Satellites, Rockets, Missiles: 
Their Meaning for Education

The inquiring mind is democratic man's best defense against 
the forces of cruelty and coercion.

SATELLITES, rockets and missiles have more meaning for American 
education than either one person or a 
group can explore in a single article. As 
Robert Frost once said, "There is no time 
when I talk or when you talk that we 
ought not to introduce ourselves with 
the expression, 'I make bold to say.'" 1

So, following Frost's advice, I make 
bold to say that recently dramatized ad-
vances into space present American edu-
cation with new evidence that it must 
renew and expand its efforts to teach 
students to strengthen, deepen and 
broaden their questing. Graduates of our 
schools, more than ever before, should 
learn to seek new answers to both old 
and new problems, to "do their damned-
est with their minds, no holds barred."

The Questing Intellect

The questing spirit, the curious intel-
lect, the inquiring mind, label it how you 
will, is among man's most precious at-
tributes, distinguishing him from the 
animals and setting him just below the 
gods. With it, he has produced both the 
giant machines and the intricate satel-
lites which they carry into space. But 
what else has he produced at the same 
time? As orbiting satellites become 
larger and larger, as space platforms and 
space ships are manufactured and prop-
elled into their orbits, what will they 
take with them? Will they draw more 
and more of man's resources, material 
and intellectual, into their orbits? Will 
the demands and challenges of science 
so overpower art, literature and social 
sciences that man will lose his humane-
ness? If schools, misled by federal funds, 
divert undue proportions of their efforts 
toward the production of scientists, and 
so limit questing students to a few nar-
row experiences, may not man tend to 
lose many of his most lovable and lov-
ing qualities?

Questing students, as they develop, 
need experience in a variety of areas so 
that they may eventually select the most 
intriguing problems for a lifetime of 
activity. Some of the experiences of all 
students will be in science and mathe-
matics, but awareness of need here should 
not lead schools to forget that each stu-
dent deserves the opportunity to explore 
new relationships in the arts, the human-
ities, and the social sciences.

Freedom to provide opportunities for 
questing minds to investigate all that 
exists or takes place must extend 
throughout society, especially in the 
schools, if students are to learn to think 
to the best of their ability. Extending and

1 Robert Frost. A Talk to Students. Com-
mencement Address at Sarah Lawrence College, 
June 7, 1956. Distributed by the Fund for the 
Republic. Quoted by permission of Robert Frost.
prolonging freedom to be curious is as important to science as to the advance-
ment of other fields of knowledge. Years ago, George Stoddard said, “The free-
dom the scientist demands in order to be productive and original is no inalienable
right, for the simple reason that it cannot stand alone.”

Scientists are, perhaps, even more aware than are educators of the dangers
of either limiting the areas about which man can inquire or of inducing men to
inquire about only a few areas by rewarding scientific studies in such areas
so munificently. Their concerns, and ours, are shared by few politicians and
few of the military. And public policy seems more likely to be shaped by Con-
gress and the Pentagon than by scientists and educators. The strange idea of rais-
ing a generation of captive scientists who may devote their lives to producing
satellites, rockets and missiles apparently does not appear strange to those who
now have the power to decide.

Slavery, even when produced by the silken bonds of perquisites, prestige and
cash, is an ancient attribute of barbarism. Our culture, like all cultures which
maintain military forces, includes strong barbaric elements. Democratic civiliza-
tion, in which man is free to realize his fullest potentialities, and barbarism, in
which man preys on man in the struggle for survival, are found side by side in
the world today. But conflict between these opposing ways of life is inevitable; they
cannot develop along parallel lines indefinitely. In the past barbarism has
eventually arrested the development of civilization and ultimately destroyed it.

Egypt, Assyria, Sumeria, Greece, Carthage, Rome—all have fallen before the
strength of the barbaric forces which

they embraced, which were indeed part
of the structure of their civilization.

Today, we cultivate many forms of bar-
barism, to protect our existence: armies,
guided missiles, nerve gases, hydrogen
bombs, and captive scientists. The mis-
sile which carried Sputnik to the heights
symbolizes the extent to which barba-
rism is already overtaking civilization.

And what remedies are proposed?
“The countermeasure,” as George Stod-
dard stated in the speech from which I
quoted earlier, “is in itself monstrous—a
life underground. Man is driven into the
caves from which he emerged only a few
thousand years ago, and he no longer
feels at home there.”

Man’s Victory

If the forces of barbarism continue to
strengthen, as has occurred in all pre-
vious eras and all previous civilizations,
the cost in carnage and waste can be
beyond calculation. The holocaust of thermonuclear war, carried on by inter-
continental missiles which strike without warning, will produce a desolate world.
The Dark Ages of the future, if war
comes, will make the Dark Ages of the
past seem like a pleasant interlude.

The current press carries some stories
which indicate increasing fear of war
among men in every nation. Even our
adversaries in the communist world seem
aware that they would lose far more than
they would gain, should armed conflict
arise. True, with typical casuistry, they
argue that killing with one kind of
weapon is better than killing with some
other kind. As a matter of fact, once man
has decided to kill man, there are no sub-
sequent moral issues in respect to killing.

3 Ibid., p. 27.

WILLARD B. SPALDING is chairman,
Division of Education, Portland State
College, Portland, Oregon.
Pounding his skull with a club, shooting him with an arrow, piercing him with a sword, smothering him with gas, burning him with a flame thrower, shattering him with a shell, disintegrating him with a hydrogen bomb—all are equally evil. American education, if it is to continue to produce questing minds, must also continue to help man learn to live with man. No more challenging problem confronts us than learning how to become safe from each other.

But, if questing minds are turned away from such great problems, either by restriction or seduction, the chances of the survival of our civilization are lessened. Here, with our great traditions of freedom, we must continue to oppose both restriction and seduction, whether in science or elsewhere. We must continue to strive for more and more free inquiry into more and more areas of human activity. As we do this, and as we teach the young to continue to expand both freedom of inquiry and the activities of questing minds we can again set an example for others to follow. A nation in which people have learned how to seek answers to their problems and in which seeking is freely done can provide the vision of a brave new world of peace.

And, with peace at hand, there will still be great problems to be solved before man has conquered himself. “A victory of man over himself will not be won easily, and perhaps not at all. There are divisive forces within families, cities, and nations almost as ruinous as international conflict. The dead may not be piled so high, but the psychologically wounded are innumerable. The world of phantasy reaches out; the means of escape are everywhere at hand. With the coming of peace we shall concentrate upon the appalling ravages of alcoholism, disease, drug addiction, delinquency, crime, neurosis and psychosis. We shall seek again the underlying causes of unhappiness, cruelty and aggression. We shall seek not alone antidotes but the positive means of growth and refreshment.”

Here are enough complex problems to take up all of the efforts of all of the inquiring minds that the schools can produce. Without these minds, they will remain unsolved for far longer than necessary. With these minds, solutions will come soon enough to enhance man’s life in the reasonably near future.

The great challenge to American education in the years of satellites, rockets and missiles, the years which lie immediately before us, is to develop students who will want to know and who will seek knowledge wherever it is to be found, students who will say, as Robert Frost said, “I would rather think, have an idea myself, than have it given to me. . . . But the main thing is to think of it first myself.”

* Ibid., p. 32-33.
* Robert Frost, op. cit.
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