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REMARKS

VICE PRESIDENT HUBERT HUMPHREY

GODDARD MEMORIAL DINNER

WASHINGTON, D.C.

MARCH 16, 1966

Today we commemorate the 40th anniversary of Dr. Robert Goddard's launching of the first liquid-fuel rocket.

As we all know so well, Dr. Goddard's recognition came long after it should have come. But today there is no question of his role in moving man into space.

On the occasion of this anniversary, President Johnson today received the Goddard Award. I was privileged to take part in that ceremony, as chairman of the National Aeronautics and Space Council.

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Tonight I particularly wish to commend the National Space Club -- which already has done so much to open up the space age -- on the award of its first annual Dr. Hugh L. Dryden Fellowship.

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When I addressed you a year ago I confessed myself a newcomer in space, but I promised to be a diligent student.

I have not yet been put into orbit. However, I have logged over a quarter of a million miles in 80 missions here on earth -- and many of those missions have included visits to NASA and Department of Defense field installations.

I have also visited a number of private industry installations vital to our space effort.

And of course I have chaired a number of Space Council meetings and followed closely all aspects of our activity in space.

Let me share with you tonight -- one year later -- a few of my thoughts concerning our space program. I will begin by saying that I have been deeply impressed by the dedication and high performance of those -- both in government and private sector -- who participate in our national space effort.

Our space program is a superb example of the kind of creative partnership for progress between government and the private sector which increasingly marks all areas of our national life.

I wish tonight to stress two things that have been very much on my mind regarding the space program.

First: I am impressed by the vital importance of maintaining the most meticulous standards of performance at every level of our space effort, from the worker on the shop floor right up to the top.

Although this tremendous enterprise involves hundreds of thousands of people, it is vital that each individual concerned in it fully recognize and fulfil his own individual responsibility for its success.

As you well know, the slightest slip-up, the smallest oversight, in any one of millions of processes and procedures can put critically important projects -- and human lives -- in jeopardy.

I know that I am preaching to the converted here. But I feel this cannot really be said too often.

Second: I feel the necessity for cost consciousness.

This is the need, to put it another way, of getting the most space for the tax dollar.

These are times when we must exert high discipline in public expenditure. And our space program cannot be exempt from that discipline.

In this connection, I was interested to note the theme of the Fourth Goddard Memorial Symposium, sponsored by the American Astronautical Society, which many of you have been attending for the past two days.

Last year I spoke of the "year 2000." But the symposium this year chose to focus instead on the theme, "The Space Age in Fiscal Year 2001."

Certainly, federal appropriations today have an important bearing on where we will be in the future.

I have examined the Fiscal Year 1967 space budgets with the greatest care. I honestly believe that much can be accomplished within them although other priorities -- notably our effort in Vietnam -- have required postponement of some objectives.

I also believe that we can and will achieve the goal set by Presidents Kennedy and Johnson: a manned landing on the moon before 1970.

My own confidence in our rapidly advancing science and technology is such that I can visualize many more dramatic achievements ahead, although I will fix no timetable for them.

1. The exploration of the lunar surface, and possibly the establishment of one or more permanent bases there.
2. The development of a whole family of earth-orbiting stations, manned and supplied by regular ferry services.

3. The building of spaceports in a number of places in this country for the departure and arrival of spacecraft.

4. The development of recoverable and re-usable launching vehicles, and manueverable space vehicles, with a consequent drastic reduction in the cost of space travel.

5. The improvement of propulsion methods, with the use of nuclear as well as chemical energy, so that faster and more powerful rockets can make planetary trips in a week or less which today would require many months.

6. The launching of unmanned probes to every part of the solar system -- and perhaps manned planetary expeditions as well.

We must not, however, become so totally fascinated by the wonders of outer space that we neglect the applications of space technology to a better life right here on earth.

A few days ago we orbited our first truly operational weather satellite -- ESSA II. I was pleased during my recent visit to the Goddard Space Flight Center to see the successful read-out of the first weather pictures it sent back. This is a satellite the entire world can tune in on -- not only governments but, with a relatively small investment, colleges or even individual citizens.

The time is not distant when we will be able to predict, and predict with accuracy, the weather everywhere on earth. We may even be able to control it -- and thus open up many arid portions of the world to cultivation.

Global communication by satellites will become a fact in the very near future. It will be followed by direct broadcast of both voice and TV to home receivers throughout large sections of the world.

In the field of medicine alone, the benefits are already impressive. Improvements in medical instrumentation, resulting from electronic innovations in the space program, are already beginning to revolutionize the equipment of clinics and hospitals. It should be possible to monitor continuously and in detail the condition of hundreds of patients from a single location.

Other direct benefits will come in the form of wideband transoceanic communications, improved forest fire detection, and high accuracy navigation.

We have already made fantastic strides in devising more effective, reliable, and compact electronic equipment with a wide variety of applications. We have developed improved alloys, ceramics, and other materials. And there have been other innovations, such as the accelerated use of liquid oxygen in steelmaking, new coatings for the temperature control of buildings, and filters for detergents.

Our progress in space has already contributed to our national security. The use of communications satellites is backing up our effort in Vietnam.

In addition to the support of our armed forces by better communications, our peaceful application of space competence for national security takes many other forms.

Among them are more accurate knowledge of the weather, more effective mapping, earlier warning of impending dangers, and the detection of nuclear explosions in space or in the atmosphere.

There are some who claim , with all sincerity, that the terrestrial relevance of space science and technology has been much exaggerated. Concerning this, I would make two comments.

One is to the skeptics outside this hall. I think they have forgotten the fact that this whole field is still only in its infancy. The best is yet to come.

The other is to you. As you constantly enlarge the horizons of space science and technology, I urge that you be everlastingly alert to recognize those discoveries and innovations which can usefully be applied here on our own planet.

Moreover, it is not only technology that we have developed. Perhaps even more important, we have called into being rich human and intellectual resources -- methods, capabilities, insights, and management techniques which can be brought to bear upon problems far removed from space.

In this respect, I want to commend the initiative of private companies and of Governor Brown of California, who have shown the way towards focusing the talents of the aerospace industries on matters as important to our everyday living as traffic congestion and garbage control.

I believe the technique of systems analysis -- developed to its highest point so far in the aerospace industries -- will be invaluable to us as we face up to the problems of urban life, to the pollution of our waters and our atmosphere, and to many other challenges of today and tomorrow.

I believe those of you here who are in the aerospace industry have a very real obligation to make your capabilities more widely known to state and local officials.

Why you? Because the technical and intellectual capabilities you possess in abundance were made possible by the tax collars which have supported the space program.

Why you? Because your management and your workers are citizens of many of the communities which will directly benefit from such efforts.

Why you? Because it will be a practical demonstration to the world how democracy and free enterprise function effectively for the common good.

I shall conclude with a few observations on the international significance of the space effort.

I believe it is virtually impossible to over-estimate the interest of peoples throughout the world in the unfolding space age.

For example, a USIA-sponsored space exhibit last month in Rangoon, Burma -- a place most of us might have imagined to be remote from the space age -- drew over 250,000 visitors.

Astronaut John Glenn was there, and astronauts Walter Schirra and Frank Borman are currently winding up a successful swing around the free Asian capitals, Australia, and New Zealand.

Many countries with little or no space experience are showing their interest in a very concrete and practical way. They have realized the need to engage in space programs to develop their own scientific competence, and we are helping them to do so. Already we are cooperating with about 70 countries, and the State Department and NASA are pressing forward with new initiatives in international cooperation.

For what I now say I may be accused of being something of a visionary -- but I am encouraged to do so by being in the good company of other visionaries.

I believe that the exploration of space will have a profound effect upon how we look at our life here on earth. It will put all our affairs in a wider and more wholesome perspective.

Ever since Copernicus, we have known that our earth is a small planet in an immense universe. But while we have known this intellectually and theoretically, most of us have not really taken it to heart, not really felt it in the marrow of our bones.

As the full significance of that fact is brought home to us by the actual exploration of space, it will seem increasingly absurd that we have not better organized our life here on earth.

Our experience in space can be a powerful stimulus to all of us, wherever we live, to move toward the establishment of a world of law, where freedom and justice are assured to all -- and where, in the words of the prophet Isaiah:

"Nation shall not lift up sword against nation,
neither shall they learn war any more."

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GODDARD MEMORIAL DINNER

DR. GLENN SEABORG, Chairman of the Atomic Energy Commission.

Mr. Capp, Mrs. Goddard, Mrs. Dryden, Distinguished Guests, Ladies and Gentlemen.

Not so long ago I had the pleasure of introducing our principal speaker this evening to an audience from the nuclear field and, on this occasion, I of course saluted to his abundant energy and I had no difficulty relating it to nuclear energy. However tonight in introducing him to a space-minded audience I find that I must resort to a different attack and frankly I am somewhat at a loss for the right approach.

Now I thought I might first speak about him in your language, that is, in such terms as weightlessness, thrust or specific impulse, but the more I thought about this approach the more problems it seemed to pose, particularly when I got around to thinking about some possible misinterpretations of my remarks and the terms he might apply in response. Knowing his fine sense of humor though I don't think he would react unfavorably, but I decided not to risk it. You see I am not anxious to be the first AEC chairman in orbit.

Now choosing a different approach I would like to give you some idea of why we are fortunate to have this man as our speaker tonight. I believe it was Franklin P. Adams, and no relation to John or John Quincy for those of you too young to remember Information Please, who once said, "Accustomed as I am to public speaking, I know the futility of it." Now such is not the case with our speaker this evening. He is one of the most effective speakers in the country today and what he has to say always demands attention. I should add that he is one

1 of our most effective speakers outside of the country as his recent
2 worldwide travels prove. Now this brings me to the point that
3 statistically speaking we are fortunate that he is here at all. His
4 duties and assignments have kept him on the move so much it is very
5 difficult to get him for a Washington-speaking engagement, as I know.
6 Now I haven't looked into the record but I would guess that he has
7 covered more ground than both his predecessors combined, if anyone can
8 imagine combining those two individuals.

9 Now in all seriousness though I think we are extremely fortunate
10 in having as our principal speaker at this Goddard Memorial dinner a
11 man who is so close to our space program and who is Chairman of the
12 Space Council, is actively advancing our growing space effort. Last
13 year he told you he was not yet an expert on space, but that he was an
14 advocate and was willing to push for support of this vital program --
15 that was last year. This year, I believe, we will all agree that he
16 qualifies as an expert. Certainly the space program today, a year
17 later, shows the beneficial signs of his attention. Realizing the
18 significance of our exploration of space he appreciates the importance
19 of our leadership in space, but at the same time he has recognized the
20 program as one in which we can win benefits from greater international
21 cooperation. You will recall that he took two of our Gemini astronauts
22 to Paris with him to the Paris Air Show and the three of them made
23 wonderful ambassadors for the United States.

24 In addition to his interest in promoting international cooperation
25 in space our speaker has carried to many audiences the message of the
economic, educational, scientific, medical and other benefits which
can come from our space program. He is equally aware of the reality

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2 of the space program as it relates to our national defense. It was
3 under his leadership that the Space Council met and made an unanimous
4 recommendation which he carried to the President calling for word to
5 proceed on the Defense MOL project.

6 The first year of his overview of the space program was the year
7 of the greatest number of flight successes, both by NASA and the
8 Department of Defense. In 1964 this country sent many additional
9 payloads to orbit or escape, and under his chairmanship in 1965, the
10 new all-time record rose to 97 such successes. This year he continues
11 to help guide our space efforts as we move on to the new exciting
12 accomplishments in our Gemini and Apollo programs.

13 The President appreciates what our speaker has done for space
14 and the manner in which he has carried out all the difficult tasks
15 assigned to his office. The measure of this confidence has been
16 demonstrated by the increasingly heavy responsibilities he has been
17 given in many different areas of government, including his high
18 diplomatic missions to various parts of the world in search for peace
19 and for support of our national policies. We are most honored that a
20 man of his great activity and great burden could take the time to
21 join us again this year in discussing a subject that we all support
22 so strongly -- our interest in space.

23 Ladies and Gentlemen, it's a great pleasure and privilege to
24 present to you at this time the Vice President of the United States,
25 the Honorable Hubert H. Humphrey.

VICE PRESIDENT HUBERT H. HUMPHREY

1
2 Thank you, Dr. Seaborg, for your very generous and gracious
3 introduction which I shall momentarily allude. President Dale Grubb,
4 our Distinguished Toastmaster, straight humorous, cartoonist and
5 outstanding citizen Al Capp, Mrs. Goddard and Mrs. Dryden, my associates
6 in the Congress of the United States Senator Cannon and Congressman
7 Miller, and my neighbor in St. Paul, Minnesota, Congressman Joe ^{Karr} Carr,
8 and General (I see you have your crowd here tonight, that's fine!)
9 Shreiver and Dr. Seamans and others, my congratulations on your out-
10 standing work, and in particular, the congratulations of a grateful
11 government and a grateful nation to the National Space Club Award
12 winners. Didn't we have a fine group of them tonight? I know you feel
13 that way.

14 I'm going to give you a little news report in just a minute, but
15 if I hold on a little longer you'll pay attention. I like to have
16 Dr. Seaborg introduce me. You know the office of Vice President has
17 many things said about it and sometimes more said about its occupant,
18 and sometimes all that is not lauded, or as you would like to read or
19 to hear. And I have always asked for the speeches to be recorded
20 when Dr. Seaborg is to introduce me. And I send a tape of this over
21 to the President. Then I send another tape to Mrs. Humphrey, but as
22 President Johnson used to say about a lot of these laudatory remarks,
23 "My mother would have believed it; my father would have enjoyed it."
24 But I want you to know, Dr. Seaborg, that I agree with every word you
25 have said about my leadership of this program. But the truth is
that if I can do one-half of what has been attributed to me, I will
be of the opinion that I have made some progress this past year. I'm
very honored to be in the company of the guests here this evening, to

1 be here on the occasion of the Ninth Goddard Memorial dinner, to have
2 as my dinner partner Mrs. Goddard, who, by the way as you know, was not
3 only the first official photographer of rocket flight, but also she
4 told me she was sort of an amateur firefighter, just in case things
5 got out of line, and secretary. She would have been a very fine
6 candidate for vice president.

7 As a matter of fact, when Mr. Grubb introduced Al Capp he said
8 of him, and I think I took it down properly "A man who has an opinion
9 on almost everything and who claims he is an authority on nothing." I
10 want to say that those are some of the credentials of a man in my
11 position has to have, because by the time you spread yourself between
12 chairman of the Space Council to a regent of Smithsonian Institution.
13 And presiding over the Senate where you are denied even free speech.
14 Of course there were those who figured I could preside another ten years
15 and I would have had more than my fair share of the speaking while I
16 was there. And by the way, I think that is a good idea to at least
17 preside for at least eight years -- I am all for that.

18 Al, I want you to know how much we do appreciate your gentle
19 references to the great society program, and I am going to take this
20 up at the highest councils of government because I feel that you have
21 hit upon a project that has universal appeal -- at least from two
22 points of view -- one from human comfort and the other one from the
23 point of economy. And since this administration is dedicated to
24 fighting inflation, I see no reason to pay \$20 for a 10¢ job.

25 Now as to the reference you have made to some of my esteem
associates in government you will notice that I maintained a discreet
silence, deadpanned countenance. I never at any time outwardly

1 laughed on those matters. Now if you have any way of being able to raise
2 your inner emotions, you get out that human geiger counter and I think
3 you would have the hands going back and forth pretty fast. Well, that
4 takes care of all the unprepared remarks. - Almost all of them and those
5 are the ones that I generally enjoy the most, but I didn't come here
6 this evening just to talk to you about the lighter subjects. You are
7 a very busy people and those who are gathered here from government,
8 industry, from our universities, our defense establishment, our space
9 council, or our space agencies -- all of you have been doing great
10 things and I think we ought to talk about each other a little while
11 to commemorate the 40th anniversary of a great prophet.

12 The President said this morning that a prophet is without honor
13 in his own country, once again in the instance of Dr. Robert Goddard.
14 Forty years ago launching the first liquid fuel rocket, but as Mrs.
15 Goddard said to me just a little while ago, that he lives tonight even
16 as much as he did those 40 years ago and maybe more so, because his
17 work lives on. And on the occasion of this anniversary, President
18 Lyndon Johnson very appropriately received the Goddard award and he
19 received it because of the work he has undertaken and achieved as
20 Senator, and as Vice President, and as President all in these areas of
21 space research and development. And I felt it a high honor and
22 privilege to be in the group today for that ceremony. I was there in
23 my capacity as Chairman of the National Aeronautics and Space Council
24 and I want to tell you that I feel highly honored to serve in that
25 capacity. The President made clear again this morning, as has been
noted here by your president that the highest national priority will
continue to be given to space exploration and research. I am going to

1 read that exact statement of the President but you have read it and
2 I only want you to know that as Chairman of the Space Council, I will
3 make it my duty, my business to see to it that high national priority
4 is placed upon the work of space exploration -- there will be no let
5 up. I think, therefore, that all of us have every good reason to be
6 heartened by the President's strong reaffirmation and this is his
7 program and I know the President. And I know that when the President
8 feels that kinship to a program, such as he does this one that you
9 don't need to worry about it having the lack of emphasis or lack of
10 support. And more may I add to that that the members of the Congress
11 feel deeply involved in our space program. This program was literally
12 born in the Congress of the United States. I was there when it was
13 born. I voted for this program. I wasn't one of its initiators but I
14 was surely one of its supporters. so this is not just an administration
15 program. This is a program that comes from the representatives of the
16 American people in Congress assembled, and it belongs to the people.
17 It belongs to this nation, and believe me we are going to take good
18 care of it, make no mistake about it.

17 Now tonight all of our hopes and thoughts and our prayers are
18 with those brave astronauts David Scott and Neil Armstrong. You heard
19 them some time ago from Dr. Seaman's report and you knew that they were
20 in some difficulty. As a matter of fact, on the beginning of the 7th
21 revolution, or I should say as a matter of fact, when the coupling
22 the docking took place, there was uncontrollable oscillation. There
23 was a danger of a break in the Agena (~~End of tape~~) and there was a
24 danger of fire. When the thrusters were tested something happened
25 and Armstrong immediately went to work, decoupled the Agena from the

1 Gemini capsule, the thrusters went out completely and they are now
2 operating on what is known as the re-entry control system. As you
3 know, these gemini units, the Gemini capsules have two control systems
4 and the second control system, thank goodness, is working well and
5 it has 9 hours of flying time in it and it's been put to work.

6 Once again we see the importance of this simulated flight
7 training. Every possibility that man can figure out of any danger has
8 been at least worked on and there has been a simulated recovery from
9 it. The training is so important. I can tell you that the splash-down
10 will take place while I am here talking to you tonight and I want one
11 of my friends here Colonel ^{Pafford} ~~Patell~~ (?) to keep a close ear on that
12 transistor radio and when that splash-down takes place, I want to have
13 a report. I want to be interrupted because I know you want to know.
14 It'll take place about 435 miles east of Okinawa, 650 miles south of
15 Japan. Presently, there are two four-engine aircraft en route and 1
16 will arrive 20 minutes before the splash-down, which is just about now.
17 Another will arrive 30 minutes after the splash-down and I can tell
18 you now that a twin-engine amphibian plane is also en route and it'll
19 arrive 22 minutes after splash-down and it can, if need be, land in
20 the sea and rescue the astronauts. The weather is good, very good.
21 The weather is perfect. The waves are low. They are less than 3 feet
22 out there in the Pacific. The visibility is 10 miles. It's a daylight
23 splash-down. It'll be about 12:30+, maybe 12:35 that time out around
24 Okinawa and Japan in the afternoon. There are 2 destroyers en route --
25 the U.S. Mason is one of them and it will arrive on the scene at 1:52
our time, which will be about 3 hours and 30 minutes after the splash-
down. All aircraft have survival crews on board so the information

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2 we have received is heartening and I'm going to tell you a little bit
3 about the success we have had as well as some of the discouragement.

4 The Agena has been freed from the coupling and the docking is in
5 stable attitude. It'll be up there and we'll pick that up on the next
6 flight as part of our economy program. It's about 1 mile below the
7 space ~~craft~~ and, as you know, the re-entry control system doesn't always
8 do what you want in terms of maneuvering that capsule around, but the
9 astronauts Armstrong and Scott have done a tremendous job. Once again
10 to use that good old American ingenuity and ability and they wriggled
11 that capsule around so that they are in a safe position and, as of
12 right now, of course, they're on their way back into the atmosphere.
13 The retrofire was at 9:46 and it was o.k., and the splash-down will be --
14 well, let's see here now -- 9:46, it ought to be pretty quick. They
15 said 28 minutes here, I don't know 28 minutes from what, but if that's
16 the case the 28 minutes ought to be up here in about another 5 minutes.
17 And so I am going to ask that the information be brought to us.

18 Now, let's just take a look at what happened here. Imagine the
19 precision of this part of the mission. Many days ago the announcement
20 was made that the atlas ^{agena} ~~agena~~ would go at 10 a.m., that's today, and
21 that the ^{titian} ~~lightened~~ Gemini would follow 101 minutes later, and that's
22 exactly what happened. It was a perfect launch, perfect orbit --
23 everything went 100%. It was almost as they said down at the Houston
24 Center as if you could just sort of yawn and say "Well, what next!"
25 And then one of those unpredictable things has happened. We have to
sort of brace ourselves for these unpredictable developments.

I couldn't help but note here when I was visiting with Mrs. Goddard,
who is so deeply involved in all of this, the number of tragic accidents

1 that took place as we first tried to span the Atlantic. We've been
2 mighty fortunate in our space program, greater protection and pre-
3 cautions to be sure, and we're going to continue to put the highest
4 value upon the preservation of human life because that's what our
5 society is all about. And we have reason too for pride in the skill and
6 the precision shown in the world's first docking of two space craft in
7 orbit. The docking went well, in fact it was perfect. What caused the
8 uncontrolled oscillation, nobody really knows as of now. But at another
9 time if this would happen, we could be prepared to put astronauts in
10 orbit, walk out of the capsule, and examine what goes on. In fact I
11 heard tonight that this is exactly what may be done in one of the
12 coming flights on the Agena to see if we can discover what went wrong
13 there.

13 So tonight I want to give you a note of good cheer and a note of
14 optimism. We've made some progress and even in difficulty you learn
15 a great deal, in fact maybe you learn more. I also want to commend
16 the National Space Club, which has already done so much to open up
17 this space age, on the award of its 1st Annual Dr. Hugh Dryden
18 Fellowship, and what a wonderful tribute it was tonight to Mrs. Dryden
19 on your part as you gave her that warm applause which is testimonial
20 from each and every one of you of your great respect for a great
21 scientist and a great human being and a great citizen.

21 Now, when I talked to you a year ago -- by the way I had a good
22 time, both at the dinner and after the dinner, and I plan on sticking
23 around a little while after the dinner, girls --. You know I talk at
24 a lot of dinners and I am all for this co-education. I come to this
25 banquet hall quite often because the Vice President has that duty and

1 many, many times it seems the whole world is inhabited by men. I'm
2 delighted to get the truth tonight. Well, I said a year ago that I
3 was a newcomer in space and I promised to be a more diligent student.
4 I was indeed a newcomer and I have tried to be a diligent student,
5 but I must say right now to Dr. Seaborg, I am no expert; I'm afraid
6 I've been a bit of a slow learner, but I have learned something, and
7 one thing about it is that I am addicted to it. Once you get involved
8 in the program it's like Mrs. Goddard said, "You're hooked." You just
9 feel that it is a part of you and how good this is to feel because
10 space is of the future as well as the present. Now I haven't been
11 put into orbit even though there have been a couple suggestions along
12 that line, but I have logged over a quarter of a million miles in 80
13 missions here on earth and have logged 100,000 miles since the 27th
14 day of December in flight. And many of these missions have, in the
15 past year, included visits to NASA and the Department of Defense field
16 installations. I am happy to tell you that I have one of the best
17 tour directors that the world has ever known. He has sent me on some
18 rather long journeys and I'm glad that what happened in Eucuma didn't
19 happen to me. In these journeys I visited not only our Space, NASA,
20 and Defense installations, but I have gone to a number of private
21 industry installations vital to our space effort, and I am going to
22 come to many more. Of course I have chaired a number of Space Council
23 meetings. I read constantly, incessantly the bulletins that come from
24 the agencies of government and from the trade press and from the
25 companies. And my aide, Colonel Pathell, has a deskful of space reading
for me every time I set foot out of that office and in the office. So
I follow very closely the activities of this combined effort of

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2 government, industry and science. Only today I had a long and fruitful
3 review of the work of the Atomic Energy Commission in its part of this
4 space program. These nuclear rockets, the nuclear reactors that
5 provide the energy, the power that will be so vital in our space effort.

6 So let me share with you tonight one year later a few of more
7 thoughts concerning our space program. And I begin by saying that I
8 am deeply impressed by the dedication and the high performance of those
9 both in government and in the private sector who participate in our
10 national space effort. This space program is a superb example of the
11 kind of partnership, creative partnership, genuine partnership for
12 progress between government and the private sector which increasingly
13 marks all areas of our national life. And when I journeyed recently
14 to other lands, I preached this doctrine of partnerships between
15 government and the private sector, and I hope that as you travel abroad,
16 and many of you do, that you will take the story that in this Great
17 America of ours we do not rely on government alone. Government is a
18 small part of the total national power or national effort. That we
19 rely upon a combination, a cooperative relationship - a partnership -
20 between government and the private sector.

21 Now I want to stress two things that have been very much on my
22 mind regarding the space program. First, I am impressed by the vital
23 importance of maintaining the most meticulous standards of performance
24 at every level of our space effort -- from the worker on the shop
25 floor, right up to the top. And tonight we understand why as we have
on other occasions. But what we were able to do only recently -- we
had all that trouble, you remember, with -- what was it, Gemini 9 --
and the other effort at the Agena operation. There were repairs that

1 were made and this indicates the skill that our people have. Although
2 the tremendous enterprise involves 100s of 1000s of people, my message
3 to you tonight is that it is vital that each individual concerned in
4 it fully recognize and fulfill his own individual responsibility for its
5 success. I wish that we could get the message of individual responsi-
6 bility for life drilled into the heart and the mind of every person
7 that even thinks about this tremendous effort. As you well know, the
8 slightest slip up, the smallest oversight in any one of millions of
9 processes and procedures can put critically important projects and human
10 lives in jeopardy. I know that I am preaching here as a converter,
11 but you are the leaders and we have to lead. We have to demand
12 excellence, perfection. I don't believe that we can ask for it too
often.

13 Now secondly, I feel the necessity for cost-consciousness. This
14 is the need, to put it another way, of getting the most space for the
15 tax dollar. There are times when we must exert stern and high discipline
16 in public expenditures and our space program cannot be exempt, nor is it,
17 from that discipline. In this connection, I was interested to note
18 the theme of the 4th Goddard Memorial Symposium, sponsored by the
19 American Astronautical Society, which many of you have been attending
20 here, I gather, the last two days. Last year I spoke of the year 2000,
21 but the symposium this year chose to focus on the theme -- the Space
22 Age in Fiscal 2001. I think I got the message. And certainly, federal
23 appropriations today have an important bearing on where we will be in
24 Fiscal 2001 and where we will be in the future. The lead time, the
25 pace that we need to maintain, the continuity of effort -- all of these
cannot be over-emphasized.

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2 Now I have examined Fiscal 1967 space budgets with considerable
3 care. I honestly believe that much can be accomplished within them
4 although other priorities, notably our effort in Viet Nam, have required
5 postponement of some objectives. The important thing is that we do not
6 lose momentum. I also believe that we can, and that we will, achieve
7 the goals set by Presidents Kennedy and Johnson a man landing on the
8 moon before 1970. We said we were going to do that and I want to say
9 that we should keep our word and we can do it. My own confidence in
10 our rapidly advancing science and technology is such that I can
11 visualize many more dramatic achievements ahead although I will fix no
12 timetable for them. And I want to say that many of these achievements
13 can be the product of the cooperation, not only of industry and govern-
14 ment in the United States, but of other countries with us and I want to
15 have a word about that tonight.

16 Now what are some of these possible achievements ahead. Well
17 the exploration of the lunar surface -- we looked at the possibilities
18 of that today, Dr. Seaborg, with the use of nuclear reactors to
19 provide power on that lunar surface. And possibly the establishment
20 of one or more permanent bases there, and if we are going to do that
21 we have to bring nuclear science with us. The development of a whole
22 family of earth-orbiting stations, manned and supplied by regular
23 ferrying services. I'm sure that's bound to come. That's going to
24 be as sure as the sun rising in the east. The building of space ports
25 in a number of places in this country and other countries for the
departure and arrival of space craft. These are some of the dramatic
achievements ahead. The development of recoverable but reusable
launching vehicles and maneuverable space vehicles and with a constant

1 consequent drastic reduction in the cost of space travel. This will
2 come. The improvement of propulsion methods with the use of nuclear
3 as well as chemical energy so that faster and more powerful rockets can
4 make planetary trips in a week or less, which today would require many
5 months. I can tell you that the actual road to Mars to make the
6 inter-planetary travel that we want, as Dr. Seaborg and his people
7 pointed out to me today, there are tremendous potentialities and possi-
8 bilities in the nuclear field.

9 And then the launching of unmanned probes to every part of the
10 solar system. I was over to Goddard Space Center not long ago and I
11 learned a great deal about the exploration of the solar system and then
12 perhaps man-planetary expeditions as well. Imagine being alive on the
13 year that you go to Mars. I'm going to start taking a double dose of
14 vitamins right as of tonight. And here again, we think we know that
15 we can do it, at least theoretically we know it. We must not, however,
16 become so totally fascinated by the wonders of outer space that we
17 neglect the applications of space technology to a better life right
18 here on earth. And let me add now that there is no conflict between
19 what we are trying to do here to make life better here on earth for
20 our own people here in our time than what we are trying to do in terms
21 of outer space. Because as I hope to demonstrate in these words to
22 you this evening that everything that we do in space research and
23 aeronautics and astronautics relates to a better life here on earth
24 because a better life on earth is dependent upon man's spirit and his
25 mind, brain power and spiritual power, commitment, perfection performance.

Now a few days ago we orbited our first truly operational
satellite, Essa II and I was pleased during my recent visits to the

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2 Goddard Space Flight Center to see that successful read-out of the
3 first weather pictures sent back. I even saw Lake Superior. Yes,
4 and for you folks from Illinois and Milwaukee, we made Lake Michigan,
5 and we even cut in Lake Erie and they even made a bit of a -- well,
6 I think they made other spotschecks around the world for us. Now
7 this is a satellite that the entire world can tune in on -- not only
8 governments, but with a relatively small investment colleges, industries
9 or even individual citizens. This is going to be tremendously important.
10 And the time is not too distant when we'll be able to predict and
11 predict with accuracy the weather everywhere on earth. We maybe even
12 able to control it, and if so, thus open up many arid portions of the
13 world to cultivation. And then the problem of food and population fade
14 into insignificance. There's plenty of earth, plenty of land -- what
15 is needed is the competence, the intelligence of man to make that land
16 fertile.

17 Globe communication by satellites will become a fact in the very
18 near future. Total global communication. It will be followed by
19 direct broadcast of both voice and TV. The home receivers throughout
20 large sections of the world. Many people in this audience know a great
21 deal about this and we are well on the road. In the field of medicine
22 which has fascinated me -- I have been so interested in the medical
23 applications of space research and what a tragedy it was to lose
24 Dr. Loveless. The benefits are already impressive. Improvements in
25 medical instrumentation resulting from electronic innovations in the
space program are beginning to revolutionize the equipment of clinics
and hospitals. And it should be possible to monitor continuously and
in detail the conditions of hundreds of patients from a single location.

1 This is part of the answer that we need to better medical care. And
2 other direct benefits will come in the form of wide band transoceanic
3 communications, improved forest fire detection, and high accuracy in
4 navigation. (Do you have any information as yet. I'm just as nervous
5 about it as you are) And we have already made fantastic strides in
6 devising more effective, reliable and compact electronic equipment with
7 a wide variety of applications. Again, I guess I am just like the
8 big-eyed, bright-eyed boy when I get out to these space centers and
9 these research establishments. I see what they are doing and I marvel
10 at the genius of those who apply themselves to this work. And I see
11 new products. When I think what we have learned about metals and
12 alloys and productive coverings and how we have learned to miniturize
13 so much equipment. Well all of this just sends me. I'm accused of
14 being exuberant and being an optimist. Well let me say that there are
15 enough of those that go around with a potential stomach ache. I think
16 somebody ought to offset them. I've always believed in balance and
17 counter-balance.

18 And might I add just for an extra good dose that anybody living
19 in the United States of America and isn't an optimist is sick. This
20 is a great country. You ought to be an optimist. We have about 180
21 years of recorded history that tells us that we've been doing all right.
22 And when you have history on your side plus current events and a lot
23 of enthusiasm for the future, you ought to have a degree, at least,
24 of restrained optimism, if not exuberant. So we have developed
25 improved alloys, ceramics, batteries, and other materials not just for
space but for many things in our life. And there have been innovations
such as the eccelerated use of liquid oxygen in steelmaking, new coatings

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2 for the temperature control of buildings, filters for detergents. Our
3 progress in space has already contributed vastly to our national security.
4 The use of communication satellites right now is backing up our effort
5 in Viet Nam. We wouldn't be able to do what we are doing in Viet Nam
6 were it not for communication satellites. This is one of the reasons
7 why when I hear people say "Well, the French couldn't do it, what makes
8 you think that you and the Vietnamese and the Koreans and the New
9 Zealanders, and the Australians, and soon the Filipinos, what makes
10 you think that you can do it. Well, I'll tell you what makes me think
11 that we can do what we need to do because whatever we need to do and
12 had the will to do we can do. We have the means to do it and you
13 ought to know it. And I don't think it makes you any smarter to go
14 around just looking worried and wondering whether it can be done. I
15 went through college smiling and I got reasonably good grades. And I
16 remember one who went through miserably and he didn't do as well.

17 Now our progress in space has already contributed not only to our
18 national security in the lines that I have mentioned but in support of
19 our armed forces by better communications, our peaceful application of
20 space confidence from the national security takes many other forms.
21 Among them are more accurate knowledge of the weather. More effective
22 mapping. Earlier warning of impending dangers. Detection of nuclear
23 explosions in space or in the atmosphere.

24 Ladies and Gentlemen, I don't think this nation could rely upon
25 a disarmament agreement unless it had means of detection. It's one thing
for us to negotiate a treaty. It's another thing to monitor it and to
inspect it. And space research. Space exploration has made possible,
keeping statesmen honest when they sign a treaty and keeping nations

1 honest when they sign a treaty. There are some, of course, who claim
2 with all sincerity the terrestrial relevance of space science and tech-
3 nology have been way exaggerated, much exaggerated. Concerning this
4 I have a comment or two also. See Mr. Capp I have an opinion on almost
5 everything here tonight. Now one is to the skeptics outside this hall.
6 I think they have forgotten the fact that this whole field is still in
7 its infancy. We're at about the Francis Drake, just beyond Christopher
8 Columbus. We maybe have gotten up as far as John Cabot and his
9 explorations around the late 15 and 1600s, but we're not much further
10 in the exploration of this ^{great} new world of outer space. The best is yet
11 to come. Now the other comment that I have is to you right here in this
12 hall. As you constantly enlarge the horizons of space science and
13 technology, I urge that you be everlastingly alert to recognize those
14 discoveries and innovations promptly which can be usefully applied here
15 on our own planet. And one of the reasons that this combination
16 between government and the private sector is valuable is because the
17 private sector is quick to recognize the commercial application of the
18 discoveries and innovations. Private industry doesn't have many file
19 cases to put away the innovations. They are right out there to make
20 use of them. Now moreover, it is not only technology that we've
21 developed. Perhaps even more important, we have called into being rich
22 human and intellectual resources, methods, capabilities, insight,
23 management techniques which can be brought to bear upon problems far
24 removed from space. If this space program has done nothing else for us,
25 it has developed in the United States of America one of the greatest
management systems and a series of management techniques, the likes of
which no similar nation or country has ever known. And in this

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2 respect I want to commend the initiative of our private companies as
3 well as NASA and the Department of Defense. But when we get down to
4 the application now of these management techniques to problems far
5 removed from space, I not only commend the initiative of private
6 companies but let me take you to the State of California for a moment
7 where the governor of that state, Governor Brown, has shown the way
8 with private industry towards focusing the talents of the aerospace
9 industries on matters as important to our everyday living/^{such}as traffic
10 congestion and garbage control. Gas systems analysis. The techniques
11 of systems analysis being used on current problems. I spoke to a
12 group of educators in Chicago last night, filling in for one of our
13 prominent American citizens, and I said to this group of educators that
14 the university must be part of the community, not a part from the
15 community, a part of it within it. The American people pay for these
16 universities and our professors and our experts have no right to live
17 in the ivory towers and protected by the nice green pastures of
18 tranquillity and serenity. Yes, reflection. Yes, indeed, meditation.
19 Yes, indeed, scholarships but also participation in the community and
20 the needs of that community. And that is what we see in this space
21 program.

22 This technique of systems analysis has developed to its highest
23 point so far aerospace industries will be invaluable to us as we face
24 up to the problems of urban life. Our cities. To the pollution of our
25 waters and atmosphere. And there are many other challenges of today
and tomorrow. It is going to take this kind of system analysis and of
technique. I believe that those of you who are here in the aerospace
industry have a real obligation to make your capabilities more widely

1 known to state and local officials. Now why you? Because the technical
2 and intellectual capabilities you possess in abundance were in part made
3 possible by the tax dollars which have supported the space program.
4 We're pouring billions into education in this country and as I have
5 said to every young man or woman whoever had a college education "You
6 didn't pay for it. I've had a lot of college education and it was given
7 to me by the people of the United States or by the people of another
8 state or private donors. I paid a little bit out for some tuition that
9 couldn't have paid for three books on the library shelf. How can
10 anyone pay for the knowledge that he receives at an institution of higher
11 learning? How can you pay for the accumulated literature of 5000 years
12 that is at your disposal? How can you pay for the courses in mathematics
13 and chemistry and physics that are the end products of the minds of
14 generations, hundreds of years? And then how do you even pay for the
15 cost of an education just in facilities?" It costs thousands and
16 thousands of dollars to educate one boy or girl even through a liberal
17 arts college far beyond what any mother or father paid in tuition or
18 even the student. So my message is this -- that everyone who has had
19 the privilege of a higher education, if he lives to be 100 years old
20 he owes 50 of it to the community. Then the other 50 you can divide up
21 amongst your relatives. You owe that. I told a group once that if
22 you lived to be 75, you could start paying back on principal. Up to
23 them you were just on interest.

22 Now why do you have such a responsibility? Because it will be a
23 practical demonstration to the world how democracy and free enterprise
24 function effectively for the common good. Why you with a special
25 responsibility? Because you are management and you are workers and

1 citizens of many of the communities which will directly benefit from
2 your efforts. You see I have confidence that you will meet this
3 challenge and I'll tell you why - because we have to. We can't continue
4 to live in cities as they are. We are going to have to change them and
5 you're the ones that are going to have to do it, not the government.
6 We don't want that kind of a society where just the government comes in
7 and changes everything. You're the ones who are going to have to help
8 us figure out how are we going to have water, clean, fresh water, for
9 a growing population in an older country. How are we going to preserve
10 a clean atmosphere, or are we going to suffocate from our own
11 technology? I think you know better than to say "Yes" to any of these.
12 We're not going to suffocate. We're not going to drink polluted water.
13 We're not going to just be choked to death in our urban ghettos and our
14 vast cities of concrete and steel. We are going to learn how to make
15 them livable because we have the means to do it. Any man and any
16 nation that feels that they can put a station on the moon ought to be
17 able to do something with the defunct railroad station right in their
18 home town.

18 And I might add that if we spend anywhere as near as much trying
19 to do something about environmental atmosphere on earth as we do in
20 that space capsule, my, you'd live a lot longer. And, Ladies, the
21 curtains wouldn't get as dirty either. There certainly is good
22 evidence from these past few years that a new and effective relationship
23 has been developed for the public good. Among the communities of
24 government, the university, and private industry. We see this in the
25 excellent three-way cooperation that I mentioned tonight. To this
interchange the university has been brought closer to the community
and to industry. Government has come to understand far better than

1 ever before the economic world and the private sector and I am convinced
2 that no small result of this has been the creative burst of economic
3 growth that we have seen over these past months.

4 So finally, the great American private sector has involved itself
5 far more than ever in the past which used to be reserved to govern-
6 mental done or were not done at all. Yes, the space program has
7 helped bring a good measure of health and energy to the American economy
8 and the American society. And my hope and prayer is that this may
9 continue.

10 Just a few observations now on the international significance of
11 the space effort. I believe it is virtually impossible to over-
12 estimate interests of the peoples throughout the world in this
13 unfolding space age. USIA's sponsored space exhibit last month in
14 Rangoon, Burma - a place most of us might have imagined to be far too
15 remote from the space age - drew over 250,000 visitors and nobody
16 wanted to burn it down, or tear it down, or close it out. It was a
17 scene of amazement. Astronaut John Glenn was there and Astronauts
18 Walter and Frank Bowman are currently winding up a successful
19 swing around the Free Asian capitals - Australia and New Zealand.
20 And I've been one of the people in government that has been pushing
21 for this. I have never believed in hiding the light under the bushel.
22 And I don't think it hurts a person, who has made as spectacular
23 achievement in the field of science to refresh himself by travel. You
24 can get mighty stale just sticking around the same old place. And
25 what is more, you can write books until you fill the libraries of the
earth and you can have films that would be the wonder of Hollywood,
but there isn't anything as good as just looking at the object, the

1 person, feeling him and touching him. That's the way we politicians know
2 it, I'll tell you that.

3 I'll never forget the Paris Air Show. Somebody said to me "Why,
4 it was a Russian exhibit untillwe'd arrived and they weren't interested
5 in the Vice President. I was just a catalytic agent. I said to these
6 two fine astronauts, Colonel White and ColonelMcDevitt and their lovely
7 wives, I said "Now, you listen, forget all the professional advice
8 you've had. You're going to listen to me for awhile." The President
9 said,"I'm in charge of this tour and I want one of you on one arm and one
10 on the other and we're not going to spend our time in the American
11 exhibits, you can see that when you get back to Washington. We'll just
12 make a quick dust-through just to make sure we have been there, but
13 we're going to every country's exhibit and you're going to be out on
14 those parade grounds and people are going to know that you are here.
15 You look American - you are American. You're the pride of our country
16 and you are the wonder of the world. Get out there and stand straight,
17 put your chest out, get those pretty girls alongside of you and here
18 we go." And I want to tell you that thousands of people followed them
19 and there wasn't an up-sitting space in the theaters for the films of
20 that walk in space by Colonel White. What remarkable ambassadors of
21 goodwill for America. And not only goodwill -- they were men of
22 competence, training, knowledge, education, poise - every movement,
23 every word, everything they did was a plus for this nation and you can
24 rest assured that when Borman and Shurah(?) and John Glenn and others
25 are out for your country that America is stronger in the countryside
of other nations tonight because they have been there. They'll bring
you no enemies but many, many friends.

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2 Now many countries with little or no space experience are showing
3 their interest in a very concrete and practical way. They realize
4 the need to engage in space programs - to develop their own scientific
5 competence, and we're helping them to do so. But we need to do more.
6 Already we are cooperating with about 70 countries and the State
7 Department, and NASA, and Defense are pressing forward with new initia-
8 tives in international cooperation. And I happen to believe that some
9 of these international initiatives can fill in some of the gaps that we
10 have had to leave here at home because of budgetary pressures. But
11 now I may be accused of being something of a visionary - it won't be the
12 first time. I kind of like it, but I am encouraged to do so by being
13 in the company of good visionaries. I want to say to you what I have
14 said to many others. It is very, very good and I am an old teacher,
15 an old professor, a refugee from the classroom. My major was in
16 political science. My minor in history and I have taught both and it
17 is good to be able to know history - - very, very good. It is even good
18 to know ancient history, but I'll tell you something -- it's better to
19 make it, make it in your own time and then you won't have to know so
20 much about the other fellows. And that's what we are trying to do
21 with this space program. We are making brand-new chapters of history
22 that we are writing. Somebody once said to me "How do you have time
23 to read." I said, "I don't have time to read but I have been talking
24 to the authors, and if you talk to the authors you don't have to always
25 read the books, they'll tell you what they are going to write, and
sometimes they tell you better than they can write it."

I believe the exploration of space will have a profound effect upon how we look at our life here on earth. They tell me that when

1 you get up there and look down, the old earth looks better. I believe
2 it would put all of our affairs in a wider and a more wholesome per-
3 spective. It necessarily broadens your vision. You cannot be a space
4 scientist or a scientist without having a broader vision and a recognition
5 of the international language as Dr. Seaborg says of science. Even
6 those with whom we have the most awful political battles in the
7 diplomatic field -- there are scientists, there are artists. Many of
8 their talented people want to work with us and we learn from each other.
9 Ever since Kaprinicus we have known that our earth is a small planet
10 in an immense universe. But while we have known this intellectually
11 and theoretically, most of us have not really taken it to heart, not
12 really felt it in the marrow of our bones as the full significance of
13 that fact is brought home to us by the actual exploration of space, it
14 will seem increasingly absurd and ridiculous that we have not better
15 organized our life here on earth. Our experience in space can be a
16 powerful stimulus to all of us wherever we live to move towards a better
17 day, to better vision, to greater perspective, and towards the establish-
18 ment of the world of law, for freedom and justice are assured to all.
19 And where in the words of the Prophet Izaiah "Nations shall not lift
20 up sword against nation, neither shall they learn more anymore." To
21 me space offers a genuine hope for peace, and the United States of
22 America has dedicated its space and its space exploration and space
23 research to that noble objective of mankind -- a peaceful world. A
24 world in which mankind can live a better life.

25 Now I have the privilege to announce that the so-called White-
situation room reports TV saying that two rescued men are in the water
by the capsule, which apparently means things are coming along all right.

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That there has been -- I don't know whether my friend, Dr. Seamons has anymore information than that or not, but the splash-down was at 10:20, the C-54 had the capsule in sight, and we are apparently in good shape, at least from the last reports, and I want to tell you that if we had had any bad news, we would have heard it sooner. Thank you very much.

MODERATOR: Thank you, Mr. Vice President for a most excellent address. He mentioned that last year he was a newcomer to the space business and he claims that he is not an expert now -- some of us, I am sure, would disagree, but one thing I am sure that all of us would agree upon that we're certainly glad that he's "hooked" with his enthusiasm for the space program.



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