

Cold-Read Task

Read the excerpt from President John F. Kennedy's speech on September 12, 1962, at the football stadium of Rice University in Houston, Texas. Then answer the questions.

"Address on the Nation's Space Effort"

President John F. Kennedy

1. The exploration of space will go ahead, whether we join in it or not, and it is one of the great adventures of all time, and no nation which expects to be the leader of other nations can expect to stay behind in this race for space.
2. Those who came before us made certain that this country rode the first waves of the Industrial Revolution, the first waves of modern invention, and the first wave of nuclear power, and this generation does not intend to founder in the backwash of the coming age of space. We mean to be a part of it—we mean to lead it. For the eyes of the world now look into space, to the moon and to the planets beyond, and we have vowed that we shall not see it governed by a hostile flag of conquest, but by a banner of freedom and peace. We have vowed that we shall not see space filled with weapons of mass destruction, but with instruments of knowledge and understanding.
3. But why, some say? Why choose this as our goal? And they may well ask why climb the highest mountain? Why, 35 years ago, fly the Atlantic?[1]
4. We choose to go to the moon. We choose to go to the moon in this decade, not because it is easy, but because that goal will serve to organize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one which we intend to win.
5. It is for these reasons that I regard the decision last year to shift our efforts in space from low to high gear as among the most important decisions that will be made during my incumbency in the office of the Presidency.
6. In the last 24 hours we have seen facilities now being created for the greatest and most complex exploration in man's history. We have felt the ground shake and the air shattered by the testing of a Saturn C1 booster rocket, many times as powerful as the Atlas which launched John Glenn,[2] generating power equivalent to 10,000 automobiles with their accelerators on the floor. We have seen the site where five F1 rocket engines, each one as powerful as all eight engines of the Saturn combined, will be clustered together to make the advanced Saturn missile, assembled in a new building to be built at Cape Canaveral[3] as tall as a 48-story structure, as wide as a city block, and as long as two lengths of this field.

7. Within these last 19 months at least 45 satellites have circled the Earth. Some 40 of them were made in the United States of America and they were far more sophisticated and supplied far more knowledge to the people of the world than those of the Soviet Union.
8. The Mariner spacecraft now on its way to Venus is the most intricate instrument in the history of space science. The accuracy of that shot is comparable to firing a missile from Cape Canaveral and dropping it in this stadium between the 40yard lines.
9. Transit satellites are helping our ships at sea to steer a safer course. Tiros satellites [4] have given us unprecedented warnings of hurricanes and storms, and will do the same for forest fires and icebergs.
10. The growth of our science and education will be enriched by new knowledge of our universe and environment, by new techniques of learning and mapping and observation, by new tools and computers for industry, medicine, the home, as well as the school. Technical institutions, such as Rice,[5] will reap the harvest of these gains.
11. And finally, the space effort itself, while still in its infancy, has already created a great number of new companies, and tens of thousands of new jobs. Space and related industries are generating new demands in investment and skilled personnel, and this city and this state, and this region, will share greatly in this growth. What was once the furthest outpost on the old frontier of the West will be the furthest outpost on the new frontier of science and space. Houston, your city of Houston, with its Manned Spacecraft Center, will become the heart of a large scientific and engineering community. During the next five years the National Aeronautics and Space Administration expects to double the number of scientists and engineers in this area, to increase its outlays for salaries and expenses to \$60 million a year; to invest some \$200 million in plant and laboratory facilities; and to direct or contract for new space efforts over \$1 billion from this center in this city.
12. To be sure, all this costs us all a good deal of money. This year's space budget is three times what it was in January 1961, and it is greater than the space budget of the previous eight years combined. That budget now stands at \$5,400 million a year—a staggering sum, though somewhat less than we pay for cigarettes and cigars every year. Space expenditures will soon rise some more, from 40 cents per person per week to more than 50 cents a week for every man, woman, and child in the United States, for we have given this program a high national priority—even though I realize that this is in some measure an act of faith and vision, for we do not now know what benefits await us. But if I were to say, my fellow citizens, that we shall send to the moon, 240,000 miles away from the control station in Houston, a giant rocket more than 300 feet tall, the length of this football field, made of new metal alloys, some of which have not yet been invented, capable of standing heat and stresses several times more than have ever been experienced, fitted together with a precision better than the finest watch, carrying all the equipment needed for propulsion, guidance, control, communications, food and survival, on an untried mission, to

an unknown celestial body, and then return it safely to Earth, re entering the atmosphere at speeds of over 25,000 miles per hour, causing heat about half that of the temperature of the sun—almost as hot as it is here today—and do all this, and do it right, and do it first before this decade is out—then we must be bold.

13. Many years ago the great British explorer George Mallory, who was to die on Mount Everest, was asked why did he want to climb it. He said, “Because it is there.”
14. Well, space is there, and we’re going to climb it, and the moon and the planets are there, and new hopes for knowledge and peace are there. And, therefore, as we set sail we ask God’s blessing on the most hazardous and dangerous and greatest adventure on which man has ever embarked.

Footnotes:

- 1) Charles Lindbergh made the first solo nonstop flight from New York to Paris in 1927.
- 2) the first American to orbit Earth, on a flight launched February 20, 1962
- 3) a launch site in Florida
- 4) a series of weather satellites launched by NASA beginning in 1960
- 5) the university in Houston where the President was speaking