

2. H-Bombs in the Back Yard

By DAVID R. INGLIS

A REPORTER for a small suburban newspaper recently visited a drilling rig on the edge of Clarendon Hills, a western suburb of Chicago, and inquired what was up. He learned that the Army was exploring for a suitable site for anti-ballistic missiles. A scientist from the suburban Argonne National Laboratory noticed the story; subsequent luncheon-table discussions aroused concern among scientists which soon spread to the Chicago news media. Insidious are the ways of military public relations, and this is how Chicago happened to learn that, if all goes as planned, it is to have H-bomb-tipped missiles installed in its own back yard, on the edge of Cook County upwind from the Loop.

When one of the scientists went to talk to the colonel in charge of the drilling operation, he was astounded to learn that the Sentinel installation was to include long-range Spartan missiles, in addition to the short-range Sprints. Only the Sprints might conceivably have some reason to be near a city if Congress should in the future opt for an attempt at city defense and authorize something much larger than the \$5-billion Sentinel system. Later word from Lieut. Gen. A. D. Starbird, after a secret briefing in Chicago on November 29, is still more surprising: The site will have only long-range Spartans, no Sprints. Some other sites may get Sprints.

The capability claimed for the Sentinel system is that its Spartan missiles can stop a small attack by a few missiles—such as the Chinese might have in the mid-Seventies—if they are as primitive as our first ICBMs in lacking penetration aids. The Sprints of the system are mainly to protect its Spartans and the accompanying radar. An optional “kicker” in the system, as was explained by its promoters, is that its short-range Sprints might be used to provide some protection for our ICBMs in their underground silos, and thus slightly blunt a Soviet counterforce attack.

There are, of course, far-reaching implications of the decision to deploy an ABM system, implications for the stability of the nuclear deterrent, for the fu-

David R. Inglis is senior physicist at Argonne National Laboratory.

ture of the entire arms race, and for the possibility of diplomatic initiatives that might reduce the likelihood of nuclear war. But there are, in addition, two purely local objections. First is the possibility that, in a limited nuclear war with the Soviet Union, local Spartans might draw enemy fire to the city. The Army's reply is that the population centers are prime targets in any event. But who knows? There has been long and vacillating argument about the “counterforce” and “counter-population” options of nuclear attack. Should an attacker spend his first salvos on the missiles of the enemy in an attempt to minimize retribution, or should he concentrate on doing “unacceptable damage” to the population and expect to take the brunt of a counterattack on his own population?

THE think-tank pendulum has swung between one and the other. Counter-population is the current style on our side, and that is what the Army means by saying the cities are prime targets in any event. But, who knows, the Soviet high command might believe in counterforce ten years from now. If they should follow this course, and on some tense occasion attack, they might decide to strike at the Spartans on the edge of Cook County that could conceivably defend some of our ICBMs. In the process they would devastate Chicago and pulverize some western suburbs. If, on the other hand, they decide to attack both types of targets, we will have helped them kill two birds with one stone.

An objection based on the distinction between limited and all-out nuclear war may seem not very serious because any nuclear war would represent a disastrous failure of policy, and it is hard to believe that it could remain limited. However, there is also no serious reason for the Spartans to be close to cities, since their effectiveness must be nearly uniform over the central part of the 600 to 1,000 mile-wide region they attempt to defend. This is implied in various official statements and in information given to Congress during debates leading up to the initial appropriations for the system. There was very little discussion of where the sites would be, but Congressman Sikes, floor leader for the Sentinel appropriation, stated in the House on July 29, 1968, that “these sites will be

some distance away from the centers of population.”

In reply to the sudden publicity, the Chicago *Sun-Times* of November 16 quoted Col. R. J. Bennett, information officer of the Huntsville, Alabama, missile center, as saying: “The Sentinel site near Chicago is necessary to complete the Sentinel defense of the entire United States. To make such a defense most effective, considering the projection of future defense needs, this site should be near the center of the greatest population.”

Here is the tip-off of the Army's intentions. Congress has authorized the deployment of the Sentinel system and has funded its initial stages, particularly site acquisition. In the Senate debates, the main motivations for deployment given by the promoters of the system were defense against a Chinese attack and the protection it might afford against an accidental launching of a Soviet ICBM. There were a few Senators who frankly argued for it as a step toward a much larger anti-Soviet system, which is probably the real reason the inherently expansive Department of Defense supports it. The initial Sentinel, it was said,

ABM Sites in the Fifty States

The following cities have been selected by the Defense Department as desirable sites for ABM weapons.*

Albany, Ga.
 Boston area:
 † North Andover, Mass.
 † Lynnfield, Mass.
 Cheyenne, Wyo.
 Chicago, Ill.
 Dallas, Tex.
 Detroit, Mich.
 Grand Forks, N.D.
 Great Falls, Mont.
 Los Angeles, Calif.
 New York, N.Y.
 Oahu, Hawaii
 Salt Lake City, Utah
 San Francisco, Calif.
 Seattle, Wash.
 Sedalia, Mo.

*The selection of cities is subject to Congressional approval. Specific locations will be determined according to tactical considerations and local conditions.

†Sites confirmed.

might serve as a "building block" for the much larger system. Still, it seems clear that most of the Senators who voted for the deployment—and the votes were fairly close—did so out of a feeling that, being in doubt, they should now support only the limited Sentinel system and either oppose the larger system or put off the larger decision. Thus in using a "projection of future defense needs" to justify putting Spartans near large populations, the Army seems to be jumping the gun on a Congressional decision and acquiring sites for the larger anti-Soviet system, under the guise of limited Sentinel deployment.

A second local objection to these sites is that there is some chance, probably very small, that one of the cluster of H-bomb warheads installed on the edge of the city might accidentally explode, and if it should, the consequent loss of life could be catastrophic. A surface burst or a shallow subsurface burst in a silo produces much more fallout—from vaporized and activated earth—than a normal explosion high in the air. The Spartan warhead is said to be "in the megaton range." This would indicate a weapon approximately a hundred times as powerful as the bomb that destroyed Hiroshima from half a mile in the air. Its local fallout from an accidental subsurface burst would be highly lethal throughout a large metropolitan area and for many miles down-wind. There would be less blast damage than from an air burst, but it would still be widespread enough to flatten several suburbs.

An accidental explosion of a Sprint would, of course, be much less lethal. How much less is hard to say because we are told only that its warhead is much less powerful than a Spartan—"in the kiloton range." Taken literally, this could mean anywhere from one kiloton, or perhaps even less, to a hundred kilotons or

more. Indications are, however, that it is considerably less powerful than the 20 kilotons of the Hiroshima bomb or the first A-bomb tested 100 feet above the New Mexico desert. Even so, it could pose a serious hazard in the vicinity because of the high amount of fallout produced by a shallow subsurface detonation. Whatever the uncertain magnitude of this Sprint hazard may be, an accidental burst of the monstrously powerful Spartan warhead would be calamitous indeed.

To this objection, Colonel Bennett was quoted, by the *Chicago Daily News* of November 15, as saying: "There has never been an accidental nuclear explosion. The control devices are so good and so involved that an accidental explosion is not a danger." This sounds like a good, commonsense attitude, the voice of experience. Many military personnel get accustomed to living with dangers. A soldier knows that the grenade he carries could blow him to bits if the pin were accidentally pulled, but after living with it on his belt for a year he forgets about the slight danger. Even so, most civilians would prefer not to live on a powder keg without some very good reason for doing so.

Designers have worked hard to make the control devices as effective as humanly possible, and they must be good, for the record is very good. It even happens to be perfect. We don't hear much about the near-accidents, but in the case of one H-bomb dropped accidentally in North Carolina in 1961, it was reported that five of the six safety devices had failed. There were six, and the bomb was "unarmed" so there was no detonation. An H-bomb in the bay of an airplane can be carried "unarmed," with one vital part to be inserted before dropping, because there is plenty of time to "arm" it on the way to the target. Thus it may be intrinsically easier to make it safe than

it is for a missile such as the Sprint, which must be ready to fire within a few minutes of the first warning and within a fraction of a second of identification of its target. We haven't had experience with those yet. But even ignoring this distinction, the good record is not completely convincing.

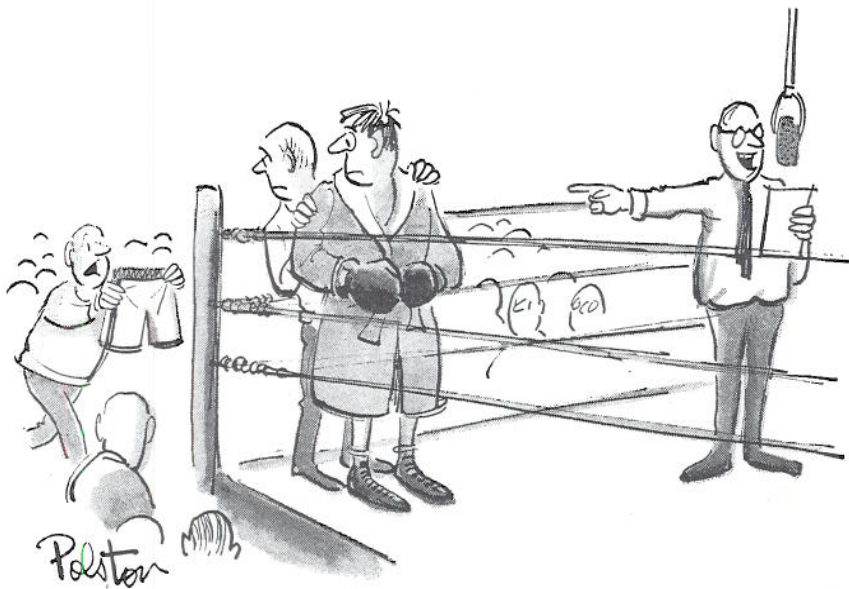
Experience with bomb accidents is the sort of stuff that the study of statistical probabilities is made of. Let us think about a variant of the ghoulish game of "Russian Roulette." A six-shooter has a cylinder with six bullet slots. Suppose you are given one not knowing whether it is loaded. You are permitted to spin the cylinder ten times—or even a hundred times—and pull the trigger. You do so and it does not fire. You are then to point it at your head and pull the trigger. Would you feel sure that you would not kill yourself? Fairly sure? Yes. But certain? No.

THE armed forces have been storing or handling, let us say, 10,000 nuclear bombs for perhaps ten years. They point to the fact that none has exploded as proof that none will explode accidentally. They propose to store, at a guess, a thousand nuclear warheads near American cities for the next ten years. According to past experience, the probability that one of them will explode accidentally is not more than 10 per cent. Citizens of Chicago may take comfort that that is divided among ten cities or so, so locally there may be only about one chance in a hundred of serious trouble in the next ten years. That is about all that can be proved by Colonel Bennett's reference to the good record. It may be good common sense to ignore a small risk like one chance in a hundred, even if the event would be catastrophic, for one feels that life is full of dangers. But let us look at the small chances on the other side of the coin.

Why are we installing this Sentinel system? The reasons are confused; they involve China and Russia, they involve military and industrial pressures on Congress, and citizen anxiety or apathy and many other factors. So let us simplify again by considering only the official reasons given for the Sentinel deployment. Colonel Bennett said: "The Sentinel system is designed to defend the nation against a possible delivered missile attack by the Chinese Republic or an accidental launch of a nuclear-armed intercontinental missile by any foreign power."

The same Army spokesman who wants us to ignore the small chance of an accidental explosion at home by claiming that it does not exist is inviting us to worry about the chance that China, with a few missiles, will attack a country with thousands of missiles and to

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"Hold everything!"

Bombs in the Back Yard

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worry that an accidental launch of a Russian missile will hit one of our cities! There are few things of which one can be absolutely sure, but common sense should make us very nearly certain that the Chinese, at a time when they will have only a few intercontinental missiles, would not make a completely suicidal attack against the tremendous nuclear might of the United States. Such an attack seems much less certain than an accidental Sprint or Spartan detonation.

More serious than the Chinese "threat" is the technical possibility that an accidentally launched Russian missile might come our way. We have more than a thousand missiles in underground silos, with their computers and radars all adjusted to guide them toward various Russian cities and missile sites, and the Soviets likewise have several hundred missiles aimed at us. The chance that a Soviet missile would be launched accidentally may seem fairly remote. But what we are considering is more unlikely than that. We are considering the chance not only that a Soviet missile will malfunction and be launched, but that it will malfunction in such a way that it functions perfectly and aims directly at an American city 8,000 miles away. Although the likelihood of this double feat seems very small indeed, it is perhaps more probable than a Chinese attack.

Which, then, seems the more likely: a few hundred Soviet missiles being so perfectly launched accidentally as to hit

an American city, or one of several hundred American missiles simply exploding accidentally where it sits on the edge of a city? The first seems to require two accidents in succession, the latter a single accident. Even if it is a fairly remote chance, it seems considerably more likely that an American city would suffer nuclear calamity from an accident at home than from a Soviet accident.

Thus, if the Army persists in its plan to put the Sentinel missile sites on the edge of population centers, even from the limited local point of view the cure is worse than the disease. This situation could be remedied by moving the missile sites out into open country, where the Spartans would be just as ready to intercept an accidentally launched missile.

Civilians can make such a change when the Army submits its missile-site plans for Congressional approval, starting with a hearing before the normally cooperative Joint Armed Services Committee, scheduled for this month.

Introducing more danger than one is trying to prevent is typical of the whole effort to attain national safety through ABM defense. This larger folly can be remedied only by having the people and their Congress learn, perhaps through these local mistakes, that national safety is not to be sought by pursuing the will-o'-the-wisp of ABM defense. This defense would not be effective against a massive Soviet attack, according to those highly placed experts who have had a thorough look at the military and technical factors involved, but who have no vested interest in military empire-building—former Defense Secretary Robert S. McNamara and all of the science advisers of the last three Presidents. People must learn that national safety in the precarious nuclear age should be sought instead by more vigorous pursuit of international agreements—which the Soviet Union appears to be ready to pursue to our mutual benefit—by cutting off the deployment of offensive and defensive missiles of the nuclear giants, by avoiding the spread of nuclear weapons to many nations, and by otherwise "taming the atom" so that we may turn our energies more fully to improving the lot of mankind and removing the causes of war.

FRASER YOUNG

LITERARY CRYPT No. 1324

A cryptogram is writing in cipher. Every letter is part of a code that remains constant throughout the puzzle. Answer No. 1324 will be found in the next issue.

AJQOZONZ . . . ON L ZLUOL GAD

ZLOUQLOUOUB QXLQ LHH ON

RPHH RXPU QXOUBN LDP BA-

OUB CLKHL.

—SAHQLODP

Answer to Literary Crypt No. 1323

Party is the madness of the many for the good of the few.

—POPE.

LITERARY I. Q. ANSWERS

Column 1 should read: 6 ("The Ladies"), 4 ("The Height of the Ridiculous"), 10 ("The Raven"), 3 (*The Beggar's Opera*), 5 ("The Jackdaw of Rheims"), 7 (Song from *Phantastes*), 11 ("A Little While"), 9 ("Everybody Eats Too Much Anyhow"), 1 ("So Sweet Love Seemed"), 2 ("Tam O'Shanter"), 8 ("The Time I've Lost"), 12 ("Lament").