

I. F. Stone's Weekly

VOL. X, NO. 29

JULY 23, 1962



WASHINGTON, D. C.

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Superstrong—But Too Weak to Stop Testing

As the Geneva disarmament conference reopened and the Moscow Peace Congress closed, this is how the situation seemed to stack up. When the U.S. talks of its military power, it claims intelligence so precise that it can pinpoint and blast out Russia's hidden missile bases. But when it comes to the question of a treaty banning further nuclear tests, the U.S. claims its intelligence apparatus is so poor, it couldn't be sure the Russians weren't cheating unless it had listening posts on Soviet territory and the right of on-site inspection.

On the other hand, the Russians, when talking of their military power, claim to have the world's most advanced weapons. As Mr. Khrushchev told the Peace Congress, engagingly, "let's be frank about it—we have the most perfect of weapons that no other power possesses." But when it comes to a cessation of nuclear testing, Mr. Khrushchev claims—as he told the editors—that the Soviets can "come abreast of the United States . . . only if it carries out its own tests, after the current series of American tests."

A Dandy Little Armament Salesman

If Mr. Khrushchev is right, it is the U.S. which needs more testing to catch up. He told the editors, "I am not boasting but we actually have a global rocket which cannot be destroyed by any rocket weapon." He claims to have an anti-missile and he told the Peace Congress, "The ruling groups of the United States, who do not have the same powerful military weapons, have no reason at all to say that the balance of strength has changed in their favor." These modest declarations, neatly printed and sent around in this country, would make a most effective sales brochure for higher U.S. armament appropriations.

On the other hand, if Mr. McNamara is right in his campaign for a counter-force strategy, then world stability is endangered not by Russian secrecy but by lack of it. If we know as much as we claim to know of what's going on behind the suddenly sievelike Iron Curtain, then it would be to everybody's advantage if Russia were subjected to less inspection not to more. The temptation of an American first strike would be removed if we knew less about where Russia's missile bases were.

These contradictory pronouncements by the two big powers do not provide the most entrancing overture for the reopening of the Geneva talks. Neither do the two main lines of argument being put forward in this country for an intensified arms race. One is that by stepping up the race, we will force the Russians to say "uncle" and agree to our terms. The other is that by stepping up the arms race, we can continue in a position to smash the Russian missile bases but prevent them from retaliating against our cities. We reported, quite wrongly

Triumph of Socialism in Military Science

Thermonuclear war seems to be getting safer all the time. We had barely finished digesting the reassuring implications of counter-force strategy, when this came over the UPI ticker:

Moscow, July 17—Premier Nikita Khrushchev is now claiming that Russia has an anti-missile so accurate that it 'hits a fly in outer space.'

Only yesterday McNamara announced proudly that we wouldn't hit cities. Now it seems the Russians can already go us one better and announce that they'll only hit flies.

it seems last week, that Mr. Kennedy and Mr. McNamara were backing away from this counter-force strategy. On the contrary the latter has been calling in reporters for briefings aimed to sell the idea and answer criticism.

The answers are not reassuring. Mr. McNamara told Marquis Childs (*Washington Post*, July 13) that he was "surprised" that anyone could read a first strike implication in his Ann Arbor speech. He regards counter-force as a defensive strategy and believes nobody could win a nuclear war. But "he knows" also, as Mr. Childs reported, "that there are those in the Pentagon—some in high position—who disagree and feel that a nuclear war could be won." This is not calculated to convince the Russians this is a good time to reduce their armament.

The Pipe-Dream of A Pax Americana

It is difficult to believe that Mr. McNamara can be as intelligent as he has shown himself to be and still as naive as he would like us to think he is. Another of the reporters briefed by Mr. McNamara provided a clue to the real strategy. He is Richard Fryklund of the *Washington Star* who was used by the Air Force to launch this spare-the-cities nonsense a year ago. In Mr. Fryklund's article, as published by his paper July 16, he showed the Russians how easily they could avoid the fear we might use our overwhelming counter-force for a first strike. "The Kremlin," Mr. Fryklund wrote, "could insure the safety of the Soviet block simply by refraining from provoking the United States." This is, indeed, how the Air Force and its military intellectuals see counter-force, as a means of frightening an adversary. All Mr. Khrushchev has to do to be safe is to accept a Pax Americana, Henry Luce's American Century. Until we awaken from this pipe-dream, disarmament conferences will remain gamesmanship.

There are several things wrong with this policy of perpetual arms race in the hope of some day achieving surrender to U.S.

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Famous Physicist in Address Press Ignored Says Iodine-131 Getting Dangerously High

Dr. Ralph Lapp Recommends Closing of Nevada Nuclear Testing Grounds

By Dr. Ralph E. Lapp *

With the resumption of atmospheric testing at the AEC's Nevada Proving Grounds, it is timely to consider the fallout hazards from continental nuclear bursts. The problem of fallout from Nevada tests focuses upon local and tropospheric deposition of radioactive debris in which short-lived radioactivities are of principal concern. Of these iodine-131 has received relatively little attention especially as it relates to contamination of the milk supply.

So much attention has focused on strontium-90 and cesium-137, the longer-lived components of fallout, that research on iodine-131 has been slighted. We know how much iodine-131 is formed in the bomb (a nuclear explosion of 1 kiloton yield produces 100,000 curies of iodine-131), but little is known about the fractionation of this nuclide in local and tropospheric fallout.

Maximum Risk to Infants

In assessing the iodine-131 hazard, it is clear that the maximum risk involves the infant thyroid. The radiation dosage of the developing thyroid in the late foetal period would seem to be significant especially because of the criticality of this gland, its high radioactivity and its high specific content.

The British have set up 130 uuc/liter as the acceptable limit for continuous contamination of milk by iodine-131. This corresponds to about 1 rad dose to the thyroid over a period of one year. Milk containing 1,000 uuc/liter would produce an irradiation of about 7 rad to the thyroid if the rate of consumption is one liter per day.**

Farmers and milk processors must be worried about the prospect that their product may be subject to interdiction in the event of severe iodine-131 contamination. This has not occurred as yet in the U.S. partly because the radioiodine fallout measured in the past year has originated in remote tests, namely in the Pacific or in the Soviet Union. However, with the resumption of tests in Nevada, it is necessary to take a closer look at radioiodine.

There have been a number of tropospheric fallouts from Nevada tests in the past which may serve to give an index of the radio-iodine hazard. An example, I cite the fallout from Shot 7, Test SIMON of the UPSHOT-KNOTHOLE series, which took place on April 25, 1953. On April 26, 18 hours after the shot, an unusually severe thunderstorm took place over the Troy-Albany-Schenectady area some 2,300 miles east of the Nevada test site, one of the worst flash storms in years. Dr. Herbert M. Clark of Rensselaer Polytechnic Institute at Troy discovered a marked increase in radioactivity on the campus grounds and proceeded to make measurements.

I estimate that from 2 to 4 curies of iodine-131 per square mile were deposited in the Troy area. This means that milk collected from cows feeding exclusively on fresh pasture contaminated to this level would produce milk exhibiting an

*Abridged from an address at Utah State University, Logan, Utah, July 10, which was almost entirely ignored by the press. Dr. Lapp is the author of many well-known books on fallout and nuclear weapons; his latest "Kill and Overkill" (Basic Books) will appear in October.

** The U.S. Federal Radiation Council protective guides set the Range III danger zone as 100 to 1,000 uuc per day.

Four U.S. "Hot Spots" In June

The latest monthly report of the Public Health Service for June (released July 13) showed average concentrations of iodine-131 in milk were disturbingly high in four urban areas. The average number of microcuries per liter for June was 350 in Spokane, Wash.; 240 in Kansas City, Mo.; 160 in Oklahoma City and 130 in Wichita, Kansas. The British set 130 per liter as the acceptable limit.

early contamination of the order of 100,000 uuc/liter. A single pint of this milk would equal twice the British annual allowance for iodine-131 intake.

No measurements were made of the Troy fallout in milk, at least none have ever been published. . . . To the best of my knowledge the AEC report dealing with the Troy fallout is still classified SECRET. Unless the fallout was extremely localized, which seems unlikely, since one square mile of contamination involved only one-millionth of the total iodine-131 produced by the SIMON shot, about 10,000 infants in the Troy-Albany-Schenectady area would have been involved.

The Troy fallout is worth reconstructing in view of the underground or so-called "contained" shots in Nevada. It is possible to have underground shots which appear to be contained but still vent radio-iodine.*** With respect to the 100-kiloton Plowshare explosion of July 6, 1962, it was claimed that the shot released only 5 percent of its radioactivity. However, a much higher release of iodine-131 may have taken place and if this, along with iodine-131 from more recent atmospheric tests in Nevada, falls out tropospherically in the United States high milk levels may result.

The levels are already sufficiently high so that recently when our seven-month old baby was given a check-up and we were told we could switch to fresh milk I insisted on using aged, canned milk.

1. I believe that the radioiodine hazard is serious enough to justify closing the Nevada Proving Grounds to all atmospheric tests and curtailing the underground test program so as to eliminate iodine-venting.

2. I would recommend that the Public Health Service intensify its iodine-131 monitoring of the milk supply.

3. I would urge that the Federal government accelerate research in the investigation of tropospheric fallout and biological uptake of iodine-131. In addition, the Federal Radiation Council should make a determination of the action to be taken when excessive levels of iodine-131 are found in milk.

4. I would also recommend that special biomedical surveys be made of "hot spots" like Troy, N.Y.; Salt Lake City and other areas where heavy fallouts have occurred in the past. In such areas it is highly probable that individuals have sustained the highest radiation dosage so far accruing in fallout as concentrated in any active body organ.

*** Dr. Lapp explained to the Weekly that this is because iodine-131 can escape in gaseous form through small fissures. Readers will recall that in our issue of June 18 we published testimony by Dr. E. A. Martell of the Cambridge Air Force Research Center before the Joint Atomic Energy Committee in which he suspected that leakage from our long series of underground tests in Nevada since last Fall was responsible for the sharp increase in iodine-131 levels.