

ignored painful truths. Something similar is now occurring with respect to the Soviet order of battle: A full generation of policy and intelligence officials has been raised into careers ranging from the merely admirable to the fabulous in the pursuit, for 25 years now, of the Pugwashian delusion of deterrence, MAD, negotiating partners, the Soviets, never had any respect. Our intelligence estimates of Soviet force strength and order of battle are the result of our intelligence agencies' and politicians' efforts to fit Soviet military realities into the straight-jacket of what our Pugwashed establishment considers "deterrence."

The point is: Yes, Soviet forces are deployed for "deterrence." But the Soviet diplomatic and military community employs two distinct words of the Russian language to convey the meaning of "deterrence." One, word, used in Russian to denote American deterrence, is *ustrasheniya* which translates as "intimidation." The other, employed to denote Russian deterrence, is *sderzhivaniye* meaning "constraint." It is fair. Our Pugwashed crowd wishes to deter them by threatening a "big bang," a mutual suicide pact. They don't go for this mutual suicide stuff. Instead, they intend to "deter" us, by emasculating our possibilities to either conduct a first strike or to retaliate against their first strike. They are doing so by the way in which they are deploying their strategic forces and by the type of forces they are developing.

U.S. nuclear sub vulnerability

by Robert Gallagher

Nearly every argument of the advocates of Mutually Assured Destruction (MAD) is based on the assertion that the U.S. ballistic missile submarine force is virtually invulnerable and will therefore reliably deter a Soviet attack. But the evidence shows the contrary: U.S. submarines are highly vulnerable on a number of counts.

Communication between command center and the U.S. submarine force is vulnerable to Soviet anti-submarine warfare (ASW). Secondly, there is reason to believe that the purpose of a sizeable portion of Soviet SS-20 missile forces is to strike U.S. ballistic missile submarines.

For the U.S. submarine force to be a truly invulnerable and reliable retaliatory force, it must be able 1) to survive a Soviet preemptive strike, 2) to receive information that such a strike has occurred and its orders to retaliate, and 3) to

retaliate against the Soviet Union through launch of its ballistic missiles before undergoing destruction by Soviet ASW forces.

Although arms control treaties with the Soviet Union permit the United States to deploy 41 ballistic missile submarines, obsolescence and the slow rate of Trident submarine deployment have yielded only 31 presently operational vessels. A third of these are in port undergoing maintenance at any given time. Others are in transit between port and stations. It is assumed that this approximately one-half of the force would be destroyed in a Soviet attack, leaving at most 15 to 20 U.S. ballistic missile submarines. Some of these subs on station could also be destroyed by Soviet ASW.

Communications: an 'Achilles Heel'

Communications with submarines is a much more serious problem than generally supposed. John M. Collins of the Library of Congress writes in *U.S.-Soviet Military Balance*:

The Navy currently relies on satellites, shore installations, and 12 EC-130Q TACOMO aircraft to make emergency contact via Very Low Frequency (VLF) radio. VLF, however, leaves a lot to be desired because it "is not effective beyond (submarine) antenna depths of 25 to 30 feet below the ocean surface." Risks of detection and destruction increase when captains receive instructions under those circumstances. Response times could be considerable, because radio contacts, which cannot be constant, are separated by several hours. Some U.S. strategists consider that shortcoming an Achilles Heel.

Louis Gerken, president of American Scientific Corp., reported recently at a Washington conference that submarines receive these transmissions for six hours in the course of a day. It appears to be a reasonable assumption that only 25 percent, or five of the U.S. ballistic missile submarines on station during a hypothetical surprise Soviet attack would receive immediate notification, the remainder being at depths too great to receive radio transmissions. These submarines would be vulnerable to detection and destruction.

The retaliatory force is only as invulnerable as its communications, and all the communications systems are more vulnerable than the submarines. The land-based systems are not hardened. No one expects satellites to function following the first few minutes of a Soviet attack. And the TACOMO radio relay aircraft are aging propeller planes that trail a five and a half mile antenna to generate the radio signals for the submarines. Only one of these is on patrol at a given time.

Thus only the half-dozen vessels in range of radio transmission at the time of a surprise attack would receive their orders. If the attack occurred during a crisis when the force was on alert and a larger proportion of vessels received immediate notification, that larger percentage would also be

detectable.

Extremely low frequency (ELF) radio can be used to communicate with submarines at depths of several hundred meters. But the environmentalist movement prevented the construction of an ELF system in the 1970s. The Reagan Administration is building a considerably scaled-down system that will not be operational for about two years and that will be above ground and vulnerable to Soviet attack or sabotage. Even if made operational, it would only survive long enough to give the submarines warning of a Soviet attack based on satellite data.

The fate of the submarines out of radio contact in the event of a surprise attack is unclear. We would have to assume that they would be vulnerable, might not receive their orders and that their missile deployment would be at the discretion of their commander.

ASW role for SS-20s?

Very few of the Soviet SS-20s presumed to be targeted on Western Europe are required to destroy military targets there. Two defense analysts, Samuel Cohen and Joseph Douglass, writing in the September issue of *Armed Forces Journal International*, argue that

there is no target base in Europe that comes even close to justifying the SS-20 system in its most advertised form, which equates to between 2000 and 5000 150-kiloton warheads. There are fewer than 30 so-called nuclear hardened targets (none of which are even hardened to withstand 150-kilotons delivered with SS-20 accuracies). . . .

What is the mission of the hundreds of "excess" missiles? Anti-submarine warfare is one possibility, to knock out the heart of the U.S. "deterrent."

U.S. ballistic missile submarines must fire from the Mediterranean, the North or Baltic seas, or the North Pacific to reach targets deep inside the Soviet Union. Submarines stationed in the North Atlantic can only reach targets in western Russia. As the map shows (page 26), these staging areas are well within the reach of single-warhead SS-20s stationed in Europe or eastern Russia. According to naval intelligence, if a nuclear warhead detonates in the ocean at a depth of 1,500 feet within two miles of a submarine, the vessel will be destroyed or disarmed even if it is surrounded by sea mounts. (The SS-20 has an accuracy of about 100 meters.)

The Soviet Union clearly has the arsenal in place to destroy 15 U.S. submarines. Its only problem—and not an insignificant one—is the position of these submarines within the circumscribed sea areas in which they must operate. The Soviet "hunter-killer" attack submarines are the only known means of tracking the U.S. subs at great depths. As of 1979, there were a total of 94 Soviet nuclear attack submarines, of which the 30 of the Alfa and Victor classes were faster than U.S. ballistic missile submarines.

Build-down and U.S./U.S.S.R. ICBMs

Deployed today	U.S.	U.S.S.R.	Soviet lead
Number launchers	1052	1398	33 percent:
Number warheads	2152	6000	almost 6 warheads for each U.S. ICBM

Scenario I: Each side deploys 100 "MX" missiles with 10 warheads each.

	U.S.	U.S.S.R.	Soviet lead
Number launchers	150	550	almost 4 to 1:
Number warheads	1150	5000	33 warheads for each U.S. ICBM

Scenario II: Each side deploys 1000 single warhead "Midgetmen."

	U.S.	U.S.S.R.	Soviet lead
Number launchers	1050	1450	40 percent:
Number warheads	1150	5000	almost 5 warheads for each U.S. ICBM

Scenario III: Each side deploys 1000 "Midget men." U.S. missiles have one warhead; Soviet missiles have four.

	U.S.	U.S.S.R.	Soviet lead
Number launchers	1050	1450	40 percent
Number warheads	1150	8000	almost 8 warheads for each U.S. ICBM

The table shows alternative scenarios for the "build-down" of U.S. strategic defenses through retiring old warheads as new mobile, single-warhead ICBMs are deployed. If two ICBM warheads are retired for each new one and both the U.S.A. and U.S.S.R. deploy 100 new missiles with 10 warheads each, the U.S. arsenal would be reduced to the size shown for Scenario I. Scenario II shows that if both sides deploy 1,000 single-warhead missiles and retire 2,000 old warheads and their launchers, the current Soviet advantage would remain unchanged. Scenario III shows the result of build-down if the United States deploys 1,000 single-warhead "Midgetmen" and the Soviets 1,000 four-warhead PL-5s. This would significantly increase the Soviet lead.

The build-down scheme was originally proposed by Alton Frye, director of the Washington, D.C. office of the Council on Foreign Relations. Sen. William Cohen (R-Maine) picked it up and developed it, in behind-the-scenes consultation with Gen. (ret.) Brent Scowcroft. Sen. Sam Nunn (D-Ga.) and Sen. Charles Percy (R-Ill.) supported Cohen's initiative, and this core group drew support from Sen. Gary Hart (D-Colo.) and Representatives Les Aspin (D-Wis.), Norman Dicks (D-Wash.), Albert Gore (D-Tenn.).

Note: Retirement of missiles and warheads is assumed in the table to be on the basis of oldest first. Although certain advocates look toward retirement of multiple-warhead missiles first, it is unlikely the Soviets would retire their new multiple warhead SS-18s and SS-19s first. The numbers given for Soviet ICBMs and their warheads are approximate and do not include the 100 to 200 SS-16s deployed under cover at test sites, nor inventories of missiles not in launchers.

Dr. K's 'build-down' to U.S. unilateral disarmament

Henry Kissinger published a call for a "build-down" of U.S. military forces in the March 21 issue of Time magazine. Titled "A New Approach to Arms Control," the article appeared two days before President Reagan's announcement of a new military doctrine based on the development of anti-ballistic missile defense systems. We publish here excerpts from Kissinger's contrary proposals.

. . . The principal cause of instability with current weapons systems is the disproportion between warheads and launchers. All the remedies that have been tried are vulnerable to technology: hardening to accuracy, sea-based systems to advances in antisubmarine technology. There is no effective or intellectually adequate solution to this problem except to seek to eliminate multiple warheads within a fixed time, say ten years.

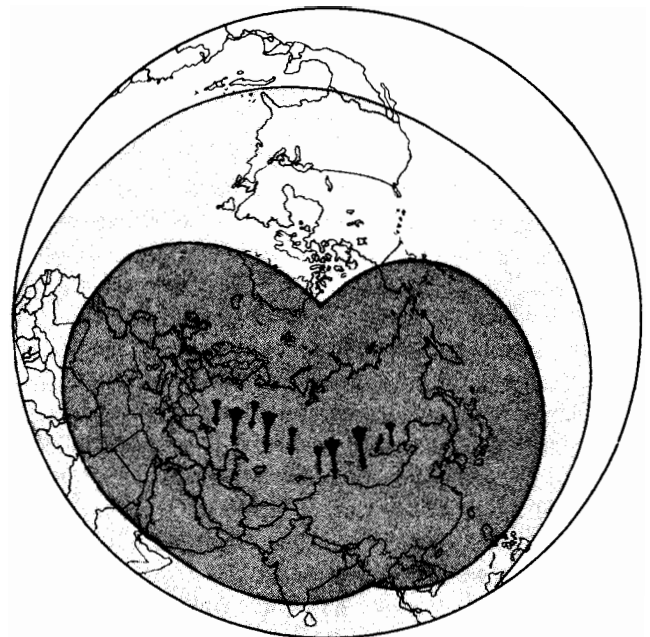
Fortunately technology, which creates the problem, can offer a solution. According to published literature, it is possible to develop a mobile missile that could be protected in a heavily armored canister. Its mobility alone could complicate the task of the attacker. Moreover, the new missile could—and should—be equipped with a single warhead. With strategic forces of such design, numerical limits would be both simple to establish and far more significant than under SALT II or START.

Once we decided on such an approach, we could proceed with it either as part of an arms control agreement or unilaterally as part of our defense policy. For example, we could propose to reduce and transform the strategic arsenals of both sides to a low number of single-warhead missiles over a ten-year period. The totals should be set at the lowest number that could be monitored; that is, at a level where a violation significant enough to overturn it could not be hidden. The permitted number of missiles may be as low as 500; at any rate, the number of warheads in this scheme would be only a small fraction of current totals. . . . Each side would be free to choose whether the permitted missiles would be mobile or in silos. Mobility would reduce the incentive of surprise attack, but equivalence at low numbers of single-warhead

missiles would, in any event, assure considerable stability.

This course does not depend on Soviet agreement. It should be pursued whatever the Soviet reaction. If they refused our proposal—this one or another embodying the same concept—the U. S. could announce that after a certain date, say 1990 (or before then if the new missile could be developed earlier), it would deploy no more MIRVed land-based intercontinental missiles but would emphasize single-warhead launchers, the majority mobile. The size of that force would be geared to the number of warheads deployed by the Soviets; we would reserve the right to match each Soviet warhead with single-warhead missiles of our own. In practice, we would almost certainly choose a lower number that we calculate could survive the maximum Soviet attack capable of being launched. The purpose would be to increase the number of targets the Soviets would have to hit but without increasing our capacity for surprise attack. We would gradually phase out our MIRVed missiles. If the Soviets agreed to a formal proposal, schedules for the mutual destruction of MIRVs would be negotiated. If they refused, we would build up single-warhead missiles to a level consonant with our security. The Soviets could always put a ceiling on our deployment by cutting the number of their warheads. . . .

Deployment of Soviet ICBMs and IRBMs



■ ICBM concentration and range
□ IRBM concentrations and range