

## The myths of Edward Teller

*As both so called superpowers continue to behave as though there were some meaning to the enormous and increasing arsenals of genocidal nuclear destruction which are being substituted for arms control arrangements on the grounds that the road to negotiation needs to be paved with the proofs of belligerent intentions it is essential for concerned and thinking individuals to pause and reconsider the entire basis on which present day U S Soviet nuclear deterrence is founded. Although the confrontational atmosphere created by the Reagan Administration may not be the most conducive to thoughtful and rational analysis it does provide for the effective operation of the U S*

*democratic system. In particular the American public needs to decide whether our ideological differences with the Soviets demand a willingness on our part to threaten nuclear war to force them to accept our rules of behavior. If not we have got to start to explore the alternative approaches to co existence.*

*One of the foremost advocates of the confrontational approach is the distinguished nuclear scientist (popularly though inaccurately known as the father of the hydrogen bomb) Edward Teller. In a recent article in Reader's Digest Teller has attempted to expose six myths that are inhibiting the essential U S military response to Soviet aggression. In examining Teller's statement of these*

*myths I have been led to the conclusion that he has despite his intention concisely succeeded in outlining the major issues that must be faced if we are to avoid a nuclear disaster. Far from being myths the issues confronted by Teller turn out to be aspects of a new examination of U S policies in the age of nuclear parity.*

*When it comes to mythology concerning nuclear war it is clear that the American public is well along the route toward demythification. The same cannot be said I'm afraid for many of our weaponeers who still seem to be living in the halcyon (but short lived) days of the U S nuclear monopoly — BERNARD T. FELD*

In the November 1982 issue of *Reader's Digest* Edward Teller attacks what he describes as six dangerous myths about nuclear arms. Teller states in the concluding paragraph of his article that "Our first step toward stability toward improving the prospects for peace and for the security of all people must be the replacement of myths with knowledge. Unfortunately however the primary focus of Teller's article is not on raising the level of the public debate about the nuclear arms race but on peddling his own myths.

Teller's myths about the nuclear arms race can be roughly summarized as follows:

**1 The Soviets have strategic superiority**

**2 The U S nuclear deterrent has become doubtful**

**3 The effects of nuclear war could be easily mitigated**

**4 Soviet civil defense could be highly effective**

**5 Defensive nuclear weapons could protect us**

**6 You can't negotiate with the Soviets**

Since these myths are widely believed within the Reagan Administration and have been popularized by influential groups such as the Committee for the Present Danger as well as by Teller [1] arguments put forward in support of them are well worth examining. For each of Teller's myths the relevant passages from the *Reader's Digest* article are quoted in italics below and it is then explained why the passages are misleading or false.

**1 The Soviets have strategic superiority**

*Between 1966 and 1981 the total megatonnage of the American nu-*

*clear arsenal was reduced to less than one half its former size. The Soviet arsenal has rapidly increased in yield and diversity during the same period and currently includes a total nuclear explosive power in excess of what the United States ever had. (Emphasis in original)*

Because several bombs can accomplish more destruction than a single bomb with the same total yield, total megatonnage is not a very useful measure of the total destructive power of a nuclear arsenal. The ordinary measure of destructiveness against large targets such as cities is equivalent megatonnage. By this measure the U S arsenal is only about two thirds as powerful as that of the Soviet Union [2]. The difference is unimportant however since both the U S and Soviet strategic arsenals are far into the region of 'overkill' for such tar-

gets The U S arsenal for example has today in aggregate about 10 times the destructive power which would suffice according to conservative 1968 Department of Defense calculations to destroy one third of the Soviet population and three quarters of its industrial capacity (400 equivalent megatons) [3]

The decline in the megatonnage of the U S strategic arsenal between 1966 and 1981 did not occur because of attrition or neglect It was a by product of repeated cycles of modernization Perhaps the most important change has been the replacement of most of the U S ballistic missiles which carried a single warhead by missiles with accurate multiple warheads The effective megatonnage of these missiles has not changed greatly but the number of military targets they could attack has been increased severalfold The equivalent megatonnage carried by U S heavy bombers has declined as older bombers have been retired and the typical payload of those remaining has been changed from a few multi megaton bombs to a mix of a larger number of lower yield bombs short range attack missiles and air launched cruise missiles

Currently the United States has about 7 000 warheads mounted on missiles plus a modernized bomber fleet which by itself carries about 2 000 warheads The average equivalent megatonnage of U S strategic warheads is still about seven times that of the bomb that destroyed Hiroshima [2]

*The Soviets have built the most powerful single weapons ever constructed Militarily such weapons have very limited value but as a blackmail threat against free world cities they seem to be quite effective*

The Soviets are believed to have 50

## Dangerous Myths About Nuclear Arms

By EDWARD TELLER

Educating people about the nature and actual perils of nuclear weapons would not be easy under any circumstances It is almost impossible when elementary facts are guarded by strict regulations of secrecy Given such conditions dangerous myths develop and proliferate

The reality of nuclear weapons is grim enough Exaggerations about them are apt only to paralyze us Some of the current myths have grown from misinterpreted scientific studies others seem to be based on simple wishful thinking They all have one common characteristic so long as they are believed, they obstruct an accurate assessment of our problems and will prevent the development of workable plans to preserve peace

**M**yth 1 *The Soviet and American nuclear stockpiles are close to identical A nuclear freeze would stop the arms race and offer improved mutual protection*

Neither the United States nor the Soviet Union publishes information on its current arsenals and secrecy laws prevent me from discussing even the available estimates There is, however, an officially released fact between 1966 and 1981 the total megatonnage of the American nuclear arsenal was

DR EDWARD TELLER physicist was instrumental in the development of the H bomb and is currently a Senior Research Fellow at the Hoover Institution at Stanford University

reduced to less than one half its former size The Soviet arsenal has rapidly increased in yield, accuracy and diversity during the same period and currently includes a total nuclear explosive power in excess of what the United States ever had

The Soviets have built the most powerful single weapons ever constructed Militarily such weapons have very limited value but as a blackmail threat against free world cities, they seem to be quite effective Weapons of such immense size are the most likely to cause damage to the earth's ozone layer (which acts as a shield against lethal amounts of ultraviolet radiation)

139

Reprinted with permission from *Reader's Digest* © 1982

Copyright of Bulletin of the Atomic Scientists is the property of Educational Foundation for Nuclear Science and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.