

FOR RELEASE: 3/7/67  
Tuesday AM's

REMARKS OF VICE PRESIDENT HUBERT H. HUMPHREY  
SCIENCE TALENT SEARCH AWARDS BANQUET  
WASHINGTON, D. C.  
MARCH 6, 1967

Mr. Chairman, let me begin by saying that since you have broken protocol so eloquently, I have no intention of reporting the infraction to the President, or even to the Chief of Protocol.

I would also like to comment about that matter that concerns you.

First of all, you are one scientist I know who, if you decided to go into politics, would definitely not need a soapbox.

Secondly, from what I've been able to learn about the trans-uranium elements, I think we can all be thankful that I'm in politics and you're in science.

That is not meant to be a reflection on your political ability, Mr. Chairman. I'm only thinking that if I had been doing your work at Berkeley those 20-odd years ago, the table of the elements might still be stuck at 92!

Fellow students, I have been scanning the summaries of the projects which brought you here. They range from studying how the shells of fiddler crabs harden to the aging process in a binary star.

There is one basic element common to all these projects. They represent individual thought and initiative, resulting in individual achievement.

The word "individualism" itself was invented by one of our earliest and most perceptive foreign observers, Alexis de Tocqueville, to describe the spirit he found already prevalent here over a century ago.

I know that there are many young people who fear that, in this age of big government, big business, big labor -- and big universities, too -- we are in danger of being reduced to numbers and converted into fodder for computers.

On one college campus, in fact, I recently saw students with placards saying: "I am a human being -- do not fold, staple, or mutilate!"

I know that you, of all people, are determined not to be standardized or homogenized.

For you have learned from your own early experience a basic truth.

Governments don't have ideas, Companies don't have ideas, Laboratories don't have ideas. And -- contrary to a popular myth -- computers don't have ideas.

People have ideas.

And not people in the mass, but individual human beings.

I know that many of your ideas have undoubtedly at first puzzled, irritated, or even antagonized many of your fellow-citizens.

Don't let that worry you.

As Lbsen said: "The most dangerous enemy to truth and freedom amongst us is the compact majority."

You have also learned that ideas don't come out of thin air, even when they may seem to. As Louis Pasteur rightly said: "Chance favors only the prepared mind."

That preparation is, for scientists, a long and demanding discipline, as you well know. And "preparation," in its broadest sense, today generally includes elaborate and costly apparatus in great laboratories.

But all this machinery is barren and fruitless without the kind of mind that can put it to use -- the mind that can venture forth out of the safe harbor of the known into the "oceans of truth" -- to use Isaac Newton's phrase -- that lie all about us, unexplored and even unknown.

We need minds of that caliber and quality more than ever today.

It seems only yesterday that young people were complaining that the world was closing in upon them -- that no new lands remained to be discovered.

But, within this generation, this very world we thought we knew so thoroughly has opened out in every direction -- inward into the atom, downward to the bottom of the sea, upward beyond the sky and into space.

Dr. Seaborg has been one of our outstanding leaders in the task of harnessing the power locked up in the atom, and directing it to the construction of a better world, rather than the destruction of the one we already have.

For my part, I have had the privilege of close involvement with our efforts to explore the reaches of space and the depths of the oceans.

Since becoming Vice President, I have served as chairman of the National Aeronautics and Space Council. Last year I also became chairman of the National Council on Marine Resources and Engineering and Development.

We have just presented to the President our first annual report on progress in oceanic science and technology.

It records achievements like these -- many quite simple, but nevertheless far-reaching.

--The development of a fish protein concentrate, odorless and tasteless.

It is estimated that half the world's peoples -- the half who live in the developing countries -- suffer from diets deficient in protein. Half of the children die before five; many more incur lifelong physical or mental impairment. It is estimated that the addition of an appropriate quantity of this concentrate to their present diet could assure them normal physical and mental development, at a cost of less than a cent a day.

--The investigation of underwater mineral resources such as the "pavements" of manganese off the coast of Florida, and the possible deposits of gold, silver, platinum and tin off the Pacific and Atlantic Coasts.

--Greater knowledge of the ways in which energy is transferred from the ocean to the atmosphere -- offering us promise of better understanding of the ways in which hurricanes are born, and more accurate predictions of their course.

--The development of new equipment and methods to enable man to live and work for extended periods at the bottom of the sea.

In addition, work on the development of economical means for de-salting water continues. These systems are already at work on a limited scale. In time to come, desalted water may serve to make many of the present arid areas of the world productive.

Looking further into the future, I can see the "farming" of the ocean for fish . . . large-scale harnessing of the tides as a source of energy . . . the commercial mining of the ocean floor. . . and even the control and possible prevention of hurricanes and other destructive ocean-born storms.

You all know of our spectacular accomplishments in space -- and those of the Soviet Union as well. But, as Chairman of the National Space Council, I can see even greater accomplishments ahead.

--The establishment of permanent bases upon the moon, and the exploration of its surface.

--The development of a whole family of earth-orbiting stations, manned and supplied by regular ferry services.

--The building of spaceports where space ships will arrive and depart as regularly as airplanes at airports.

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

But, great as the past and future accomplishments of the space program may be, I think one of the most significant is that it has enabled man for the first time literally to view this world of ours as one.

We have come to see the earth as a kind of Noah's ark hurtling through space -- what we might call, in my friend Barbara Ward's good phrase, "Space Ship Earth." And if we didn't know it before, we know it now. We are all in it together.

We are all dependent upon the earth's great but ultimately limited resources to support life. And if we abuse these resources of land, air, and water, we cannot turn to another earth and start over again -- at least in the foreseeable future.

For most of history, man's impact on his environment has been limited and local, just as man's capabilities were limited. But, as his scientific and technological accomplishments have escalated, so has his effect upon his living space.

It is no longer, as the Poet Housman wrote, "A world (we) never made." More and more it is a world which, for good or ill, we are largely making ourselves. For instance:

--Until recently, smog was regarded as an affliction peculiar to Los Angeles--a subject for gag writers. Now, if we are laughing at all, it is through our tears. For smog now afflicts most of our cities and the airsheds over whole regions of our country.

--Until very recently, the population of earth was held in balance with its food resources. But now, with lower death rates and higher birth rates, we are in the midst of the famous "population explosion."

And the experts warn us that, if present trends continue, we will reach a point within this generation when there will simply not be enough food for the family of man and half the world--the half in the developing countries--will face mass starvation.

--The development of nuclear technology has, for the first time in human history, placed in man's hands the virtual power to destroy all civilization, and indeed all of mankind in one great Dr. Strangelove finale.

All these three dangers--that we may choke to death, starve to death, or annihilate ourselves--are the unintended "side effects" of rapidly accelerating scientific and technological progress.

Does this mean we should slow down or cut back on scientific and technological advances?

Of course not.

We cannot lock up scientific truths already revealed. Nor can we even hope to deter or discourage man's natural desire to learn more about himself and the world, and put his knowledge to use.

No, the solution is not to stop thinking.

It is to think even harder and more comprehensively. It is to think of the consequences of the things we do, as well as the things themselves.

Indeed, here we can use to good effect the advanced techniques of systems analysis which have been developed in our aerospace industries. They are designed to analyze thoroughly all elements of a given problem and to determine which solution will yield the best overall results.

This means treating man the earth on which he lives as a single enclosed system--just as the astronaut and his capsule are a single interacting system.

If we can put a man on the moon, we can surely design a bus that doesn't belch nauseous and poisonous fumes in our faces.

If we can act with the necessary urgency and cooperation, we can surely help the developing countries to devise means of producing much more of their own food, rather than becoming increasingly dependent upon the food resources of the advanced countries--resources which definitely are not unlimited.

If we can devise weapons capable of mass annihilation, surely we can devise international institutions capable of enabling nations, large and small, to live together in their natural diversity and to work together for their mutual benefit.

As scientists, I advise you to ignore any and all advice to move with the herd...to leap to the orders of bureaucrats or politicians.

You are precisely the people who must be aware of both the implications and the consequences of what you do . . .who must be individuals.

Use your critical faculties. Look to the world around you.

For knowledge . . .technology . . .science -- as stimulating as they are in themselves --- are truly neutral in themselves.

The people of my generation have seen material progress unprecedented in earth's history for its rapidity.

The people of my generation have also seen how the very tools of progress -- misdirected -- have also harmed and destroyed man and his environment.

It is the opportunity of your generation to insure that the world may never be subjected to the ultimate harm and destruction which lies within man's capacity.

I have faith in your generation. I have seen you in the classroom and in the laboratory. I have seen you marching down dusty roads against injustice. I have seen you helping children in ghetto streets.

"O brave new world," wrote Shakespeare, "that has such people in it."

This is indeed a new world -- as new as the world into which the great Elizabethan sea captains ventured on their voyages of discovery. I know that you will do your best to make it free and bright.

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REMARKS *Pr Deaborg.*

VICE PRESIDENT HUBERT HUMPHREY

SCIENCE TALENT SEARCH AWARDS BANQUET

WASHINGTON, D.C.

MARCH 6, 1967

*Mr. Kerburne  
my wife of  
Dr Edgeston (Judges)*

① *26th Annual  
Science Talent Search  
Honoring Winners!*

Mr. Chairman, let me begin by saying that since you have broken protocol so eloquently, I have no intention of reporting this infraction to the President, or even to the Chief of Protocol.

*Stop!!*

I would also like to comment about that matter that concerns you.

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Secondly, from what I've been able to learn about the transuranium elements, I think we can all be thankful that I'm in politics and you're in science.

*General Practitioner* | *- Circus  
- News papers  
- Fulton Mo.  
- ETO - Treaty*

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The word "individualism" itself was invented by one of our earliest and most perceptive foreign observers, Alexis de Tocqueville, to describe the spirit he found already prevalent in America here over a century ago.

I know that there are many young people who fear that, in this age of big government, big business, big labor --

are big organizations, they are in danger of being reduced.

and big universities, too -- we are in danger of being reduced to numbers and converted into fodder for computers!

*Pickets* } On one college campus, in fact, I recently saw students with placards saying: "I am a human being -- do not fold, staple, or mutilate!"

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*Space  
&  
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It is estimated that half the world's peoples -- the half who live in the developing countries -- suffer from diets deficient in protein. Half of the children die before five; many more incur lifelong physical or mental impairment. It is estimated that the addition of an appropriate quantity of this concentrate to their present diet could assure them normal physical and mental development, at a cost of less than a cent a day.

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large-scale harnessing of the tides as a source of energy ...  
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*and* I have faith in your generation. I have seen you in the classroom and in the laboratory. I have seen you marching down dusty roads against injustice. I have seen you helping strangers in alien fields. I have seen you helping children in ghetto streets.

"O brave new world," wrote Shakespeare, "that has such people in it."

This is indeed a new world -- as new as the world into which the great Elizabethan sea captains ventured on their voyages of discovery. I know that you will do your best to make it free and bright.

# # #

ORIGINAL

BEFORE THE  
TWENTY-SIXTH ANNUAL SCIENCE TALENT SEARCH BANQUET

**TRANSCRIPT OF PROCEEDINGS**

ADDRESS OF THE  
HONORABLE HUBERT H. HUMPHREY  
VICE PRESIDENT OF THE UNITED STATES

Date: March 6, 1967  
Place: Washington, D. C.

**Alderson Reporting Company, Inc.**  
300 Seventh St., S. W. Washington, D. C.

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ADDRESS  
OF THE  
HONORABLE HUBERT H. HUMPHREY  
VICE PRESIDENT OF THE UNITED STATES

BEFORE  
THE TWENTY-SIXTH ANNUAL SCIENCE TALENT SEARCH  
BANQUET

8:30 P.M.  
Monday,  
March 6, 1967

Sheraton Hall,  
Sheraton Park Hotel,  
Washington, D. C.

1           VICE PRESIDENT HUMPHREY:   Thank you very much, my  
2 associate in government and good friend, Dr. Seaborg. Mr.  
3 Sherburne, Mr. Wilcox, Dr. Edgerton, the Chairman of the Judges  
4 -- I always like to salute judges whenever I have a chance.  
5 You never know when you will face one. -- this distinguished  
6 young man who addressed us so brilliantly here tonight, and all  
7 of the winners of the Science Talent Search contest, and the many  
8 friends who are here with us this evening.

9           First of all, let me qualify myself for my participation  
10 in this program. The only science degree that I have is in  
11 political science, and it has many variables. There are very  
12 few what you could call strictly objective solid principles. I  
13 am going to have a few words to say about Dr. Seaborg and his  
14 comments, but I thought also I should tell you that I am the  
15 one man in this government who qualifies as the general  
16 practitioner in the age of the specialist. If you don't  
17 believe it, let me just tell you what happened on one weekend.

18           I left Washington Saturday to journey to my home State  
19 of Minnesota. My first experience when I arrived home was to  
20 visit with all of the editors and publishers of our state, known  
21 as the Minnesota Newspaper Association. I proceeded to get  
22 myself into a bit of difficulty there, commenting upon the press.

23           Then I left there before it became too dangerous, and  
24 took my granddaughters to the Shriners Circus. That was almost  
25 as hazardous and dangerous as being with the editors. But it was

1 a delightful experience.

2 A little later I indulged myself in sort of spiritual  
3 uplift by attending the Democratic Party rally.

4 The next morning I left for Fulton, Missouri, where I  
5 was privileged to speak a very fine audience at Westminster  
6 College, the Churchill Lecture there, and then journeying back  
7 to Washington last night.

8 Dr. Seaborg, today I want you to know that I have been  
9 really indulging myself in the general practice of government,  
10 everything from the Latin American Council to educational  
11 television to visiting with our mutual friend, Barbara Ward,  
12 who is being honored tonight at Trinity College, and now over  
13 here in my own environment with the true scientists.

14 But Dr. Seaborg, I might add that I am well aware of  
15 the violation of protocol that you have committed this evening.  
16 Not only did you say some nice things about me, which is a  
17 violation of protocol, but there was a little slip there, and I  
18 want you to know that I have no intention of reporting this  
19 infraction to the President, or to the Chief of Protocol. This  
20 will be a little secret kept with the several hundred of us who  
21 are here. And this city is one place in which you can keep a  
22 secret almost for a minute.

23 I would like to comment on another matter that is of  
24 concern to our Chairman of the Atomic Energy Commission, my good  
25 friend, because he has related to you my comment of some months

1 back when I addressed his associates in this nuclear energy  
2 field. I want you toknow, first of all, Dr. Seaborg, that you  
3 are one scientist I know who if he did decide to go into  
4 politics would definitely not need a soap box. You are tall  
5 enough the way it is. Secondly, from what I have been able to  
6 learn about these transuranium elements, I think we can all be  
7 thankful that I am in politics and you are in science. It seems  
8 that things are much better on that level. This is not meant to  
9 be any reflection upon your political ability or your political  
10 knowledge. I am only thinking that if I had been doing your  
11 work at Berkeley those twenty odd years ago, the table of the  
12 elements might still be stuck at 92. In fact, I am sure it would  
13 have been stuck at 92. I have enough trouble dealing with the  
14 political elements that are ever present, and I think there are  
15 more of those being discovered every day than the ones you are  
16 discovering.

17 Now, my fellow students, I have been scanning the  
18 summaries of the projects which you brought here. I have been  
19 privileged to see some of those summaries. They range from  
20 studying how the shells of fiddler crabs harden to the aging  
21 process in the binary star. That is a broad spectrum, I might  
22 add. But there is one basic element or one common factor for  
23 all of these projects. They represent what has been spoken of  
24 here tonight, individual thought, individual initiative, resulting  
25 in individual achievement.

1           Now, the word "individualism", this word itself was  
2 invented by one of our earliest and most perceptive foreign  
3 observers. His name was Alexis de Toqueville, the great French  
4 political scientist, sociologist. He invented this word to  
5 describe the spirit that he found already prevalent here in our  
6 America over a century ago. So this word is uniquely related to  
7 the American scene.

8           I know there are many young people who fear that in  
9 this age of big government -- you have heard about that, and it  
10 is a fact -- and big business, and big labor, and even big  
11 universities, that we are in danger of being reduced to numbers  
12 and converted into fodder for computers. Why, on one college  
13 campus, I recently saw students picketing and carrying placards  
14 saying, "I am a human being; do not fold, staple or mutilate."  
15 I can understand how they feel. I know that you, however, of all  
16 people, are determined as young people with your rugged sense  
17 of individualism not to be standardized, homogenized, or  
18 computerized. Take your stand now, because there is a lot  
19 working against you, and you will have to stand bravely.

20           I think you have learned from your own early experience  
21 a basic truth, and I am sure we have all learned it, that  
22 governments don't have ideas, and companies don't have ideas,  
23 and laboratories don't have ideas, universities don't have ideas.  
24 And contrary to the popular myth, computers don't have ideas,  
25 either. But people do have ideas, and not people in the mass,

1 but individual human beings. You know, before I ventured off  
2 into the field of political science and became one of these  
3 professors in political science -- I am a refugee from the  
4 classroom. I always like to recite that in the presence of any  
5 of these university people for the simple reason that elective  
6 politics is a precarious pursuit, and I like to keep my  
7 credentials alive -- before I went into the work of political  
8 science, as the son of a druggist, one who did his apprenticeship  
9 in pharmacy and then went on to study pharmacy, I remember that  
10 there was one word that always used to come up when we would be  
11 working in the laboratory, and we would be doing our laboratory  
12 experiments. That is what we called the "pill mass". Now, the  
13 only time I like the word "mass" is when it is applied to  
14 religion. I happen to like the word "individual". To me, when  
15 I hear about mass movements, or the masses, it is a way of  
16 degrading, to my thinking, the meaning of individualism. I  
17 know that many of your ideas as individuals have undoubtedly  
18 puzzled, and I am speaking now to our young people particularly,  
19 have undoubtedly irritated or even antagonized some of your fellow  
20 citizens. This happens in every generation. It is not a  
21 unique experience. It is just that the older generation forgets  
22 it. But don't let that worry you. It will happen again. As  
23 Ibsen said, "The most dangerous enemy to truth and freedom  
24 amongst us is the compact majority." He might very well have  
25 said the contented majority.

1           Now you have also learned that ideas don't come out  
2 of thin air, even when they may seem to. Louis Pasteur rightly  
3 said that chance favors only the prepared mind. This is another  
4 way of saying that you are not always lucky. You are generally  
5 lucky if you are ready for it. That preparation, being ready,  
6 is for scientists a long and a demanding discipline, and  
7 preparation in the broadest sense today includes not only a long  
8 and demanding discipline in our institutions of higher learning,  
9 but also elaborate and costly apparatus in our great laboratories.  
10 But all of this machinery, indeed all of this preparation is  
11 barren and fruitless without that kind of mind that can put it  
12 to use, the mind that can venture forth out of the safe harbor  
13 of the known into the oceans of truth, to use Isaac Newton's  
14 phrase, that lie all about us, unexplored and even unknown.

15           I think I should add here that one of the reasons that  
16 we have had such a great forward movement in his land of ours  
17 in the field of science and technology is of course programs and  
18 endeavors such as the one that we have here tonight in this  
19 Twenty-Sixth Annual Science Talent Search gathering. Another is  
20 that our government, your government, along with industry, has  
21 seen fit to invest generously in the fields of research and  
22 development, and indeed in basic science. I am one of those who  
23 believe that this investment in basic science, basic knowledge,  
24 basic learning, is what keeps the pools of knowledge always  
25 fresh. In recent days I have had the privilege of communicating

1 with some of our friends in other parts of the world about  
2 what we call the technology gap, not only between the United  
3 States and the industrialized nations and the developing nations,  
4 but between the United States and Western Europe. That  
5 technology gap is in a large measure due to this vast investment  
6 that we have made of resources and people in science and  
7 technology. It is due in a large measure to the quality of  
8 our education and to the structure of our educational system.  
9 It is just another way of saying that the best investments that  
10 this nation will ever make will be in education in the human  
11 beings, because the wealth of tomorrow is the wealth of intellect  
12 and the power of tomorrow is brain power, and when you put  
13 together brain power, intellect and a degree of ethics and  
14 morality, you can have a free society, the kind that is worthy  
15 of mankind.

16           Well, we know that we need minds that are willing to  
17 explore the unknowns, and minds of quality more than ever before.  
18 You know, it seems only yesterday that young people were  
19 complaining that the world was closing in upon them, that there  
20 were no new lands to discover, nothing really new to learn or  
21 to do. But within this generation this very world that we  
22 thought we knew so thoroughly, which seemed already so fully  
23 explored, has opened out in every direction, inward into the  
24 atom, downward to the bottom of the sea, upward beyond the sky  
25 and into space. In fact, we are even finding out a great deal

1 more about human beings as we develop behavioral science, as  
2 we understand with St. Augustine that of all of the wonders  
3 of the world, the most wondrous thing of all is man himself. We  
4 seek to explore that unknown as well.

5           Our good friend here this evening, and the gentleman  
6 who introduced me, Dr. Seaborg, has been one of the outstanding  
7 leaders in the task of harnessing the power that is locked up in  
8 the atom, and directing it to the construction of a better world,  
9 rather than the destruction of the one that we already have. As  
10 has been mentioned, for my part, I have had the privilege of  
11 some involvement with our efforts to explore the reaches of  
12 space and the depths of the oceans, and I am as excited about  
13 this assignment as a boy is about a new toy, because very day  
14 I learn something new. Oh, how sorry I feel for people who are  
15 so tired of learning. There is nothing that seems quite as  
16 distressing to me as a cynic. They have lost the reason for  
17 life. At least, if they have not lost the reason for it, they  
18 don't know what it is all about. What a joy it is to constantly  
19 be in a spirit of adventure, to be on a continuous experience  
20 of exploration.

21           Since becoming Vice President, and serving as Chairman  
22 of the National Aeronautics and Space Council, and last year  
23 becoming Chairman of the National Council on Marine Resources  
24 and Engineering Development, I have had my opportunity in a  
25 limited fashion to be associated with some of the work that many

1 of you in this room are doing tonight. You will note that  
2 every time the Congress gives the Vice President anything to  
3 do it is either out of this world or at the bottom of the ocean.  
4 I refuse to read anything into that. I think this is sheer  
5 coincidence, not based upon Presidential directives.

6           Within the past few days we have presented to the  
7 President our first Annual Report on Progress in Ocean Science  
8 and Technology. This afternoon, I spent better than two hours  
9 with the Director of our Council on this matter, Dr. Edward  
10 Wenck. This report records achievements like these, many of  
11 them rather simple, but nevertheless far-reaching.

12           First, the development of fish protein concentrate,  
13 odorless and tasteless, and oh, how important that is. It is  
14 estimated that half of the world's peoples, the people who  
15 live in the developing countries, suffer from diets deficient  
16 in protein. Half of the children die before the age of five.  
17 Many more incur life-long physical and mental impairment, and  
18 there is not much you can do to repair it once you have been  
19 afflicted by it. It is estimated that the addition of an  
20 appropriate quantity of this fish protein concentrate to the  
21 present diet of these poor souls could assure them normal  
22 physical and mental development, and at a cost of less than a  
23 penny a day. What a blessing.

24           Then our report shows that the investigation of  
25 underwater mineral resources, such as the pavements of manganese

1 off the coast of Florida, and the possible deposits of gold,  
2 silver and platinum and tin off the Pacific and Atlantic Coasts,  
3 are within our reach. Greater knowledge of the ways in which  
4 energy is transferred from the ocean to the atmosphere, offering  
5 us promise of better understanding of the ways in which  
6 hurricanes are born, and more accurate predictions of their  
7 course. The development of new equipment and methods to enable  
8 men to live and work for extended periods of time at the bottom  
9 of the sea. In addition, work on the development of economical  
10 means of desalting water continues, and these systems are already  
11 at work, as we know, on a limited scale, but I think we are  
12 almost at that moment of breakthrough. In time to come desalted  
13 water may serve to make many of the present areas of the world  
14 productive, and it just seems to be in the plan of God and man  
15 that those arid regions that have been unproductive for so long,  
16 when the blessing of sweet water is brought to them, will  
17 literally bloom. They will be the most fertile areas in the  
18 world. They have saved up the energy for production for centuries.

19           Looking further into the future, I can see the farming  
20 of the ocean for fish and other food products, large scale  
21 harnessing of the tides as a source of energy -- other countries  
22 are already doing this -- the commercial mining of the ocean  
23 floor, and even the control and possible prevention of hurricanes  
24 and other destructive ocean borne storms.

25           That is quite a picture for the future, and if we can

1 just realize a little of it, imagine what it will mean to  
2 better living, to the quality of our lives. Imagine what it  
3 will mean in terms of our economy.

4 Now, you all know of our spectacular accomplishments  
5 in space and those of the Soviet Union, as well, but I can see  
6 even greater accomplishments ahead. I think we are really at  
7 the primary stages. We are sort of at the stage where Columbus  
8 was in his earliest voyages. I see, for example, the  
9 establishment of permanent bases upon the moon, and the explora-  
10 tion of its surface, the development of a whole family of earth  
11 orbiting stations manned and supplied by regular ferry services,  
12 the building of spaceports where space ships will arrive and  
13 depart as airplanes do at airports, the launching of unmanned  
14 probes to every part of our solar system, and possibly manned  
15 expeditions as well. We will make that decision on the basis  
16 of which of the expeditions or probes seems to yield the  
17 greatest scientific information.

18 I have been asked by some of our younger friends in  
19 particular why spend all of this money, why this, and my one  
20 answer to most of them is simply this, that man has a natural  
21 inquisitiveness about him. "Why climb Mount Everest", someone  
22 was asked, and the answer came back, "Because it is there."  
23 There is no better reason in the world than that. Why probe  
24 space? Because it is there. But more importantly, the solar  
25 system, this part of the great universe, the cosmos, is our home,

1 our neighborhood. We are one of the inhabitants of that system,  
2 and surely we ought to know all about our neighborhood. We ought  
3 to know all about the environment that surrounds us, in which  
4 we live and develop and grow. I can imagine that a thousand  
5 years from now, when students look back into the recorded annals  
6 of this time in years to come, they will say, "Oh, what primitive  
7 people they were, how little they knew about the environment in  
8 which they lived."

9 But great as these accomplishments are, and as the  
10 future may be, I think the most significant thing of the space  
11 program is that it has enabled man, modern man, for the first  
12 time literally to view the world as one, just as one world, our  
13 one world. We have come to see the earth as a kind of Noah's Ark,  
14 hurtling through space, what we might call in my good friend,  
15 Barbara Ward's good phrase, Space Ship Earth. If we didn't know  
16 it before, we know it now; we are all on the same space ship.  
17 We are all here together, and no matter how much you may like  
18 to sing the song, you can't stop the world and get off. You  
19 just simply have to stay with it, and try to make it the kind  
20 of a place in which you would like to live.

21 Now, we are dependent upon the earth's great but  
22 relatively limited resources to support life on this earth, and  
23 if we abuse these resources, and we do, of land, air and water,  
24 we cannot turn to another earth and start all over again, at  
25 least in the foreseeable future. We can't be like the early

1 pioneers who destroyed the land, who bled its fertility, and  
2 then moved on to new land, in turn to put the plow to the soil,  
3 turn it, plant it and move on and on. We are regrettably  
4 compelled to stay with what we have here on this earth.

5           For most of history, man's impact on his environment  
6 has been limited and local, just as man's capabilities have been  
7 limited. But as his scientific and technological accomplishments  
8 have escalated, particularly in this century, so has his effect  
9 on his living space. It is no longer as the poet, Houseman, wrote,  
10 a world we never made. No, that is no longer true. More and more  
11 it is a world which for good or ill we are largely making  
12 ourselves. For instance, until recently smog was regarded as an  
13 affliction peculiar to Los Angeles, and it was the subject for  
14 East Coast gag writers. Now they are gagging on their own gags.  
15 If we are laughing at all, it is through our tears, for smog now  
16 afflicts most of our cities, and most of the airsheds of whole  
17 regions of our country, and it is bound to get worse. But I  
18 suppose in typical American fashion we will wait until it gets  
19 a little worse, and then we will spend three times as much as  
20 we ought to to do something about it, even though the warning  
21 has been made.

22           Until very recently the population of the earth was  
23 held in balance with its food resources, but now with lower  
24 death rates and higher birth rates, we are in the midst of what  
25 you know and call the famous population explosion. The experts

1 warn us that if the present trends continue, we will reach a  
2 point within this generation -- this generation -- when there  
3 will simply not be enough food for the family of man. That is  
4 within the next ten years. We can't put that one off. Half of  
5 the world, half of the developing countries will, unless there  
6 is a dramatic change for the better, face mass starvation at a  
7 time when man knows more about distribution, production than  
8 ever before in the history of mankind.

9           The development of nuclear technology has for the first  
10 time in human history placed in man's hands the virtual power to  
11 destroy all of civilization, and indeed all of mankind in one  
12 great Dr. Strangelove finale. About once a week I hear the  
13 report on that as Secretary McNamara reviews with us our  
14 defensive capabilities, and the offensive capabilities of the  
15 Soviet Union. Now, if it makes you feel any more secure tonight,  
16 let me let you in on the fact. We have enough weapons to destroy  
17 everybody two or three times, and they can reciprocate by  
18 catching us at least twice. When I see these charts, I become  
19 ill, because somehow or another they remind me of the madness of  
20 mankind, and yet also they remind me of the urgency of arms  
21 control, and of building international institutions that can  
22 replace violence and force as a way of settling disputes between  
23 peoples and nations.

24           Now, all of these three dangers, quite simple ones,  
25 by the way, and quite primitive, that we may choke ourselves to

1 death, starve to death or annihilate ourselves -- you know,  
2 you didn't have to get a Ph.D. degree to figure that out. They  
3 have been doing that since the time of the cavemen. But to  
4 choke ourselves to death, starve to death or annihilate ourselves,  
5 all of these are the unintended, unplanned side effects of  
6 rapidly accelerating scientific and technological progress.

7           But now does this mean that we should slow down or  
8 cut back on scientific and technological advances, and the answer  
9 is of course not. Even if we wanted to, I doubt that we could.  
10 We cannot lock up scientific truths, already revealed. There  
11 are some people who think that you can, but you really can't.  
12 Nor can we even hope to deter or discourage man's natural desire  
13 to learn more about himself and the world, and to put that  
14 knowledge to use. No, the solution is not to stop thinking.  
15 The solution is to think even harder, and more comprehensively.  
16 It is to think of the consequences of the things we do, as well  
17 as the things themselves. Indeed, here we can use to good  
18 effect the advanced techniques of systems analysis, which have  
19 been developed in our aerospace industry. They are designed to  
20 analyze thoroughly all of the elements of a given problem, and  
21 to determine which solution will yield the best overall results.  
22 I think that sort of thinking is what is needed. This means man  
23 treating this earth of his on which he lives as a single  
24 enclosed system, a sort of a space capsule of his own, just as  
25 the astronaut and his capsule are a single interacting system.

1 Oh, if we would only spend as much time trying to  
2 improve the environment of the earth as we do a space capsule.  
3 We just pour it into the space capsule. We are going to make  
4 sure that that little capsule in which two astronauts live is  
5 going to have a perfect environment, clean air, clean vision,  
6 reasonable degrees of at least safety and comfort. I am just  
7 pleading here tonight to my scientist friends, let us try to do  
8 the same thing where we are going to be, because most of us are  
9 not going to be in that capsule.

10 I will put it another way. If we can put a man on the  
11 moon, and we surely will, is it asking too much to design a  
12 bus that doesn't belch nauseous and poisonous fumes in our faces?  
13 Everybody knows that these fumes are poisonous, and everybody  
14 knows you don't need to have them. Yet we just go right on  
15 doing it anyway. But I can guarantee you that if that much  
16 poisonous gas was let out in the space capsule, there would be  
17 a headline in every newspaper in America for the next two weeks.  
18 One disaster is enough to shock us in that field, and we have  
19 had a tragic disaster. We have disasters on the streets of our  
20 cities every hour of the day, and we have scientific minds that  
21 can prevent those disasters just as surely as a doctor can take  
22 out your tonsils. But we really haven't made up our minds yet  
23 that we don't like those gaseous fumes. Some people have  
24 begun to confuse them with deodorants or perfumes.

25 Now, if we can act with the necessary urgency and

1 cooperation, as we have in many fields, we can surely help  
2 developing countries to devise means of producing much more  
3 of their own food, rather than becoming increasingly dependent  
4 upon the food resources of the advanced countries, resources  
5 which definitely are not unlimited. I must say to my good  
6 friends, as one who was one of the authors of the Food for Peace  
7 Act, I don't care how big a heart you have, and how kind you  
8 may be, or how much you may be filled with the spirit of love  
9 for fellow man, there just are not enough acres of ground in  
10 America to produce enough food for all the hungry people of the  
11 world, and I have at times wanted to see all of those acres  
12 opened to do that. So the next step is to help other people  
13 help themselves.

14 Now, if we can devise weapons capable of mass  
15 annihilation, surely we can devise international institutions  
16 capable of enabling nations large and small to live together in  
17 their natural diversity, and to work together for their mutual  
18 benefit. When I think of how much we have to spend on defense,  
19 and how little we spend on the United Nations, -- I don't mean  
20 just we, the United States, but I mean the world -- I sometimes  
21 wonder how far man has progressed, at least in terms of  
22 rationality and of reason, of ethics and morality.

23 So as scientists I advise you to ignore any and all  
24 advice to move with the herd, because sometimes the herd moves  
25 in the wrong direction, or to leap to the orders of bureaucrats

1 and politicians, or others that may be in command. You are  
2 precisely the people, and I speak now to these young brilliant  
3 minds, who must be aware of both the implications and the  
4 consequences of what you do, you are precisely the people who  
5 must be individuals and be concerned about individuals.

6           So use your critical faculties. Look to the world  
7 around you. See what this great God-given talent that you have  
8 developed can add to that world. -- Knowledge, technology, science,  
9 as stimulating as they are in themselves, are truly neutral in  
10 themselves. It just depends on what you want to do with  
11 knowledge, technology and science.

12           Now, the people of my generation have seen material  
13 progress unprecedented in the earth's history for its rapidity.  
14 Somebody told me the other day that the first computer is over  
15 here in the Smithsonian Institution, and it is only seventeen  
16 years old. John Glenn's space capsule is just six years old,  
17 and it is a museum piece. You know, it makes you feel kind of  
18 funny to be called a museum piece at age six, but there it is.  
19 The people of my generation have also seen how the very tools  
20 of progress, sometimes misdirected, have also harmed and  
21 destroyed man in his environment. It is the opportunity of this  
22 younger generation to insure that the world may never been  
23 subjected to the ultimate harm and destruction which lies within  
24 man's capacity.

25           I have great faith in that generation. I have seen

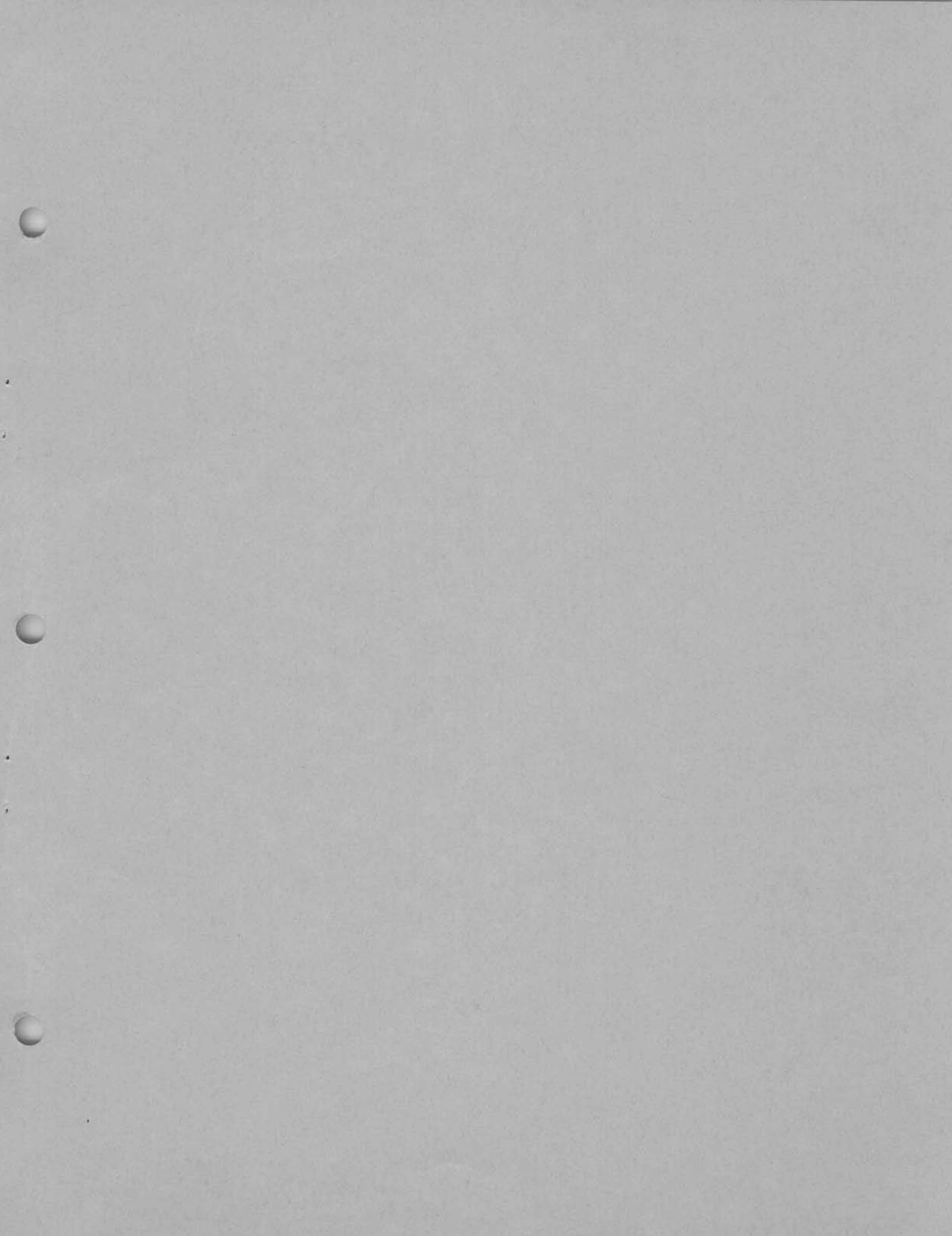
1 you in the classroom and in the laboratory. Prior to coming  
2 here tonight I met with a thousand of you at another institution  
3 of learning. I have seen many of you marching down dusty  
4 roads, standing strong and brave against injustice, prejudice,  
5 and intolerance. I have seen you helping strangers in alien  
6 lands in the Peace Corps. I have seen you helping children in  
7 the ghetto streets of our great cities. So I have reason to  
8 have faith in what I like to call the volunteer generation.

9 I might add that our generals tell us that there has  
10 never been a finer generation of soldiers than this generation.  
11 Oh, how I wish the story of this generation could be told in  
12 perspective. How I wish that those who are responsible for  
13 conveying information and news to the peoples of America and  
14 the world could tell the story of this, the brightest, and I  
15 happen to think the most socially conscious and dedicated  
16 generation in our history, this generation of young Americans.

17 "O, brave new world," Shakespeare wrote, "that has  
18 such people in it." And this is a brave new world, and these  
19 young people are in it. This is indeed a new world, as new  
20 as the world in which the great Elizabethan sea captains  
21 ventured on their voyages of discovery. I have the feeling that  
22 we are in the presence of some young men and women tonight who  
23 are on their voyage of discovery. What they will find and  
24 what they will discover only time can tell, but I know that  
25 they will do their best to make this land of ours free and bright

1 and to keep it that way. That is why I wanted to come here  
2 tonight to share in this rare privilege of having these winners,  
3 these champions of intellect and of dedication and individualism  
4 to share in the privilege of saluting them, and complimenting  
5 them on behalf of a government, a free government, on behalf  
6 of a nation that Abraham Lincoln called the last best hope on  
7 earth. You see, I happen to think Lincoln was right. Thank you.

8  
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11 END  
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