Strategic Defense Initiative: The Next Step

It is widely believed that the rapid development of weapons of mass destruction is the main danger humanity confronts. An extreme consequence of this belief is that new scientific knowledge is considered dangerous and must be limited.

I strongly believe that the main danger lies in human intentions and not in the ability to bring about mass destruction. An important example is the history of the wars of Genghis Khan—in particular, the destruction of Persia by the Mongols. More than half the population of the defeated country was killed, and Persia, the present-day Iran, has never recovered its great historic importance.

I believe that the most important part of the present danger is due to the situation that the world has become smaller and more interactive, and catastrophes may occur with unprecedented rapidity.

The United States, which is losing the remnants of its isolation, is a particularly important component in this change. The technical cause of this change lies primarily in the development and worldwide proliferation of missiles. They may carry weapons of mass destruction such as nuclear explosives or poisons (chemical or biological), but even if they carry no more than high explosives, they are already a terrible and sudden danger to stability.

My attempts to do something about this situation go back to the visit of Ronald Reagan, freshly elected governor of California, to the Livermore Laboratory. Reagan listened with an active interest to receive novel information of our attempts (in 1967) at missile defense. He asked a few relevant questions and then left without stating clearly whether and to what extent he agreed.

That answer came in 1983 when Reagan gave a remarkable after-dinner speech to a mixed audience of which I was a part. With a delay of sixteen years, he unambiguously stated that missile defense was possible, necessary, and urgent. In that regard, he gave the Livermore initiative his full support. But how to do it? Reagan suggested that defense, if ever possible, should not utilize nuclear explosives.

In this new situation, my good friend, Lowell Wood, took the strong initiative of advocating first x-ray lasers and later "Brilliant Pebbles." The latter (and final) proposal consisted in destroying the attacking missile by a direct collision with a small guided defensive object. The defensive object should actually be a satellite already in orbit. Lowell and others in our Laboratory continued to develop this concept. Having helped and supported this effort, I am convinced that it is realistic particularly with the continuing great advancement in computing capability. An important part of the development was and remains the specification that the aggressive missile should be destroyed soon after it has been launched. This necessitates continuing surveillance of our globe by satellites and an international understanding that unannounced missiles or missiles in unannounced orbits should be promptly destroyed. This, in turn, would make safety from rapid attack a worldwide benefit.

Such an effect has been strongly supported by Presidents Reagan and Bush. Unfortunately, efforts toward missile defense continue at present mostly in connection with defending our armed forces on their missions abroad. The American people (together with all other people in the world) should have such a defense that, indeed, necessitates defensive measures against dangerous launches even before it is obvious who will be attacked. We give priority to the defense of our armed forces, whose needs as an organization must obviously be satisfied. Unfortunately, the need to defend our homeland may, in political practice, be deemphasized by denying the possibility or, at any rate, the urgency of such a defense.

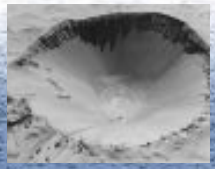
What has been stated here does not describe my only technical activity nor the only strongly needed technical-military development. It appears to me that it stands out as a matter that has been in the public eye for a couple of decades and where there seems to be a necessity for change in emphasis in the immediate future.

— Edward Teller, May 1998

Resigns as Livermore Laboratory Director; continues as Associate Director; assumes position of Professor-of-Physics-at-Large with U. of California.

1960

First Polaris system tests, far ahead of schedule; first Polaris submarine goes to sea.



Moratorium on nuclear testing ends with U.S.S.R. resumption of testing.

Receives AEC's Enrico Fermi Award for "contributions to chemical and nuclear physics . . . leadership in thermonuclear research . . . efforts to strengthen national security."

1962