Mr Jack Parker of GE and
Karl Harr -
Cortland Gross (Southeast)

Aerospace Pub
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thanks for Article
(Better Life)

OFF-THE-RECORD REMARKS

VICE PRESIDENT HUBERT HUMPHREY

AEROSPACE INDUSTRIES ASSOCIATION

WILLIAMSBURG, VIRGINIA

MAY 19, 1966

Over the past year and a half, and in some cases longer, we have become very well acquainted. And we have had the most solid kind of basis for friendship -- working together in the same great adventure -- the Exploration of space and ~~the~~ Development ~~and~~ Research in Aeronautics.

I am going to address most of my ~~off-the-record~~ remarks here to our space program.

But, first, I shall refer briefly to the projected super-sonic transport, in which many of you are interested. [Wall St. J article May 16 - by Richard Cooke]

I am sure you are already very well informed about this. However, I wish to emphasize and re-emphasize that it is this Administration's firm intention to press vigorously forward with this project.

Indeed, as you may know, the President -- upon the recommendation of the Space Council -- has established a DX priority for this undertaking.

He is determined to keep this country Number One in aeronautical competence -- ~~and so are we all.~~

I have recently been briefed on this subject by some of my very able friends in the Federal Aviation Agency. They advise me that the project is proceeding on schedule.

We may be two to three years behind the Concorde, but we shall have a much better airplane in terms of speed, capacity, and economy.

With regard to the financing arrangements for this project, I will say only this: I am confident that these can be worked out with some degree of mutuality for the parties involved.

Now I turn to this space venture of ours.

It is the biggest single effort ever undertaken by any nation to roll back the frontiers of human knowledge.

We have brought to bear upon it a greater array of industrial, governmental, and scientific resources than has ever been marshalled for any purpose other than the waging of war.

Indeed, we may have found in it that "moral equivalent of war" for which the philosophers have been searching for many centuries.

Like war, it stretches our human capabilities to the utmost, demanding all that we possess of creativity, persistence, skill in large-scale organization and management and -- on the part of our gallant astronauts -- the highest degree of courage and resourcefulness in the face of danger.

But, unlike war it does not destroy. It creates.

I suspect that, when Columbus set sail to discover the new world, there were people on his cramped and uncomfortable little ships who asked themselves: "Is this trip really necessary?"

As we probe further into space, I think we must expect this question to be raised from time to time -- by taxpayers, by Senators or Congressmen, and even by government officials not intimately concerned with the program.

In this connection, I believe it is interesting and relevant to note that, out of their much smaller Gross National Product, the Russians are devoting a higher proportion to their space effort than we are.

Their leaders are dedicated Communists. They are also very hard-headed and practical people. I cannot imagine Mr. Brezhnev or Mr. Kosygin spending so many rubles without a pretty good idea that the Soviet Union and Soviet communism would derive very substantial benefits from their space effort.

They have re-thought and revised much that they inherited, but not their space program which, in fact, has been speeded up.

Here in America, we are fully committed to pressing forward with the space program ~~as vigorously as possible~~.

NASA
$5B.11 - $7.2 Total Agc, Defense

Tight Budget

It is true that immediate national security requirements have necessarily limited the funds available. This is regrettable. But in the circumstances it is inevitable.

But national security is not the only competitor for the federal dollar.

It is therefore incumbent on us to demonstrate that the space effort is well worth its cost, and that we are getting the maximum return from it for the heavy investment of the taxpayers' dollars it requires.

From this point on, therefore, I believe that our guiding principle must be to direct the program so as to get the largest possible return on the public funds we have already put into facilities, trained manpower, boosters, spacecraft, and all our other accumulated space assets.

That means, in space exploration, that we do not contemplate starting from scratch again after Apollo. It means, instead, that we exploit to the maximum all that the Apollo program has produced for us — and look ahead Plan ahead —

That means, also, that we don't start from scratch after we complete the Manned Orbiting Laboratory program -- but rather, that we seek out every possible application for it which will serve to enhance our national security.

That means, too, that we must continue to improve our present communications and weather satellites, and develop new means to put them to the greatest possible pracitical use. This includes direct telecasting to all the world. It also includes global weather forecasting and the actual control of weather, at least for given localities and regions.

Furthermore, we must seek means for recovering and re-using our costly launching rockets.

We must develop the operational capability to repair orbiting spacecraft and to rescue astronauts, if need be.

We must marry aeronautical principles to space research, so that space travel can become practical on a large scale.

We must plan for the day when spacecraft can land and take off at spaceports in many parts of the world, and can transfer passengers and material back and forth from space stations, probably in synchronous orbit.

In order to accomplish these objectives, it is necessary that we improve without delay our sources of power for propulsion -- both chemical (liquid and solid) and nuclear -- so that we can drastically cut the cost per pound launched into space.

This is essential as we think in terms of unmanned probes throughout the solar system and manned expeditions to visit planets, whenever that becomes promising and practicable.

All this is a challenge to all of us -- and to you in industry even more than to us in government.

So far, I have spoken of our space effort in terms of putting instruments and men out into space. But, as I see it, there's much more to it than that.

The effects of our space adventure are radiating throughout our society.

Everywhere, it has widened our horizons. In a very real sense, the sky is no longer the limit.

Its energizing force permeates our economy. Its imperative need for innovation and excellence inspires our entire educational system to greater effort.

It is a seedbed for invention, a stimulus to higher productivity, a taskmaster for precision and reliability, and invaluable insurance for our national security, now and in the future.

Its impact is already apparent in many fields.

⊗ New Partnership Govt, Industry, the Engineer, Finance, the University, the Scholar & Scientist.

We can look forward, for example, to the time when scientists, businessmen, or government officials can conduct an international conference without leaving their offices or laboratories -- looking at the same charts, pictures, or demonstrations.

Through giant computers tied together across many thousands of miles, a scientist in New Delhi may obtain the solution to a complex mathematical problem from a computer in Washington — or Goddard Space flight Center

Satellites can give us early warning not only of hurricanes and tornadoes but of floods and even of threatening invasions by insect armies such as locusts and grasshoppers.

They can make possible the early detection of forest fires, the location of distressed ships and aircraft, and the tracking of icebergs. Through them, we can estimate the extent of snow coverage for conservation and water management purposes.

Reconnaissance Satellites for Arms Control

Research designed to maintain the health of man in space can be applied here on earth. For example, the condition of patients in a hospital can be monitored continuously at central locations by the use of the same sensors that keep tabs on the physical well-being of astronauts in orbit.

We have already made fantastic strides in devising more effective, reliable, and compact electronic equipment, with applications in many areas of our modern life. We have developed improved alloys, ceramics, and other industrial materials.

To me, however, one of the most exciting possibilities is the deployment of some of the human resources we have developed in the space effort to attack the major problems of our modern life -- the mounting difficulties of urban existence, the pollution of air and water, and the other cancerous afflictions from which the modern industrial world suffers.

I foresee the devising of means to make large-scale government and business even more promptly and flexibly responsive to constantly changing needs and human aspirations.

I should very much like to see the capabilities, methods, insights, and large-scale management skills of the aerospace industries -- and most especially the advanced techniques of systems analysis -- brought to bear on problems such as these.

In this respect, I want to commend highly the initiative taken in California by Governor Brown and some of the aerospace companies there. They have broken new ground by subjecting to systematic analysis such major problems of everyday living as traffic congestion, waste disposal, and crime prevention.

I know that there are some skeptics who maintain that the potential benefits of the space effort here on earth have been exaggerated and oversold.

I believe that they have forgotten that this whole field is still in its pioneering stage. I believe that past experience with other great scientific or technological innovations gives us solid grounds for confidence that much more is yet to come.

However, the answer really rests with you of industry. Do not, I urge you, in keeping your eyes on the stars, forget that your feet must be planted on solid earth.

Be everlastingly alert to every possible practical application of your technological innovations and sophisticated management skills to outside the space field.

See to it that some of your best and most creative people have this as their prime assignment.

I look to the space adventure, too, as a broad and open highway to international understanding and cooperation, and therefore to peace.

President Johnson has recently taken a significant step in this direction by proposing that the United States, the Soviet Union and other potential space powers join in a treaty for peace and good sense in space.

Modelled after the 1960 treaty for Antartica, the proposed treaty would deny to any nation the right to claim sovereignty over the new lands of space, or use them for any form of military activity.

It would be ironic, would it not, if we could get together in space before we get together on earth -- but it may very well happen that way.

Certainly, the fascination with space already transcends all boundaries, geographical and ideological.

Earlier this year a USIA-sponsored space exhibit in Rangoon, Burma -- a place most of us might have imagined remote from the space age -- drew over 250,000 visitors.

Wherever our astronauts have travelled, they have met with a deep and immediate response from scientists, engineers, men in public life -- and particularly from young people.

Indeed, there is good evidence that the young people of the Soviet Union itself find the modern miracles of space far more inspiring than the time-worn and dusty doctrines of Karl Marx.

As you know, many countries with little or no space experience are showing their interest in a very concrete and practical way. They have realized that need to engage in space programs to develop their own scientific competence, and we are seeking to help them to do so.

Already we are cooperating with about 70 countries, and the State Department and NASA are pressing forward with further initiatives in international cooperation.

So far, I have done my best to be practical, to keep my feet on the earth. But I cannot conclude my remarks without observing that anyone who gets immersed in this field cannot help dreaming bold dreams, and seeing great visions of the future.

The men who joined Columbus on his journey were in possession of the world's knowledge up to that time. Yet they had no real idea of what they would find or where their explorations might lead.

Today we, in a real sense, know no more than they about the new environment we seek to explore. But, We have no grasp yet of the answers, the discoveries, the new challenges and opportunities we will find tomorrow.

As those before us, we have no choice but to continue our quest — to explore - to Discover, to Dream - & to achieve.

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TRANSCRIPT
OFF-THE-RECORD REMARKS
VICE PRESIDENT HUBERT HUMPHREY
AEROSPACE INDUSTRIES ASSOCIATION
WILLIAMSBURG, VIRGINIA
MAY 19, 1966

Thank you very much, Mr. Parker. You get the show on the road as fast as it arrives, I see. I'm simply delighted to have this opportunity to be with you, sir, and with Mr. Gross and my old friend Karl Harr. I see that we have some other friends of the industry and the government out here and, lest I leave one out, I shall mention none except to say that I am delighted to see you here to check up on me and I hope that you can give a favorable report to the proper source when you get back.

Now I come to the Aerospace Industries Association meeting just to visit with you, to express to you some of the thoughts that have been running through my mind about the work in which we are all involved--the common endeavor of government and industry, the academic community, science, technology, finance. I don't pretend to come here as an expert in these matters. I do have the responsibility of chairmanship of the National Space Council, but I rely, as many of you do, a great deal upon the technical experts that we have that advise and counsel us. I thoroughly enjoy that responsibility, at least I find it an engaging one, one that requires a constant process of learning. And I come here primarily to see the men in government and industry that are in the learning process as well and can teach me.

I suppose that it's fair to say that all of us have many questions about our space effort but if we work together we'll find some answers. Over the past year and a half, in some cases longer, we have become rather well acquainted and I believe we have a rather solid basis for friendship and acquaintance working together in the same great adventure. And the exploration of space is a great adventure. It's one that inspires our young and challenges those of responsibility.

I should also mention the development and research in the field of aeronautics because we are not only interested in space, we are interested in supersonic and subsonic atmospheric travel as well. But, I'll address my remarks here today primarily to the space program.

First I will refer briefly to the projected supersonic transport. I don't see Bozo McKee here but I saw him last night. He gave me a sort of clearance here to say a few things. I guess he wanted me to take the heat. Many of you have undoubtedly seen the recent article that appeared in the Wall Street Journal, May 16th, amongst many other articles relating to common concerns that we have--financing difficulties, engineering problems, customer acceptance, community attitudes. But I know that you're as well informed on this as I am and better, so I shall not go into those details.

I wish to emphasize, however, and re-emphasize that it is the Administration's firm intention to press vigorously forward with this project. Indeed, as you may know, the President, upon the recommendation of the Space Council has established a DX priority for this undertaking. He is determined to keep this country "number one" in aeronautical competence.

Now I have recently been briefed on this subject by some of my very able friends in the Federal Aviation Agency and, as I have indicated, it has been the subject of detailed discussion in the Space Council. Dr. Welsh is here with us, this was put on our agenda some time ago and those who advise me say that the project is proceeding on schedule. Now we may be two or three years behind the Concord but the fact is that we shall have a much better airplane in terms of speed, capacity, and economy.

With regard to the financing arrangements for this project -- and they are very difficult and will test the ingenuity of the American business and governmental community -- I will only say this: That I am confident that these arrangements can be worked out to mutual satisfaction and with some degree of mutuality for the parties involved. We are at the discussion stage now. We all know how to bargain collectively, and you know how to do it very well. So we'll face these problems of financing and they are big. We shouldn't underestimate them, nor do you.

We have other problems like the sonic boom, and we even have that problem that could cause you to wake up in the middle of the night with a cold sweat: What if the SST goes sour? What if it just doesn't work out the way we hope that it will? Now those are questions that we have to face, but we've faced these problems and questions before and I have a feeling that we can overcome them and manage them.

As a matter of fact, do not underestimate for a single minute the growth of this economy and its capacity to produce goods and services and wealth. We're prone to underestimate it -- believe me we are -- and particularly

when you get over age 50. There is something that gives you a degree of timidity or caution -- people call it prudent judgment -- sometimes it's just getting tired. But I look around the room and see a couple of my old friends here -- one sitting up in the front row -- and I notice that they are not very tired and no timidity. So I come to a group of people that have the sense of daring and boldness and yet judgment. That's why I talk to you about these problems.

Now let me turn to space -- this space venture of ours -- not of the government's but ours. We have to establish the frame of reference here for our discussion. This space exploration isn't a governmental program--period. It is a governmental program and an industrial program and a program of our universities, our institutes, our scientists, our engineers, our financial experts, our management teams. It's a cooperative endeavor. It's the biggest single effort ever undertaken by any nation to roll back the frontiers of human knowledge.

We have brought to bear upon it a greater array of industrial, governmental, and scientific resources than has ever been marshalled for any purpose other than the waging of war. Indeed, we may have found in it that moral equivalent to war for which the philosophers have been searching for many centuries.

Like war, it stretches our human capabilities to the utmost, demanding all that we possess of creativity, persistence, courage, skill in large-scale organization and management and, on the part of our gallant astronauts, the highest degree of courage and resourcefulness in the face of danger.

This is some program. It's really made for our kind of people--a nation that has dared to conquer frontiers, dared to build a democracy, dared to put its faith in private enterprise, dared to build a free government. Those are all big undertakings and that's why I have confidence in what we are doing.

But unlike war, it does not destroy, it creates. And I'm the kind of a man that's dedicated to life-saving rather than life-taking, to building rather than destroying. And one of the reasons I am so deeply involved in the space program is because I see in it the preservation of this world and the discovery of new ones. It has great possibilities for the best that's in us. I suspect that when Columbus set sail to discover the new world--and I don't want to get into the argument between Columbus and Leif Ericson, so when either one of them set sail to discover the new world--there were people on his cramped and uncomfortable little ships who asked themselves: Is this trip really necessary?

Now as we probe further into space, I think we must expect this question to be raised from time to time -- not only by those who are in on the trip, but by the taxpayers, by Senators and Congressmen, by publicists and commentators, and by government officials not intimately concerned with the program.

In this connection I believe it is interesting and relevant to note that out of their much smaller Gross National Product, the Russians are devoting a higher proportion of that GNP to their space effort than we are. It must be important. There are many things you can say about

the Russians -- some of which are not very complimentary -- but they do have a way of knowing what are the priorities in terms of their national well-being and their international endeavors.

Their leaders are dedicated Communists. They also are hardheaded and practical people. I cannot imagine Mr. Brezhnev or Mr. Kosygin spending so many rubles without a pretty good idea that the Soviet Union and Soviet communism would derive very substantial benefits from their space effort. And they have done well. I am not one that goes around trying to downgrade their achievements. In fact, I salute them for their achievements.

They have rethought and revised much that they have inherited, but they haven't done much to downgrade their space program. If anything, they have upgraded or speeded it up.

Here in America, we are fully committed to pressing forward with this space program. This is a government commitment as well as a private commitment. I must say here that we must never sacrifice long-time lead items and all that goes into that long-time lead item planning for short-term adjustments or short-time needs. Nor can we afford to sacrifice these management teams and science and engineering teams that are required for this kind of an effort. Therefore, in all of our planning and financing, we must keep these essentials in mind--the competition that we face internationally, the necessity of the long lead-time that is required in this program and above all the holding together of the management and the engineering and scientific teams that are required.

Now it's true that immediate national security requirements have necessarily limited some of the funds available. But there is about $7,200,000,000 available for space out of government this year--NASA, AEC and Defense. Many think it ought to be more, but what is programmed is at least a rather substantial amount and it is programmed in the face and in light of very serious budget requirements for international commitments and domestic needs. But national security is not the only competitor for the federal dollar.

It is therefore incumbent on us to demonstrate that the space effort is well worth its cost, and that we're getting the maxium return from it for the heavy investment of the taxpayers' dollars it requires. And I want to say to you that we ought nottotake for granted that everybody assumes that this effort is worth all the money we put into it. There was a time, after Sputnik, when you could almost ask for anything, but like many other things including political popularity it tends to drift off unless you do something about it once in awhile. Now maybe the Russians will come forth with some kind of an achievement that will once again shock us and we Americans do respond to the shock treatment. But I don't think that we ought to always depend upon them to be the catalytic agent. We ought to have a sustaining speed, a cruising speed for our own endeavors.

From this point on, therefore, I believe that our guiding principle must be to direct the program so as to get the largest possible return on the public funds we have already put into facilities, trained manpower, boosters, spacecraft and all of the other accumulated space assets.

Now that means, in space exploration, that we do not contemplate starting from scratch again after Apollo. We need post-Apollo programming. It means, instead, that we exploit to the maximum all that the Apollo program has produced for us and look ahead and plan ahead now. That means also that we don't start from scratch after we have completed the Manned Orbiting Laboratory program, but rather that we seek out every possible application for it which will serve to enhance our national security.

That means too that we must continue to improve our present communications and weather satellites and develop new means to put them to the greatest possible practical use. What I am saying is that we must never look upon any one of these programs or projects as just a project. We should look upon them as step number one -- then looking forward to steps two, three, four, building up for greater uses, new possibilities, new discoveries. This includes, when I speak of communications and weather satellites, direct telecasting to all the world. It also includes global weather forecasting and the actual control of weather at least for given localities and regions.

Furthermore, we must seek means for recovering and reusing our costly launching rockets. We might just as well start on that one now. We must develop the operational capability to repair orbiting spacecraft and to rescue astronauts if need be. Now these last two items are rather current, may I say. We came mighty close to losing some astronauts and we surely have at least one or two of those objects in space that could stand a repair or so. Recovering and reusing of costly launching rockets is a very relevant item.

We must marry aeronautical principles to space research so that space travel can become practical on a large scale. We must plan for the day when spacecraft can land and take off at spaceports in many parts of the world, can transfer passengers and material back and forth from space stations, and probably in synchronous orbit. These are the kinds of imaginative proposals that will keep this program moving ahead, that will engender public support, that will attract the attention that it needs to sustain its endeavor.

Now in order to accomplish these objectives it is necessary that we improve without delay our sources of power for propulsion -- both chemical (liquid and solid) and nuclear -- so that we can drastically cut the cost per pound launched into space. And I am happy to note that the United States Senate did not cut out a single dollar in terms of the propulsion items in the AEC for nuclear research in its most recent authorization.

Now all of this is essential as we think in terms of unmanned probes throughout the solar system and manned expeditions to visit planets, whenever that becomes promising and practicable.

All this is a challenge to you -- to all of us -- but to you in industry even more than to those of us in government.

So far, I have spoken of our space efforts in terms of putting instruments and men into space. But, as I see it, there's much more to it than that.

The effects of our space adventure are radiating throughout our society. And here is what I get excited about. Everywhere it has widened our horizons. In a very real sense, gentlemen, the sky is no longer the limit.

Space is an energizing force -- space development. It permeates our economy -- creates new wealth, new power, new industry. Its imperative need for innovation and excellence inspires our entire educational system to greater effort. It has been a boom to higher education.

It's a seedbed for invention, a stimulus to higher productivity, a taskmaster for precision and reliability, and it has placed new demands upon management techniques, the likes of which modern America and modern industry have never known. And it is an invaluable insurance for our national security, now and in the future.

Its impact is already apparent in a host of fields. First there is this new partnership between government and industry and the universities -- bringing in the financing, management, engineering, the scientific community but a tremendous new partnership in which we are doing away with many of the old hostilities and suspicions. You can just about predict where a community is going to go by the quality today of its universities and the amount of cooperation between the government and the universities and the amount of cooperation between the government and the university and industry in that area.

We can look forward, for example, to a time when scientists, businessmen, and government officials can conduct an international conference without ever leaving their offices or laboratories -- looking at the same charts, pictures and demonstrations. That's practically at hand right now. Instead of the old conference telephone call, we'll make it much more visible.

Through giant computers tied together across many thousands of miles, a scientist in New Delhi, India may obtain the solution to a complex mathematical problem from a computer in Washington or the Goddard Space Flight Center or someplace else.

Satellites can give us early warning not only of hurricanes and tornadoes but of floods and even of threatening invasions by insect armies such as locusts and grasshoppers. I tell you that would have been mighty helpful back in the thirties when I was a boy out in South Dakota. They can make possible the early detection of forest fires, the location of distress ships and aircraft, and the tracking of icebergs. Through them we can estimate the extent of snow coverage for conservation and water management purposes.

Satellites can literally revolutionize conservation, for not only our nation but of course for the whole world and this is so vital. And the reconnaissance satellites -- they may well be the greatest protector of our national security in terms of any arms control agreements that we may arrive at. I frankly don't believe that we could engage in disarmament and arms control without the protection of the reconnaissance satellite. And I believe that the reconnaissance satellite gives us the possibility for at least a reasonably safe-guarded arms control pact.

It may well be -- space exploration may well be -- the guarantee or the guarantor of peace. Research designed to maintain the health of man in space can be applied here on earth. For example, the condition of

patients in a hospital can be monitored continuously at central locations by the use of the same sensors that keep tabs on the physical well-being of astronauts in orbit. There are unbelievable possibilities as the result of space medicine; we haven't even scratched the surface. As a sort of a refugee from pharmacy I'm keenly interested in this. And when I was down at Cape Kennedy on the Gemini 3 flight, I was watching very carefully some of the medical data that came from that flight.

We have already made fantastic strides in devising more effective, reliable, and compact electronic equipment, with applications in many areas of modern life. The miniaturization process that's gone out in industry came about because of space -- space research. We have developed improved alloys, ceramics, and other industrial materials. The American people need to know more about this. You good men in industry are mighty good at selling your products and don't keep all these products a secret either. I think that they ought to be made available in more places than the Goddard Space Center.

In fact, I give you a project here. I think that we ought to get something right in the nation's capital, in one of our public buildings where the hundreds of thousands of visitors come every year, that tells us a great deal more about the commercial applications of space. This is a free enterprise country. The businessman occupies the unique position to influence the leadership of this country. And when you can tie the businessman and the scientist and government and the university professor together, you have the combination that's unbeatable.

But we continue to hide these programs away; you know about them, your specialists know about them, and you know, who else needs to. Well I think a lot of people need to because you are going to run out of gas in terms of the amount of energy, the amount of attention that will be given to this and the public sector in the Congress of the United States. It's one thing to authorize a program but another thing to get the appropriation. Now you keep your eye out. I've been there a long time. I know a little bit about that institution.

Yes, to me one of the most exciting possibilities is the deployment of some of the human resources that we develop in the space effort to attack the major problems of our modern life -- the mounting difficulties of urban existence, the pollution of air and water, and the other cancerous afflictions from which the modern industrial world suffers. And your kind of industry -- this great cooperative space endeavor -- lends itself to the solution of these problems of urban living.

I foresee the devising of means to make large-scale government more promptly and flexibly responsive to constantly changing needs and human aspirations.

I should like very much to see the capabilities, methods, insights, and large-scale management skills of the aerospace industries -- and most especially the advanced techniques of systems analysis -- brought to bear on problems such as these that I have mentioned. I've been on this kick a long time, gentlemen. Four years ago I was in California

delivering a lecture on the utilization of the systems analysis technique -- the aerospace industries management technique -- to the problems of modern society, the urbanization problem. And believe me we need it, or we're going to choke ourselves to death on earth. Maybe that will be the impetus for exploration of outer space.

In this respect, I want to commend highly the initiative taken in the State of California by the Governor there, Governor Brown, and some of the aerospace companies in that state. They have broken new ground by subjecting to systematic analysis such major problems of everyday life as traffic congestion, waste disposal, and crime prevention; and you name me any three more relevant continuing perplexing problems than those.

I know that there are some skeptics who maintain that the potential benefits of the space effort here on earth have been exaggerated and oversold. I believe that they have forgotten that this whole field is still in its pioneering stage. I believe that past experience with other great scientific or technological innovations gives us solid grounds for confidence that much more is yet to come.

I'm one that believes in the beginnings. If you can get something started and maintain a degree of enthusiasm for its continuity, the possibilities are beyond human calculation or imagination. Most of us in the field of public life know that it is the beginning that counts. The longest journey, the old Chinese philosopher said, is the first step. You make that first step and you're on the way.

However, the answer really in the main rests with you in industry. Do not, I urge you, in keeping your eyes on the stars, forget that your feet must be planted on solid earth. And I have said many times that a nation that contemplates putting a man on the moon ought to be able to help to put a man on his feet right here on earth. And that means making this place where we now live a better place in which to live. That means tieing in the aerospace industry, the whole space program, with earth man on earth as well as earth man in outer space.

Be everlastingly alert to every possible practical application of your technological innovations and sophisticated management skills to outside the space field. See to it that some of your best and most creative people have this as their prime assignment.

I look to the space adventure, too, as a broad and open highway to international understanding and cooperation, and therefore to peace. Gentlemen, the Space Council has been giving a good deal of attention to the international cooperation aspects of space. Really there are no secrets in science. Sometimes I wonder why we so jealously guard what we think is going to be a great secret. This is an open society. Oh I know there are some people who think that we need to protect knowledge momentarily or for a period of time for the purposes of national security. But what we ought to be seeking above all is the sharing of our knowledge in the hope that we can share other people's knowledge. And while I know the American people are bright and intelligent and

creative people, they have no monopoly on it. In fact it's quite apparent, is it not, that many of our most famous scientists in the area were foreign born. So we ought to reach out as best we can.

President Johnson has recently taken a significant step in this direction of international cooperation by proposing that the United States, the Soviet Union and other potential space powers join in a treaty and good sense in space. Some people call it the moon treaty, but it goes beyond that.

Modeled after the 1960 treaty for Antarctica, the proposed treaty would deny to any nation the right to claim sovereignty over the new lands of space or use them for any form of military activity. In fact we need a whole new body of international law on space. Just as we have international law on the high seas, relating to the use of the high seas, we need a body of international law far beyond what we have in terms of space exploration, development and research.

It would be ironic, would it not, if we could get together in space before we could get together on earth -- but it may very well happen that way. And I can turn it around the other way; if you can get together in space, you have a better chance of getting together on earth. Certainly, the fascination with space already transcends all boundaries, geographical and ideological.

Earlier this year a USIA-sponsored space exhibit in Rangoon, Burma -- a place most of us might have imagined remote from the space age -- drew over 250,000 visitors. And I want to say that I think we're a little bit backward on the matter of utilizing our space program as

an instrument of international good will and education. More people know about many of our commercial products that are in everyday use than they do about some of these great fantastic, magic developments in space.

I'll never forget my visit to the International Air Show in Paris with astronauts White and McDivitt. We really took that place over -- two American Astronauts. Up until that time our friends of the Soviet Union were having a field day. I want you gentlemen -- I'll let you in on a secret -- I like to win. I've tried the other. Now I know many people say that out of adversity you can build character but I want to let you in on that you can even build character out of victory. And in these two-men races, when you come in second, you're last. Don't go around consoling yourself, saying, well wedid pretty well, we came in second.

There isn't any reason at all that the Soviet Union, or anybody else, would out and out try to derogate their efforts. There isn't any reason at all that they should be better at public relations than we are. Of course the best public relations we have is the openness of our program. That's the best. And I want to compliment everyone that has stood fast for that. But I still think there are many places and many areas in the far away places of the world where we can do a better job in terms of international understanding through the space program. Maybe we wouldn't have to send quite so much aid, quite so many military missions, quite so many other things if we just could attract people's attention on the fantastic developments of this nation in the field of space exploration and development.

Wherever our astronauts have traveled, they have met with a deep and immediate response from the public, scientists, engineers, from the children, from the youth -- and these young people are important.

Indeed there is good evidence that the young people of the Soviet Union itself find the modern miracles of space far more inspiring than the time-worn and dusty doctrines of Karl Marx.

I'll never gorget when we brought together in Paris our astronauts with, was it Gagarin (I believe he was the one that was there) and I got to be quite candid. This is off the record. There was quite a little trouble on that with our friends in some of the diplomatic areas. They weren't sure that we were doing it the right way. But who was to come first--who was to be the first one? Well, my idea is that if you've got a problem when you want to meet somebody, go up and say hello. We had two better men. Two better looking men. And what is more, the Soviets were there watching their man as if he was going to tell some secret and our two young men were just magnificent. And they just took over and the cameras were on them and believe me the Americans came out on top. You have to have a little audacity in this business of public life and even in this business of commercial life. And I see a few knowing smiles. Well, already we're doing a good deal in this area. I am happy to note that Astronaut Carpenter will be going to the Soviet Union some time this summer as an aquanaut. Astronaut or aquanaut, no reason we shouldn't be first in both.

As you know,many countries with little or no space experience are showing their interest in a very concrete and practical way. India, Japan,

France, Germany -- I was just reading my reports this morning. They're doing many things now. They're beginning to come alive in space efforts. They have realized the need to engage in space programs to develop their own scientific competence and we are seeking to help them to do so. The French Government is now making a basic decision as to whether or not its government resources are going to be used to help private industry in their country in computer development. This is a basic decision. They may be competitors with us. We are working our heads off with Dr. Stoltenberg, Minister of Science, Technology, I believe it is, from the Federal Republic of Germany -- had an excellent visit with him. And I think I sort of steamed him up a little about the possibilities of international cooperation. We are aware of what can be done with our country in a multi-lateral cooperation with ESRO and ELDO, the European Space Research organization, the European Launcher Development Organization. There are many things that we can do. When I was in Japan, I spoke to the Prime Minister, Mr. Sato, about mutual cooperation in space. I have spoken to the people in India. We can do more. We can learn. And what is more we can have influence for the good of people everywhere.

Already we are cooperating with about 70 countries, and the State Department and NASA are pressing forward with further initiatives in international cooperation. But I want them to know candidly what I think. I don't think they are doing enough. Now don't let that get out of the room, or if you want to you can.

I see my friends here from the two departments. I want to repeat -- I think we ought to do more. And as long as I am Chairman of the Space Council I'm going to keep talking about that, because I don't think we have scratched the surface.

So far, I have done my best to be practical, to keep my feet on earth. But I cannot conclude my remarks now without observing that anyone that gets immersed in this field cannot help dreaming bold dreams, a sort of getting out of this world and seeing the great visions of the future.

The men who joined Columbus on that journey were in possession of the world's knowledge up to his time. Yet they had no real idea of what they would find or where their explorations might lead them. In fact they weren't quite sure where they were going and when they arrived they weren't quite sure where they were. But they knew that they had accomplished something.

Today we in a real sense know no more than they about the new environment that we seek to explore. But we have no grasp yet of the answers, the discoveries, the new challenges and opportunities we will find tomorrow.

As those before us, I don't think we have any choice, really, except to continue our quest--to explore, to discover and to do it together and to demonstrate to this world that a system of government and enterprise, a system of government of the people, by the people and for the people, a system of enterprise privately owned, privately managed, that government and the private sector working together, government and our great universities and scientific laboratories and business, working together that this free society, gentlemen, can outpace any controlled or state dominated or collective society. This is one area where we can demonstrate all the truth of all of the claims that we have been making. I believe we can

do it. So I ask you to just put a little more effort to it, a little more of your personal enthusiasm to it, give us the advantage of your counsel and your advice and you'll find a working partner in the Government of the United States.

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Mr. Parker: Now, gentlemen, the Vice President has kindly considered to take any questions that you might have of him -- and knowing some of you as well as I do, I know there are a lot of subjects that you ought to get straightened out on. Has anyone a question he would put to the Vice President?

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Q. I would ask Mr. Humphrey if he would care to give us his thoughts on the work that is being done, or what he thinks should be done, regarding the common language. This thing of the communications satellites are almost upon us and I speak as an engineer, but I can see a great, great problem here in a language problem in this education that we are trying to give these people all over the world from our ground stations. Is there something that you can say on that?

A. That surely is a good question. It frankly staggers me because I really don't know the answer. I do know one or two developments that I have been interested in over some time. I served as Subcommittee Chairman in the field of science in the Senate for some years and we were then working on the matter of instantaneous translation of scientific documents, mechanical translations, and there is a great deal of progress as you know that has been made on that here and in the Soviet Union and I believe

in other countries. This is an area that I think needs much more exploration. I doubt that we're going to be able to perfect any common language as quickly as we perfect the technical efficiency of the communications satellite. It's quite efficient already, but it's only in its primary stages. But again the possibility of instantaneous translation is surely a very feasible, at least a reasonably feasible, probability. All of which could be done, as I say, simultaneously through the same communications satellite by directional telecast and by directional voice projection. That's about as much as I know. Now maybe Dr. Welsh or someone here from the Space Council knows more about it, but this is surely something that we must put our attention to and start getting some good mutual research in government as well as private. The communications satellite will be much less effective unless we can accomplish some of these things you have in mind.

Yes sir, anyone else sir? Well, you have been very gracious. It's been a joy to be here with you. I hope I have a chance before I leave to see many of you personally, wish you well. Thank you very much.

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