedy spoke that the Kennedy brothers had one favorite topic when they were among themselves and that topic was space flight! He was very well informed about our program and asked several questions that were amazingly similar to the questions the President himself had asked. So I can only conclude there must have been quite a bit of discussion among the brothers on the subject.

SOHIER: Did President Kennedy ever discuss with you the business of cooperation with the Russians -- what we might be able to do together with them?

VON BRAUN: I think he touched on this subject on one occasion. I've forgotten where it was. It must have been

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in the car or so, for there was only a short period available to discuss it. I said in my opinion this would depend on how such a plan was implemented. Obviously, as long as the Russians are so secretive about their rocket hardware, it would be quite difficult to build an American rocket with Russian rocket engines, or vice versa. But if we could agree, for example, to first concentrate on the scientific exploration of the same general area of the moon, we could conceivably establish American and Soviet lunar bases not too far apart. Thus, a degree of mutual support could be provided in case members of one of the two camps would get in trouble. I said that this kind of cooperative agreement should be relatively easy to establish -- in fact, there was even a precedent in Antarctica where a similar situation already existed.

SOHIER: Do you remember if this was before or after the U.N. speech of the President's when he made a specific proposal?

VON BRAUN: No, this I don't recall. If I remember, this short discussion took place in Huntsville... so it must have been in September 1962.

EMME: He made another visit to Huntsville, on May 18, 1963, when he came down for the TVA Dam Dedication.

VON BRAUN: Yes.

SOHIER: I think you had a very brief discussion with him that day.

VON BRAUN: Oh, yes, this discussion I remember quite vividly. He stepped out of his helicopter that had brought him over from Muscle Shoals, Alabama, where he had just inaugurated a TVA dam. (Incidentally, Governor Wallace came out of the same helicopter. The President had invited him to ride over with him.) I was standing in the receiving line, but the President promptly pulled me out of the line and took me out for a little walk over the airfield's parking ramp. He came right to the point and said, "I have a lot of

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difficulties with the Congress getting the money for you people.” [Laughter] Then he wanted to know how the program was getting along on our end. He was pleased to hear that we were making good progress but, at the end, he indicated again that we must expect some pretty rough sledding with the Congress.

SOHIER:                   Then I guess the last time you saw the President was (we discussed this a little bit already) the November 16 visit in 1963 at the Cape, in which you were among the party that accompanied him on his tour. Are there any other incidents in that visit that you recall?

VON BRAUN:            No, except that I found him in good health; he was tanned and looked like a man in his very best of health. As I told you, I noticed that he seemed to have some pain in the back when sitting down or getting up, but he didn’t impress me at all as a sick man. He was as chipper, dynamic, and youthful as ever. In fact, after visiting the NASA and Air Force facilities at the Cape, he was flown in a helicopter over to a Navy ship to observe a Polaris launching. He stood out there on the poop deck of that ship without a windbreaker or a topcoat for about half an hour and seemed to enjoy the breeze tremendously.

SOHIER:                   In your opinion (this is more of a question of an opinion of yours rather than anything the President said, but it’s a judgment that perhaps you formed from your contacts with him) was the development of our effort, the acceleration of the space program, something that was going to happen sort of inevitably? Or, do you think, on the other hand, that President Kennedy’s interest, enthusiasm, pushed us in this direction? Just what was his impact on this?

VON BRAUN:            Well, maybe there is something inevitable about the Space Age, just as there was something inevitable about the Renaissance, or the Age of Steam, or the Air Age. But the personal interest that political leaders take in these new contemporary ideas has a great effect on the

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*speed* at which these new ideas take hold. President Kennedy was a man of great vision. To him space was, as he so aptly put it, “the new ocean on which we must learn to sail.” In a broader sense, he had a genius for sensing the ideas that have captivated the younger generation. It has been said that a man’s age is best measured by the degree of pain he feels when confronted with a new idea. In this sense, President Kennedy was a very young man. I think he had one overriding interest: he wanted to rejuvenate the country -- give the nation new goals, new ideals, new objectives that the youth of America and the rest of the world could believe in. I think this aspect of President Kennedy’s personality will prove to have a lasting impact on this country, maybe historians will even judge that it was the single, most important contribution of his Administration...

SOHIER: Did you ever have any personal invitations from the President or Mrs. Kennedy?

VON BRAUN: My wife and I had an invitation to the White House, to dine with the President and Mrs. Kennedy on Monday, November 25, 1963. This was the date the President was buried.

[END OF INTERVIEW]

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George C. Marshall Space Flight Center  
National Aeronautics and Space Administration  
Public Affairs Office  
Huntsville, Alabama 35812

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CURRENT: July 1964

BIOGRAPHICAL INFORMATION ON DR. WERNHER VON BRAUN

March 23, 1912

Born in Wirsitz, Germany, son of Baron Magnus and Emmy (von Quistorp) von Braun. Attended various schools in Germany since father (a government official: 1931/32 Secretary of Agriculture under President von Hindenburg) was frequently transferred.

Wife: Maria Louise von Quistorp

Daughters: Iris Careen, Born December 9, 1948

Margaret Cecile, Born May 8, 1952

Son: Peter Constantine, Born June 2, 1960

1930 - 1932

Institutes of Technology, Berlin and Zurich (Switzerland)

1932

B. S. Mechanical Engineering

1932 - 1934

University of Berlin

1934

Ph.D. (in physics) University of Berlin.

Spring 1930

Joined Professor Hermann Oberth and assisted him (in spare hours) in his early experiments with liquid-fueled rocket motors.

September, 1930

(After Oberth returned to his home town in German-speaking settlement in Rumania), instrumental in setting up a small development station for liquid-fueled rockets, sponsored by the German Society for Space Travel. Worked at this station ("Rocket Field Berlin") during spare hours.

November, 1932

Joined German Ordnance Department (which had shown interest in the work performed at the "Rocket Field") for the purpose of conducting practical liquid-fueled rocket development under Ordnance sponsorship. Started out with one mechanic. Built up small development station at Kummersdorf Army Proving Grounds, which, by spring, 1937, had grown to about 80 people.

December, 1934

Successful test launching of two rudimentary liquid-fueled rockets of the A-2 type which reached altitudes of 1.6 miles.

MORE



April, 1937                      Transfer of activities from the small experimental station at Kummersdorf to the newly-built Liquid-Fueled Rocket & Guided Missile Center at Peenemuende (which at peak of its activity employed more than 10,000 people). Technical Director of this Center from Spring 1937 to the end of World War II.

1936 - 1938                      Development of rocket-propelled aircraft, and development of larger, gyroscopically-controlled liquid-fueled rockets (A-3 and A-5).

1939 - 1940                      About 25 successful test launchings of A-5 rockets (10 miles altitude, 12 miles range, parachute recovery).

1940 - 1943                      Development of V-2 rocket. First successful launching of a V-2 on October 3, 1942.

1943 -  
April, 1945                      Development of antiaircraft guided missile "Wasserfall." (44 successful launchings)

June to  
July 1945                      U. S. Army Interrogation Camp, Garmisch-Partenkirchen (Bavaria)

Sept 1945 to  
April 1950                      Project Director, Research & Development Service (Sub-Office Rocket), U. S. Army Ordnance Corps, Fort Bliss, Texas. Simultaneously advisor for V-2 test firings at White Sands Proving Grounds, New Mexico. Development of the Corporal guided missile was begun during these years.

April 1950 to  
Nov 1952                      Technical Director, Guided Missile Development Group, Redstone Arsenal, Huntsville, Alabama. During these years the Hermes A-1, and Nike I rockets were developed and the first successful recovery of animals from rocket flight took place.

Nov 1952 to  
Feb 1, 1956                      Chief, Guided Missile Development Division, Redstone Arsenal, Huntsville, Alabama. During these years research and development of the Redstone guided missile was begun. He became a U. S. citizen on April 14, 1955.

Feb 1, 1956 to  
July 1, 1960                      Director, Development Operations Division, Army Ballistic Missile Agency, Huntsville, Alabama. The development of the Jupiter, Jupiter C, Juno II, and Pershing missiles occurred during this period. Jupiter C successfully launched Explorers I, III, and IV. Juno II successfully launched Pioneers III and IV, Explorers VII, VIII, and XI. Design study on the Saturn Booster was started in September, 1958.

MORE

July 1, 1960  
to Present

Director, George C. Marshall Space Flight Center, National Aeronautics and Space Administration, Huntsville, Alabama. Since activation of the Marshall Center the Saturn I, Saturn IB, and Saturn V space vehicles projects were begun, and man has traveled in space. The Saturn I has been launched successfully from Cape Kennedy five times. The Redstone booster, employed in the Mercury man-in-space program, successfully placed a chimpanzee, Ham, and two astronauts, Alan B. Shepard, Jr., and Virgil I. "Gus" Grissom, in sub-orbital flights. The Marshall Center was officially activated on July 1, 1960. Formal dedication of the Center was made by President Eisenhower on September 8, 1960.

Dr. von Braun's Awards Include:

- |                   |   |
|-------------------|---|
| 1955              | Astronautics Award presented by the American Rocket Society (now the American Institute of Aeronautics and Astronautics)  |
| 1957              | Space Flight Award presented by the American Astronautical Society  |
| April 18, 1957    | Department of Defense Distinguished Civilian Service Award presented by Secretary of Defense Charles E. Wilson.   |
| 1957              | Department of the Army Decoration for Exceptional Civilian Service presented by Secretary of the Army Wilber M. Brucker   |
| February 17, 1958 | Citation of Merit for contributions toward the Advancement of the Science of Rocket and Missile Propulsion in the U. S. presented by the National Military Industrial Conference in Chicago, Illinois   |
| February 17, 1958 | Certificate of Merit from the William Penn Fraternal Association of Pittsburgh, Pa., the largest Hungarian Fraternal Benefit Society in the free world, for his outstanding accomplishments in the field of rocketry and contribution to man's knowledge in the field of space science. |
| 1958              | U. S. Chamber of Commerce Award for Great Living Americans for missile research and enabling this country to launch its first earth satellite   |
| May 15, 1958      | First Honor Award of the Nationalities Committee, People-to-People Program for, "patriotic devotion to the country of his adoption," in New York City, N. Y.  |
| June 6, 1958      | The Dr. Robert H. Goddard Memorial Trophy   |

MORE



December 16, 1958	New York Institute of Technology Citation
January 21, 1959	Distinguished Federal Civilian Service Award Presented by President Dwight D. Eisenhower in Washington, D. C.
February 20, 1959	Notre Dame Patriotism Award
February 23, 1959	Hamilton Holt Gold Medal for distinguished service to humanity from Rolling College, Winter Park, Florida.
March 18, 1959	The Harrison Award, Cincinnati Post, American Ordnance Association
May 14, 1959	Southern Association of Science and Industry Distinguished Service Award
May 27, 1959	Daughters of American Revolution Americanism Medal, New York City, N. Y.
May 27, 1959	Boston Business Community's First Distinguished Leadership Award, Boston, Mass.
Sep 10, 1960	The Electronics Institute Award presented by Electronics Institute, Detroit 1, Michigan
April 25, 1961	International Boss of the Year, presented by the National Secretaries Association (International)
October 4, 1961	Gold Medal Award, presented by the British Interplanetary Society during the IAS meeting in Washington
October 4, 1961.	Greek Fellowship Award, Hellenic Astronautical Society, Washington, D. C.
October 5, 1961	Silver and Gold Medallion Appreciation Award by the State of Alabama
October, 1961	Hermann Oberth Award, presented during the American Rocket Society meeting Honors Dinner in Huntsville, Ala.
February 22, 1962	New Orleans International Order of Merit presented by Mayor Schiro, New Orleans, Louisiana
February, 1962	Order of Merit for Research and Invention, Paris - VIIe, France
October 17, 1962	Elliott Cresson Award, Franklin Institute, Philadelphia, Pa.
February, 1963	Science and Engineering Award of Drexel Institute of Technology

MORE



March 29, 1963	Woodman of the World Award, presented during ceremony conducted at MSFC
May 26, 1963	American Citizen Award, 11th annual German-American Day Festival, North Bergen, N. J.
December 18, 1963	American Military Engineers Award, N. Y. Post of Society of American Military Engineers

Dr. von Braun's Honorary Degrees

June, 1958	Doctor of Science, University of Ala., Tuscaloosa, Ala.
June, 1958	Doctor of Science, St. Louis University, St. Louis, Mo.
June, 1958	Doctor of Laws, University of Chattanooga, Chattanooga, Tennessee
June, 1958	Doctor of Science, University of Pittsburgh, Pittsburgh, Pennsylvania
February, 1959	Doctor of Science, Canisius College, Chester, Pa.
June, 1959	Doctor of Laws, Pennsylvania Military College, Chester, Pa.
June, 1959	Doctor of Science, Clark University, Worcester, Mass.
June, 1959	Doctor of Laws, Adelphi College, Garden City, N. Y.
January, 1963	Doctor of <sup>Engineering</sup> Science, Technical University, Berlin, Germany
October 23, 1963	Doctor of Science, National University of Cordoba, Republic of Argentina
November 14, 1963	Doctor of Laws, William Jewell College, Liberty, Mo.
June 1, 1964	Doctor of Science, Iowa Wesleyan College, Mount Pleasant, Iowa
June 16, 1964	Doctor of Science, Brevard Engineering College, Melbourne, Florida

Dr. von Braun's Membership in Professional Societies, etc.

American Institute of Aeronautics and Astronautics  
 The Detroit Rocket Society  
 The Explorers Club, New York  
 Fellow of the American Astronautical Society  
 Fellow of the American Interplanetary Society  
 Honorary Fellow of the British Interplanetary Society  
 The Norwegian Interplanetary Society  
 The German Rocket Society  
 President, Rocket City Astronomical Association in  
 Huntsville, Alabama  
 Honorary member of Tau Beta Pi, Pi Mu Epsilon and  
 Omicron Delta Kappa fraternities.

Major Scientific or Engineering Publications

- 1952 "The Return of a Winged Rocket Vehicle From a Satellite Orbit to the Earth" published in Physics & Medicine of the Upper Atmosphere, University of New Mexico Press
- 1952 "Multi-Stage Rockets and Artificial Satellites" published in Space Medicine
- 1952 "Across the Space Frontier" published by the Viking Press
- 1953 "The Mars Project" published by the University of Illinois Press
- 1953 "Conquest of the Moon" published by the Viking Press
- 1956 "The Exploration of Mars" published by the Viking Press
- 1958 "Project Satellite" published by the British Book Centre
- 1958 "Start in den Weltraum" published by S. Fischer Verlag
- 1960 "First Men to the Moon" published by Holt, Rinehart & Winston
- 1962 "A Journey through Space and the Atom" published by Shakespeare Head Press Pty. Ltd., Sydney, Australia
- 1962 "Management in Rocket Research," published in Business Horizons, Graduate School of Business at Indiana University. (Reprint of a speech at the Sixteenth National Conference on the Management of Research, held at French Lick, Ind., September 18, 1962)

MORE

- 1963 "The Rockets for America's Moon Programme" article for New Scientist, No. 335, London, England, April 18, 1963
- 1963 "What is Space all About?" published in Explorers Journal
- 1963 "Management of the Space Program at a Field Center," published in Third National Conference on the Peaceful Uses of Outer Space, Chicago, Ill., May 9, 1963
- 1963 "Saturn Rockets for Space Exploration," Yale University Science magazine
- 1963 "The Redstone, Jupiter, and Juno," Technology and Culture, 4, No. 4, Fall 1963, p. 452
- 1963 "Management of Manned Space Programs," in Science Technology and Management McGraw-Hill, p. 248

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