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## Malenkov's Claim Is Warning To U. S.

By Joseph Alsop

GEORGE MALENKOV has told the world that "the United States no longer has a monopoly of the hydrogen bomb." The first question is whether Malenkov was telling the truth. The answer is conditional. If he was lying, he is a bigger fool than he looks.

The earlier tests of Soviet atomic bombs—the first in September, 1949, and the second and third in October, 1952—were first announced here in Washington and only confirmed in Moscow. The Washington announcements were possible because of the American long-range detection project, first established in 1948 at the behest of the present chairman of the Atomic Energy Commission, Admiral Lewis Strauss.

The principle, if not the practice, of long-range detection is fairly simple. The famous bomb-clouds of the weapons of total destruction rapidly ascend into the upper air, and circle the earth in the stratospheric winds. The powerfully radioactive particles that the clouds contain can be detected by Geiger counters. Air samples, taken by patrol planes, tell much about the bombs that produced the clouds. Even the scene of the explosions can be located, by seismographic and other evidence.

It is almost inconceivable that the explosion of a Soviet hydrogen bomb has escaped this system of long-range detection. Atomic explosions can in theory be concealed if the bomb is detonated underground—in a mine, for example. But the essential component of a hydrogen bomb, the very heavy hydrogen, tritium, is a volatile gas which would escape into the air somehow. A method for detecting the most minute quantities of tritium in the atmosphere has already been published by Dr. W. F. Libby of Chicago University. Thus concealment seems out of the question.

On the other hand, the radioactive cloud takes some days to circle the earth. Analysis of the data produced by long-range detection takes a much longer time—probably two weeks or more. In short, we ought to know whether Malenkov was lying before very long, but our Government may not know now.

SINCE long-range detection is also understood by the Soviets, it has to be assumed for the present that Malenkov was not lying. The next question, therefore, is whether his news is as serious as it looks. Here the answer is again conditional. Unless past American Government estimates of the scale and speed of Soviet atomic development have been ludicrously wrong, Malenkov's news is deadly serious, certainly; but it does not justify despair.

Here, again, tritium is the key to the problem. The chief limiting factor on an atomic program is the incredibly costly, massive and time-consuming process of uranium separation. How many atomic bombs you have is ultimately determined by how fast you can separate fissionable uranium-235 from the far more common isotope, inert uranium-238. By the same token, the chief limiting factor on a hydrogen bomb program is the need for the very heavy hydrogen, tritium. How many hydrogen bombs you have is determined by your supply of tritium, which plays the part in a hydrogen bomb of the paper and kindling in a dampish log fire.

THE FACT remains, however, that inordinately heavy sacrifices have to be made to get the tritium for a hydrogen bomb. You may gain one hydrogen bomb with the power of two megatons, of 2,000,000 tons of TNT. But by using your reactors to produce tritium instead of plutonium, you will lose a larger number of atomic bombs with a much greater explosive power. Very crudely and appropriately, one hydrogen bomb of two megatons, might cause the loss of 100 plutonium bombs with a total power of ten megatons, or 10,000,000 tons of TNT.

This is a poor exchange at best; for a big atomic bomb is quite big enough to destroy all but a very small number of targets. A nation like the United States, which already has an ample atomic stockpile, can afford to make this exchange of large numbers of atomic bombs for one hydrogen bomb. But a nation whose atomic stockpile is not ample already, will be distinctly short-sighted to make this exchange.

If our intelligence has not ridiculously underrated the speed of Soviet atomic build-up, the immediate effect of this first Soviet bomb may not be wholly unfavorable to this country. It will allow the Kremlin to boast about its new terror weapon, but it may also delay the over-all Soviet atomic build-up. The "if" above is a very big one; and the problem needs further exploration.

Meanwhile, there is no escaping one point. Malenkov's hydrogen bomb is the final warning. Whatever else it means, it most certainly means that we can no longer be complacent about Soviet air-atomic power. And if we abandon this suicidal complacency, if we face the hard facts of our national situation, the next phase will be a drastic change of national policy.