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TWO APPROACHES
TO SECURITY

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TRADITIONAL VIEWS OF SECURITY BECOMING OUTMODED

As the world wends its way toward interdependence, and as an era of colonialization and conquest recedes, an ever higher priority attaches to non-military dimensions of struggle as opposed to military strength. Fewer and fewer of the conflicts at issue in the world can be decisively resolved through military tests. And nuclear weapons make such tests too risky.

Nowhere is this clearer than in the U.S.-Soviet arms race—a contest which is ever more one for some kind of political primacy rather than for any specific military end.

Notwithstanding these facts, the traditional notions of military security have prevailed in the design of military budgets and weapons: that more is better, that nuclear weapons could be used in war, that the Soviet Union could somehow be put out of business by economic pressures, and that it is imperative to keep up in numbers even when numbers are admitted to be irrelevant, and so on.

At the same time it is increasingly recognized that there is a higher, alternative, and more sophisticated minority point of view, in which military security finds its role as a means but not as a sole means. Perhaps the most well-advertised aspect of this new approach lies in "arms control", in which adversaries would agree to limitations on their nuclear weapons while continuing to be adversaries. The most significant of these arms control agreements, heretofore, has been the limitations on

ballistic missile defenses on each side with a view to limiting the arms race rather than attempting to limit damage to each side. This treaty is the most significant decision of the two sides to rise above the traditional view of military security.

But the enormously high percentages of support for a nuclear freeze represent great potential for a new "meta" view for security. Recent polls reveal that some 70 or 80 percent of the American population would prefer to end the military contest with the Soviet Union, rather than to continue to seek to stay ahead in it, or simply to manage it.

Despite this public support for the Freeze, there is insufficient awareness of the extent to which there is an entirely different approach to national safety than one of military preparedness only. The sophisticated minority concerned with this view is sufficiently intent about contrasting its point of view to the traditional one that some of them have even formed a group, "Committee for National Security", designed to promulgate the new approach. Nevertheless, their point of view has not been widely articulated or understood.

With this in mind, we have drawn together some notions that would indicate how systematically these two different visions of national safety confront each other. And the examples show, in particular, how tempting, but inappropriate, it would be to go down only the road of traditional military axioms.

NATIONAL SECURITY VERSUS MILITARY SECURITY

Just as logic contains mathematics and the Theory of Relativity subsumes Newtonian physics, so also there is a theory of national security (NS) which transcends the prevailing notions of military security (MS).

We define military security as that subject which prepares for military conflict and, through such preparation, seeks to prevent the conflict or, failing that, to prevail in such combat. The broader subject, national security, seeks to prevent military conflict with methods that include military preparations but go beyond them into shaping political relations with the threatening state (and with others as well). This is often called statecraft and, unlike military security, it includes such alchemy as turning enemies into adversaries and adversaries into allies.

This much is commonplace. Where the differences become interesting lies in application. Perhaps the most striking example of the transcendence of what we choose to call national security lies in observing new phenomena that are paradoxes in the narrow subject—as a Newtonian would find the phenomenon of light curving, or of time be-

ing intimately related to space. Moreover, it is in and around these paradoxes that much of the Nation's real security dilemmas arise.

More Strength is Better

That more strength is better is a truism for MS. Warfare is inherently uncertain so one is never sure when one has

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TEST BAN AS EXAMPLE

Perhaps the finest example of the extent to which proponents of military security only have lost sight of their goals arises in connection with the manufacture and testing of ever more warheads in a Nation that already has upwards of 25,000.

Accordingly, don't miss the review of Administration opposition to a nuclear test ban on page 6. And the box on page 8 in which DOE describes itself as a "corporation" is an absolutely classic example of the merger of industrial and military planning which President Eisenhower described in his phrase "military-industrial complex".

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enough to prevail, and—to the extent that armed might is designed to discourage aggression—a larger preponderance is obviously more reliable psychologically than a narrow margin, which might be misread by the enemy.

In the larger subject of national security, however, more strength can definitely be counterproductive. This arises most clearly when the additional strength provokes an arms race. Thus America would obviously be more secure than it is today if it could have achieved a balance of limited nuclear power in the forties or fifties. By contrast, in the Eighties a generation of struggle to maintain a preponderance over the Soviet Union has only resulted in considerably larger arsenals. In the context of nuclear weapons, the dynamic notion of *arms race* can transform the truism of "More Strength is Better" into a formula for an endless contest.

Obviously, also, more can be worse than less if funding the greater expenditure upsets the economy upon which further expenditures rely. When a hard-fought supplemental tax-bill raises \$100 billion to reduce the deficit but 50% of the new revenues go to fund a DOD increase then something is out of whack.

The More Ready The Better

In military security, greater readiness is to be preferred to lesser readiness so as to avoid, among other things, enemy success in achieving surprise. But in the context of national security, such feats of computer readiness as "readiness to fire missiles on warning of incoming attack" can *undermine* national security. They can make war as likely to come through an induced accident as through an otherwise encouraged surprise attack.

The More Options the Better

For a military commander, additional options for using force are, per se, valuable. He can choose to use them or not and, in either case, they complicate the planning of the enemy. But if the option is the counterforce option to destroy most or all of the enemy's nuclear deterrent, this can only induce the other side to improve *its* deterrent and, accordingly, to step up its preparations. Moreover, since the counterforce option is not about to be used by us—unless and until the other side starts a war—there is no way for us to prevent this induced step-up in Soviet preparedness. Thus, from a national security point of view, such an option is provocative without point—putting off the time at which the arms race can be halted, and poisoning the effort to improve political relations.

Winning or Prevailing Is The Goal

Prevailing in war is deeply ingrained in the military security point of view. Despite all the attacks on the Reagan Administration for trying to "win a nuclear war", Casper Weinberger announced recently that if he did not plan to prevail, he could be "impeached" as Secretary of Defense. From a national security point of view, this approach dismays our allies, wastes our credibility, spends monies unnecessarily and stirs up the arms race.

Giving Away Strength is Weakness

From the point of view of MS, it is not sensible to give

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up military bases on Okinawa or the control of the Panama Canal Zone. This just gives away military assets. But, from the point of view of national security, such reversions may enormously enhance our security by undermining the position of the left in Japan (which lacked other issues against us) or that of revolutionaries in Panama and in Latin America generally.

In short, efforts to *improve* military security can *diminish* it when viewed from a larger perspective. But the tension between military security, on the one hand, and the efforts of national security to change the nature of the context, on the other, go deeper. They force a choice in policies that turns on political questions.

For example, there are the choices which arise from keeping the Nation unified, in pursuit of one approach to national safety or another.

Keeping Military Spending Up

To persuade the public to appropriate funds for military purposes, it is always best to maintain, as Congressman George Mahon once observed, that "the period of maximum danger is two years hence." This whipping up of apprehension encourages votes for military spending by persuading the public to make the necessary sacrifices. Thus this revealing statement appeared in Newsweek:

A number of hawks in the Senate are worried that skyrocketing defense budgets and a growing anti-nuclear-war movement are undermining the "defense consensus" needed to sustain the current record-breaking arms buildup. John Tower of Texas and Jesse Helms of North Carolina are demanding that the Senate hold hearings on alleged Soviet violations of the SALT I and II treaties before voting on a resolution to support President Reagan's recent promise to abide by the SALT pacts as long as the Soviet Union does. *The senators believe that unless they can stir up a sense of public concern about current Russian defense practices, weapons systems such as the B-1 bomber and the MX missile may never be built.* (italics added)(Periscope, Newsweek, July 26, 1982).

Of course, from the point of view of national security, this succession of defense scares can only complicate the problem of gaining domestic support for U.S.-Soviet cooperative measures.

Precluding Agreements Between Adversaries

Put another way, the notion of agreements between adversaries is psychologically inconsistent with the notion of warfare between the same adversaries, especially total warfare. Asked if a hot-line between Warsaw and NATO Pact commanders might be useful, one high-ranking Admiral responded that such a hot-line would be of no use since the NATO commander could not be found talking to the enemy commander while sending thousands of soldiers out to die at the same time—too much political dissonance. And so it goes also, more generally, with political agreement between the superpowers and military preparations. For America this is schizophrenic.

Nuclear War: "Winning" vs. "Not Losing"

"...the word 'win' is another of our leathery words which can stand re-examination for precision of meaning. In one connotation...the word 'win' is used to suggest a comparison of the postwar position of one of the adversaries with the postwar position of the other adversary. In this sense it is quite possible that in a general nuclear war one side or the other could 'win' decisively. Even a small initial imbalance in relative capabilities, other things being equal, could grow rapidly into a decisive imbalance as the war progressed....The number of high-yield thermonuclear weapons which can be exploded in a short space of time without producing general lethal contamination of the atmosphere is finite. But it is a large number, one not likely to be reached unless the war is fought in an entirely irrational way.

"If the above line of reasoning is correct, then in a nuclear war fought with some degree of reason one side may very well 'win' in this second comparative sense and the other side lose. The victor will be in a position to issue orders to the loser and the loser will have to obey them or face complete chaos or extinction. The victor will then go on to organize what remains of the world as best he can.

"...the comparison between the postwar position of the victor and the defeated brings out why it is also of the utmost importance that the West maintain a sufficient margin of superior capability so that if general war were to occur we could 'win' in the second sense....The greater that margin, the greater are our chances of seeing to it that nuclear war, if it does come, is fought rationally and that the resulting destruction is kept to the lowest levels feasible."

—Paul Nitze, "Atoms, Strategy, and Policy,"
Foreign Affairs, January, 1956

Trumpeting Our Weaknesses or Badmouthing Our Strength

A hard choice for military security turns on whether to describe the U.S. as Number 2 in the arms race. This might help garner funding for improvements in military spending but it would, at the same time, undermine the perceptions of strength which, so often, are said to be crucial in the contest.

The readiness of civilian hawks—but less often of military men—to downgrade our strength at a cost to our reputation seems testimonial to their primary interest in getting more hardware, as opposed to deterring the Soviet Union. This preference probably stems from a (common) conviction that Soviet attack is not really the problem, but that a politically motivated race to secure greater military capability, variously measured, is at issue.

From a national security point of view, this is an extreme example of losing track of what security really requires. Nothing really rests on the relative number of nuclear weapons, per se, so long as both sides have more than enough.

Suppressing Political Dissent

Narrowly speaking, MS requires tight controls over foreign spies to maintain military advantage, and also over subversives and political dissenters, so that a unified point of view supports the policy of confronting the enemy. But real national security may require a sufficiently relaxed political atmosphere to permit critical views to test the policies being put forward, e.g., is the MX really just a mistake in military expenditure? Are the military strategies being put forward misguided?

Keeping Secret Our Technological Advantages

Narrowly speaking, MS requires the Administration to ask scientists to constrain their discussion of Government-financed papers lest foreign nations hear the most up-to-date ideas about photo-reconnaissance or whatever. But, from a broader standpoint of national security, can the Nation maintain its technological edge if dissemination of technical advances is sharply restricted? This is certainly not how that edge was created! Here also, the choice is between a dynamic and a static contest. But here the broader perspective suggests we should look toward preserving an edge by moving ahead rather than by trying to slow down, and control what we have, with secrecy.

What We Stand For

Unfortunately, MS is associated with all the national characteristics for which we do *not* stand. It is America, not Russia, that fears that our independence and freedom may be constricted by overpreparation for war. As De-Tocqueville predicted in the 1820s, Russian strength would be based on using "the authority of society in a single arm" while America would base its strength upon "personal interest (and) freedom."

For related reasons, the assets upon which our popularity abroad are based are ones that are at odds with militarism. The imperatives of military preparedness, and military action, conflict with our fundamental national goals—which is to say with the fundamental goal of national security! General of the Army Omar Bradley put this well once when he said that reversing the results of the Chinese revolution would require turning America into an armed camp and that this would be at odds with what we wanted ourselves to be.

SPECIFIC ISSUES

The struggle between narrow and broader concepts of security in the U.S.-Soviet struggle turns, of course, on estimates of Soviet intentions. By 1944, Walter Lippman was recounting the two schools of thought:

"There are those who hold that the Russians will for a long time to come be absorbed in the internal development of their own country, and that the Soviet Union will be very nearly as self-centered as the United States during the nineteenth century....The other view is, of course, that Soviet Russia is an aggressive state which in various combinations fuses the ambitions of the Czarist Empire with the projects of the Third International."

Is it better to attempt to tie the Russians up in a web of trade and exchanges with a view to melting the Soviet iceberg—or is it better to reinforce their economic autarky? Would detente weaken the tendency of the Soviet leadership to insist on their being surrounded and hence to exact privations from their domestic sector? Or will it only confuse our own citizens about the necessity for rearmament? Today America is reverting to the militarized containment of the early fifties after a period of experimenting with detente. Three examples show relevant issues.

The Pipeline

Having told the Western Europeans that their security against a failure of Middle Eastern Oil required them to diversify their sources of supply, the Reagan Administration became upset when they began to do it by building a pipeline to accept Soviet gas. From the point of view of MS, this pipeline has its "valve" in Moscow and the gas could be shut off and the Europeans blackmailed. But from the point of view of NS, fracturing the Alliance—without which there is no defense of Europe—can be more destabilizing than the existence of the pipeline. And getting the Russians used to the foreign exchange associated with the pipeline may increase their dependence on world trade, and hence their stake in peaceful international relations.

Sale of Wheat

The sale of wheat to the Russians has always been motivated politically by the self-interest of the U.S. farmers. The U.S. farm community wants a steady customer and sees the Soviet population becoming, as a consequence of the sale, addicted to meat produced from the grain—thus increasing Soviet dependence on the West or, alternatively, forcing it in the future to divert more resources to the farm sector. This in turn would drain the Soviet military sector and might even force some kind of liberation of the farm population, with attendant implications for Soviet internal policies. Here self-interest encourages the broader point of view. From the traditional point of view, nothing is more senseless than feeding the enemy.

Foreign Policy Generally

The more "uptight" MS has always called for the maintenance of authoritarian governments if they supported us. Are they "for us or against us" has been the only decideratum. But from a broader perspective, this may just sow a counterproductive harvest when these governments are eventually overthrown. Getting on "the side of the people" is an imperative of real national security considerations, which should be disregarded only when alternative military security considerations are overwhelming. □

—JJS

ELECTIONS FOR COUNCIL MEMBERS

In the summer election, six new Council members were elected to four-year terms. They were: Bernard T. Feld, Professor of Physics, M.I.T.; Randall Forsberg, Director, Institute for Defense and Disarmament Studies; Michael D. Mann, Staff Attorney, Division of Enforcement, Securities and Exchange Commission; Philip Morrison, Institute Professor, M.I.T.; George W. Rathjens, Professor of Political Science, M.I.T.; and Robert H. Williams, Senior Research Scientist, Center for Energy and Environmental Studies, Princeton University.

U.S. POLICIES TOWARD THE SOVIET UNION EVOLVE AND OSCILLATE

What political policy to follow with respect to the Soviet Union? This has been the central issue of the post-World War II era. Not surprisingly, where there has been no clear consensus on political relations, there has been no consensus on what is the appropriate policy for military preparedness.

In 1917, President Woodrow Wilson welcomed the Russian Revolution and called Russia a "fit partner for a league of honor." Two years later, Herbert Hoover advised President Wilson that "We cannot even remotely recognize this murderous tyranny without stimulating actionist radicalism in every country in Europe. . .". For the next 13 years, America took the position that the Russian people were basically democratic but that the Bolsheviks could not be recognized because, as Secretary of State Bainbridge coldly put it, the "responsible leaders of the regime have frequently and openly boasted that they are willing to sign agreements and undertakings with foreign powers while not having the slightest intention of observing such undertakings...(and) have declared that it is their understanding that the very existence of Bolshevism in Russia... depends, and must continue to depend, upon the occurrence of revolutions in all other great civilized nations, including the United States. . ."

As both the Soviet aspirations for world revolution and the Western fears of it declined, the question arose of how to achieve stability in Europe without Russia. As Senator Borah put it in 1931, "I can see no real peace in Europe until the Russian problem is settled. It is my belief there can be no disarmament of any moment, particularly land disarmament, until Russia is brought into the family of nations and amicable relations and clear understanding with all other powers are established; and this will last so long as she is treated as an outlaw and denied an opportunity to enjoy the ordinary methods of credit and trade."

With the Soviet occupation of Eastern Europe after World War II and the success in 1949 of the Chinese Revolution, American fears were renewed of the Communist threat, now supported by over one billion people. Fears reached the point, in the early fifties, where Senator Joseph McCarthy could hold the attention of the Nation with the bizarre charge that America's greatest military figure, Secretary of Defense and State General George C. Marshall, was a Soviet agent:

"What is the objective of the conspiracy? . . . to the end that we shall be contained and frustrated and finally fall victim to Soviet intrigue from within and Russian military might from without."



General George C. Marshall

Fifteen years later fears of subversion had declined, and by the mid-sixties, another approach had the upper hand, that of cooperation. Lyndon Johnson asserted:

"I believe we must pursue avenues of cooperative effort and agreement with the Soviet Union wherever they are to be found. We've got to get into the habit of peaceful cooperation. The Test Ban Treaty was a significant step. There have been others since 1963. We have agreed not to put bombs in orbit, we are working together on a number of other important ventures—in desalination, weather information, exchanges of scientists, artists, and yes, magazines. . ."

Still another fifteen years have passed and American policy has shifted back. The Reagan Administration would prefer to return to treating the Soviet Union like an outlaw nation. Cooperation, whether with pipelines or scientific exchanges, runs the risk, for this Administration, of strengthening the outlaw and putting off the day when, it is supposed, the internal pressures inside the Soviet Union will cause the society to "collapse."—JJS

ADMINISTRATION DROWNS TEST BAN IN DELUGE OF NEW WARHEADS

Two years ago, the headlines from Geneva read, "Test-Ban Treaty Reported Possible Within a Year." But in July of this year, after a leisurely 18-month review of the U.S. negotiating position, the Reagan administration was forced by a press leak to announce that the President had decided to set aside efforts to negotiate a comprehensive ban until verification measures for the unratified Threshold Test Ban (TTB) and Peaceful Nuclear Explosions (PNE) treaties can be "strengthened."

The Reagan administration's announced position is fraught with contradictions. First, there is the matter of the ratification of the existing treaties. During his Senate confirmation in June 1981 for the position of ACDA Director, Eugene Rostow told the Senate Foreign Relations Committee Chairman Charles Percy that he could expect the administration to give a favorable recommendation on the treaties "within the next few months." More than a year later, the administration instead announced that it would first seek revision of the verification provisions of the treaties before asking for Senate ratification, on the avowed grounds that the current provisions do not allow adequate measurement of the yield of Soviet tests.

Administration officials, however, have so far proved unable or unwilling to specify what kind of improved verification measures they want to obtain from the Soviets, saying only that no final decisions have been made. The *Washington Post* reports that some officials are pushing for the right to have "inspectors at their tests" with "our technicians having an opportunity to instrument their test program." The Joint Chiefs of Staff and DOE nuclear weapons specialists are reported to be adamantly opposed to the idea of admitting Soviet observers to American test sites in Nevada. The newspaper reports one Senate specialist as saying that the Joint Chiefs "turn pasty white at the idea."

There is something a bit cynical about linking ratification of the TTB and PNE Treaties with the need to reduce the range of uncertainty surrounding Western estimates of Soviet tests. Framing the problem in this way creates a classic Catch-22 situation—it is precisely ratification of these treaties which will cause the Soviets, under the terms of TTB, to hand over geophysical and test site data to facilitate more precise measurement of Soviet tests. Indeed one of the Defense Advanced Research Projects Agency's (DARPA) own stated purposes for its current yield estimation research is "to develop methods to exploit geophysical information like that to be exchanged under the terms of the TTB. . ."

Answering questions before the Senate Foreign Relations Committee in May, Rostow was quite candid about the real sources of the administration's reluctance to proceed with ratification. Rostow said that he had "run into a profound stone wall" in the form of "whole phalanxes and battalions" of government officials, whom he declined to name, who believe that "given the uncertainties of the nuclear situation and the need for new weapons and modernization, we are going to need testing, and perhaps

even testing above the 150-kiloton limit." This rationale for bypassing ratification of the Threshold Test Ban and deferring Comprehensive Test Ban (CTB) negotiations was confirmed in August by the release of a heavily censored transcript of Defense and Energy Department testimony before the House Procurement and Military Nuclear Systems Subcommittee in April of this year.

Air Force Major General William Hoover, the DOE Deputy Assistant Secretary for Military Application, told the House subcommittee that a decision to seek an increase in the level of underground testing had been approved by a high-level presidential committee. Administration officials later confirmed to the *Los Angeles Times* in August that the nuclear weapons modernization and "reduction" program envisioned by the Administration would require an expanded underground testing program and might also require revision of the TTB limiting the yield of tests to 150 kilotons. Since the MX and Trident II missiles are being designed to carry warheads ranging from twice to almost six times the allowable yield, administration officials noted that "we want to have the ability to test those new warheads if we feel we have to."

Just as postponement of the TTB/PNE ratification has really very little to do with the problems of reducing threshold verification uncertainties (which were known and obviously considered tolerable at the time the TTB was signed in 1974), so also would the reduction of these uncertainties have very little impact on the Reagan administration's refusal to conduct Comprehensive Test Ban negotiations. The Reagan administration argument that we must perfect threshold verification techniques before proceeding to negotiations on a Comprehensive Ban is patently phony—the verification tasks and monitoring systems involved in a Comprehensive Ban are sufficiently different from those involved in monitoring the 150-kiloton (KT) threshold that the difficulties experienced in verifying the latter cannot be attributed to the former.

The threshold compliance problem involves arriving at a mean value for Soviet test explosions that is below or, by mutual U.S.-Soviet agreement, marginally above the 150 KT limit. In recent years the mean value of the Gaussian distribution of U.S. seismic readings, taken at multiple locations outside the USSR, has been considerably over the 150 KT limit, but a typically 50-70% spread around this mean value always raises the significant possibility that the Soviets have *not* violated the threshold. In general, British and Swedish seismic data do not back up the administration's still informal charges that the Soviets have been consistently and intentionally violating the TTB. Until the stochastic error factors are reduced by the exchange of data called for in the TTB after ratification, as well as by further research, the administration's current campaign of innuendo must be regarded as exactly that and should not be mistaken for the facts.

The Comprehensive Ban verification problem consists mainly of identifying low-energy seismic events as either earthquakes or explosions, a very different task from threshold verification which will be facilitated by unmanneled "on-site" seismic monitoring stations and the right of

on-site inspections by challenge in specific instances where doubts about a particular seismic event cannot be dispelled by consultations and exchange of data.

However, the real reason why the Reagan administration wants no part of a Comprehensive Ban is the desire to test not only new high-yield warheads but a whole new generation of advanced warhead concepts which some officials believe will help to transform current nuclear war-fighting fantasies into reality.*

According to Phil Coyle, the Livermore Laboratory's Associate Director for Nuclear Testing, "Emphasis on advanced concepts in new defensive systems will be important in the test program. Computer simulation goes a long way but is no substitute for fully diagnosed experiments."

Bill Shuler, Livermore's Associate Director for Military Applications, contends that "the new concepts are going to have a major impact on the way we think about deterrence. These are high-risk, high-payoff items. Maybe not every idea will pan out, but these ideas are revolutionary. It's imperative we concentrate on them."

"I enjoy working on priority projects with people who are turned on by what they do," says Shuler. "We're on an upward swing and the next few years are going to be very exciting."

Dr. Richard Wagner, the former Associate Director for Nuclear Testing at Livermore who is now Secretary Weinberger's assistant for atomic energy, told the House Armed Services Committee in late April, "We know we will need new nuclear weapons designs in the 1990s and beyond. Even if we succeed, through arms control and other means, in starting the long process of reducing the size of the U.S. and Soviet weapons stockpiles we will almost certainly need new systems with new characteristics to assure stability during the process, and these systems will need new warheads."

When asked by the Subcommittee Chairman, Rep. Samuel S. Stratton (D-N.Y.), whether "arms control or arms reduction requires the cessation of weapons modernization programs," Wagner replied:

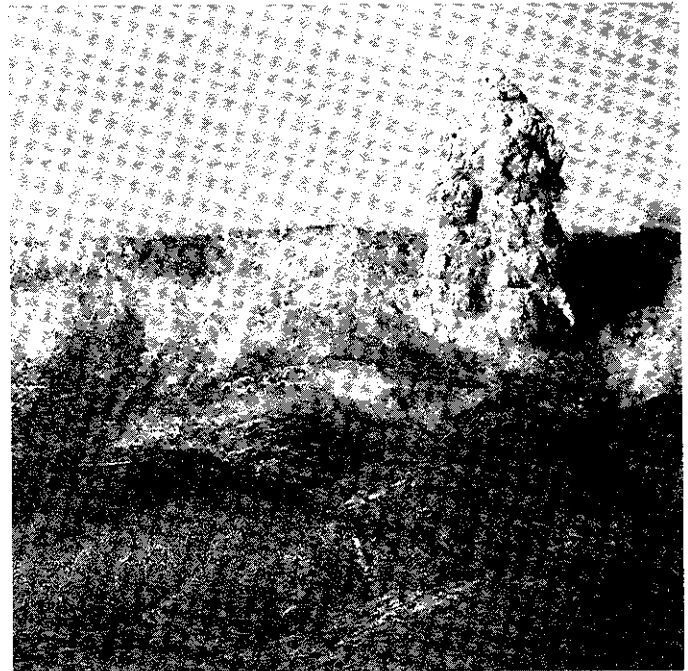
"On the contrary, as other technologies change (and) we move into unknown areas, the weapons must accommodate the change. We will need to keep on modernizing."

In fact, Wagner testified, "the DOE has not devoted as much effort as I think would be desirable to advance development. . . I believe that there is beginning to be seen the possibility of a new generation of nuclear weapon designs which will allow the designs to be much more specifically tailored to the needs of the DOD weapons systems."

A Warhead Design Gap?

Wagner told the House subcommittee that it was crucial to pursue advanced development "because we simply do not know what capability the Soviets may have in design-

*The other main reason often given by opponents of a CTB, the need for explosive testing to maintain stockpile reliability, was thoroughly dispelled by Drs. Garwin, Bradbury and Mark in their letter to President Carter, August 15, 1978. See *FAS Public Interest Report*, October 1978. For more on the Lab's attitudes toward a CTB, see *FAS/PIR*, June 1978.



Nevada test site: underground nuclear detonation "Blanca" of the Operation Plumbbob series, October 1958.

ing nuclear weapons themselves. We know they have a vigorous program. I think it would be a terrible thing if the Soviets were to in effect get ahead of us in the capability to design their nuclear weapons."

"I think that the experience of Sputnik would pale in comparison with what would happen if they got into this new generation of warhead designs before we do. So I certainly support the emphasis on increases in the capabilities of the laboratories and advanced development."

According to Dr. Edward Teller, "there is a new tendency in weapons work. One can clearly notice it in the set of activities at Lawrence Livermore National Laboratory. The early atomic bombs were considered good for one thing, destruction. This was not just an opinion, this was fact. We are now working on nuclear weapons for defense. I claim that this development will succeed. I have a suspicion that, as is true in many cases, the Soviet Union may be ahead of us in this military application as well. Therefore, quite apart from the fact that the MAD doctrine is simply mad, it is also unstable. The moment that someone has a good defense, MAD no longer works."

"There are an increasing number of applications in which nuclear weapons can be applied for strictly defensive purposes," says Teller. While complaining about the "classification practices" which prevent "an unlimited discussion on the new technical possibilities," Teller writes that there are "a couple of simple defensive uses which are known and which look more promising with each passing month."

Aside from the much-debated neutron bomb now in production in several versions for tactical battlefield use against tank armies and troop concentrations, Teller writes that "an even more important defensive nuclear weapon would be small (50-100 ton yield) nuclear explosives that are guided with the help of small and numerous radars into the path of incoming missiles."

THE AMERICAN WARHEADS MANUFACTURING CO., INC.

What follows below are excerpts from the recent testimony of Maj. Gen. William W. Hoover, USAF, Director, Office of Military Application, Department of Energy, before the Procurement and Military Nuclear Systems Subcommittee, House Armed Services Committee:

"We are something unique in the U.S. government—that is, a totally government owned, integrated industry. A corporation, if you will, for which we are responsible.

I would like the committee to consider themselves as the board of directors of that corporation. My remarks are in essence a prospectus of our corporation, and the record of this hearing will serve as our stockholder's report.

Let me touch briefly on the assets of our corporation. . . The total number of employees is about 35,000. That includes production plants, test facilities, and the laboratories—those people who work for the weapons program. Our corporation would rank in the top quarter of the Fortune 500, sir.

. . . The results of our R&D activities lead to our product line. . . warheads supporting weapons systems of the Department of Defense."

Maj. Gen Hoover testified that his "product line" presently includes nine different types of warheads, with several new systems scheduled to enter production over the next few years. In the strategic department, along with producing the W76 warhead for the Trident I missile, the W78 warhead for the Minuteman III, and the W80 warhead for the air-launched cruise missile, the "corporation" is developing the new W87 warhead for the MX missile's Advanced Ballistic Reentry Vehicle (ABRV) and a "modern strategic bomb", the B83, "that will be capable of high speed, low altitude delivery."

The "theater-nuclear product line" currently includes a new lower-yield warhead for the Ground-Launched cruise missile and the "Air Burst/Surface Burst" warhead for the Pershing II. Both weapons are scheduled for deployment in Europe at the end of 1983, and Maj. Gen. Hoover told the Committee that any delays in this schedule would not be the fault of the nuclear weapons complex:

"We in this complex are not going to be the ones to blink even if we have to make them by hand to meet the initial operational capability by (December) 1983," Hoover vowed.

Also in production are enhanced radiation warheads for the Lance missile (W70) and the 8-inch artillery fired atomic projectile (AFAP) (W79). The W82 warhead for the 155-mm AFAP is in engineering development, and the W81 warhead for the Navy's air defense Standard Missile-2 is now entering engineering development.

As for the future, Hoover testified:

"Like any good corporation, we have an investment

strategy which we have been pursuing for the last couple of years and we intend to pursue it in the decade of the eighties.

" . . . We think we need to increase our manpower in research, development, and technology by about 15% above what it was a couple of years ago.

"We think we need to increase the underground testing level. This has been verified by a special committee set up by the President.

" . . . The fiscal year 1983 budget is but one increment, therefore, of our investment strategy. We really need to look at it as a part of a longer range program. It is a 1-year budget part of a 3-year program part of a 5-year plan, and tied into a 10-year review of where we are going."

Facing the huge increase in workload imposed by the Reagan administration's "strategic modernization" program, Hoover testified that the response of his corporation, "like the rest of American industry, is, improve productivity."

"We feel strongly that we must have more new automation and computer-aided design and manufacturing techniques, and robotics."

An "interactive graphics systems pilot activity" at the Pantex assembly plant in Amarillo, for example, is helping "to program work better than 2.5 times faster."

"Depending upon what specific piece of work is being done, we have demonstrated cost-to-benefit ratios in the 2-to-1 to 5-to-1 category. We think that is all to the good."

Automated nuclear bomb factories monitored by robots? Is this really the kind of country we want to be?

—CEP

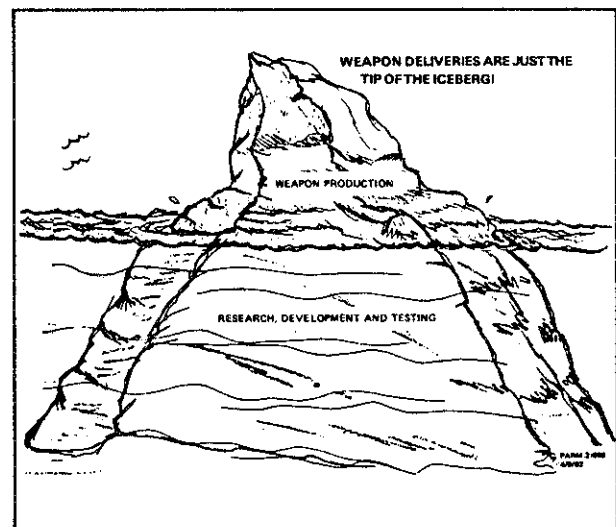
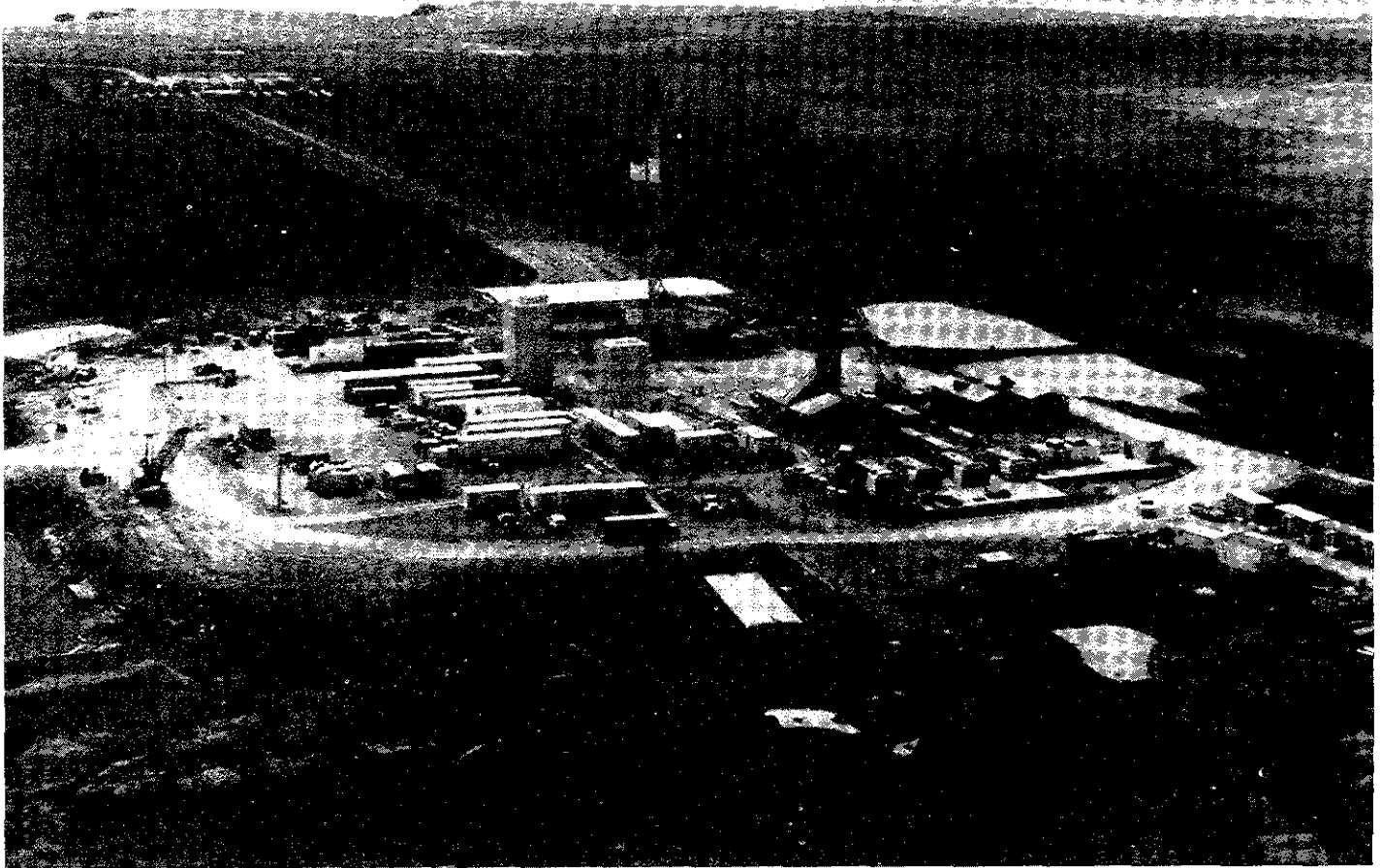


Illustration provided by Maj. Gen. William Hoover, Director, DOE Office of Military Application: "The nuclear weapon deliveries are really just the tip of the iceberg. The research, development and testing activities that support delivery of these weapons are fundamental to now and the future."



On Nov. 6, 1971, the Lawrence Livermore Laboratory proof-tested a high-yield ABM warhead at this site 5,875 ft. below the surface of Amchitka Island, Alaska. The controversial test was considered unnecessary by many observers, as the warhead was intended for deployment on the Spartan Antibalistic Missile, which was banned by treaty 6 months later. Now, 11 years later, Livermore is pressing ahead with a whole new range of ABM warhead designs.

“Not only will the defensive missile use its 100 tons (warhead yield) to prevent a megaton bomb from reaching its target, but it will even prevent a 100-megaton bomb from exploding with any appreciable force. It is important to do this high in the atmosphere; otherwise, the ensuing electromagnetic disorder will impede the functioning of defensive radar and will permit the attacker to penetrate on subsequent shots.”

“... We are at the beginning of the defensive uses of nuclear weapons, and it is hard to see how complete it can eventually become,” says Teller.

Development of the very-low-yield enhanced radiation warhead for the Army’s “Sentry” ABM system is under intensive development at Livermore. In March 1982 the Reagan Administration submitted a \$16.3 million request for “low-altitude defense system warhead production facilities, various locations,” but the Senate Armed Services Committee deferred the request until the Administration can produce a plausible basing-mode design for the MX missile, which the Sentry would be assigned to defend. Engineering development of the warhead continues, however, and the production equipment request will un-

doubtedly return in the FY 1984 budget cycle, along with a request for funding engineering development (Phase 3) of the warhead.

The .05-kiloton ABM enhanced radiation warhead is just the tip of the current warhead R&D iceberg at Lawrence Livermore and the other laboratories. Other “new concepts” include “directed energy” warheads—nuclear devices which use specially shaped configurations of the fuel elements to concentrate the energy of the nuclear explosion in a particular direction, and “EMP bombs”, whose pulses are concentrated in certain frequency bands and not in others, thereby allowing prospective nuclear warfighters to burn out Soviet satellites and communications systems but not their own.

As one former weapons scientist recently observed, “to those who say we’ve hit a plateau in nuclear-weapons development, I say that’s a misconception. There are dozens and dozens of energy forms, either direct or coupled with the environment, that are released in a nuclear explosion—x-rays, gamma rays, radio waves, thermal, and so on, and that’s just electromagnetic energy.”

(Continued on page 10)

By delicately partitioning the nuclear fueling process between different kinds of materials, he noted, "radioactive debris can be adjusted all over the place." All these possibilities add up, he said, "to a certain amount of control over suppression or enhancement for a wide variety of effects." The popular notion that "a bomb is a bomb" is simply not true, he said, "and that's why a Comprehensive Test Ban is an important measure for controlling the strategic arms race, and not just a helpful adjunct to a non-proliferation policy." Without a comprehensive test ban, he warned, the arms race could get "a lot worse" than it is today.

The prospect of a heightened interactive offensive-defensive arms race does not appear to faze the majority of the Senate Armed Services Committee, however, who warmly endorsed the Livermore initiatives in their recent report on the DOE National Defense Programs Authorization Act of 1983:

"The Committee is especially intrigued with emerging new concepts involving the so-called "third generation" of weapons. The effort does not focus on bigger, more lethal weapons; rather, the effort focuses on harnessing the power available in nuclear weapons for purely defensive purposes. These concepts could result in weapons which can only be used to destroy the offensive systems of a potential adversary, and may well render offensive nuclear systems ineffective, thus removing the threat of nuclear war. The Committee directs that the real growth in the research and development budget be earmarked for additional research on this "third generation" of weapons and that the Department develop a deliberate, multi-year program to exploit these concepts. This effort will be the subject of increased scrutiny by the Committee in future years.

The Reagan Administration's generally enthusiastic attitude toward nuclear weapons is epitomized by its observance of the anniversary of the bombing of Hiroshima. In a news conference on August 5 at the Nevada Test Site, Energy Secretary James B. Edwards told reporters that President Truman "made the right decision" 37 years ago when he gave the go-ahead for the atomic blast at Hiroshima, and Edwards vowed that the Reagan Administration would continue to test nuclear weapons. After witnessing his first underground nuclear test, the 11th blast of the year, Edwards said he found it "exciting," and hinted that the United States might resume high-yield tests if "our opponents" step-up their (alleged) programs aimed at strengthening their cities against possible nuclear attack.

Proponents of a nuclear freeze, he suggested, failed to appreciate that "the thing they're talking about is the weapon that can preserve their ability for free political discussion."

"The opposition is continuing to test," Edwards remarked. "This is one of those things where being No. 1 costs a little money and being No. 2 would be a cost nobody wants to think about." According to a *New York Times* account, Edwards said he regretted the necessity for more nuclear weapons, but "as long as we're in the race,

we want to keep the freedom of our civilization. We need to do what will keep it."

"I hope we never have to get into another war," he remarked. "If we do, I want to come out of it No. 1, not No. 2."—CEP

CRS HYPOTHETICAL CASE TURNS OUT TO BE SAD REALITY

A dozen "commentators" interviewed by the Congressional Research Service (CRS) condemned with "virtual unanimity" projected Reagan Administration appointments to the Arms Control and Disarmament Agency (ACDA) General Advisory Committee (GAC). The commentators agreed that the appointments would "represent a focused ideological viewpoint, not a spectrum of views, and would largely be defense-type ex-officials, analysts, or technicians, not high-level statesmen and citizens with broad and varied backgrounds who possessed a good grasp of foreign policy and other relevant public issues."

This unusual activity on the part of CRS occurred when the research service embarked on a report for the Foreign Relations Committee on "Appraisal and Proposal for Change" in GAC. CRS took a November, 1981 prediction of the future GAC composition from Foreign Affairs Report and asked its commentators, on a hypothetical basis, to describe what such projected membership would mean for GAC. By September, 1982, almost a year later, the Administration was sending up almost precisely the same names and the CRS hypothetical analysis had become real. The main difference was the blackballing of William van Cleave who committed truth in complaining that the MX deployment scheme the Administration urged would not, in fact, do much to rectify the vulnerability of land-based missiles. Besides substituting William R. Graham for van Cleave for Chairman, the Administration simply added two appointees: Eli S. Jacobs, a private businessman from California, and Robert B. Hotz, formerly with Aviation Week & Space Technology. Excerpts from this CRS report follow.

THE CRS ANALYSIS OF THE HYPOTHETICAL CASE

C. A Hypothetical Case

There was an unofficial and unconfirmed report published late in 1981 listing people that the Reagan Administration planned to nominate for the GAC. Without knowing the reliability or accuracy of this report, it was used as a hypothetical case to solicit an appraisal from the commentators. As it later turned out, the 12 nominations made by President Reagan in May 1982 had all been listed in the unofficial report. The only exception was William Van Cleave, as described below.

There was virtual unanimity among the commentators that the membership of the GAC as contemplated in the published report would constitute a sharp departure from past criteria. The alleged nominees would for the most part represent a focused ideological viewpoint, not a spectrum of views, and would largely be defense-type ex-officials, analysts, or technicians, not high-level statesmen and

THE CRS HYPOTHETICAL CASE

Foreign Affairs Report, November 1981
(Excerpts, Page 6)

"Shunting the 'Hardliners' Aside." That's the way one observer termed the carefully constructed move to place a number of hard-line supporters of the Reagan candidacy for President on the General Advisory Committee of the Arms Control and Disarmament Agency.

The "hardliners" referred to by Rostow's supporters at the White House have all been placed on the General Advisory Committee to the Arms Control Agency. The General Advisory Committee is a part-time, advisory board, which meets irregularly to give advice on arms control matters. The GAC is not in the regular flow of decision-making concerning arms control and has only as much say as Rostow will allow it. Slated to head the GAC is Dr. William van Cleave, who headed the Reagan transition team at the Department of Defense. Van Cleave already has fallen afoul of liberal Senator Charles Percy, Chairman of the Senate Committee on Foreign Relations. Percy is alleged to be influenced in his anti-van Cleave views by Thomas Watson, former Chairman of IBM and former U.S. Ambassador to Moscow, who feels that van Cleave is too much a hardliner. Also slated to serve on the GAC are: William R. Graham, who served on the Reagan Defense transition team; Colin S. Gray, Director of National Security Studies at the Hudson Institute; Roland F. Herbst, another member of the Defense transition team; Frank P. Hoerber, defense analyst; Charles Burton Marshall, defense analyst; Jaimie Oaxaca, Vice President of Northrup Corporation, a defense contractor; former Representative Shirley Pettis; John N. Roche, columnist and Professor at Tufts University; former Secretary of Defense Donald Rumsfeld; Soviet specialist Harriet Fast Scott; former Ambassador to Yugoslavia, Laurence Silberman; and Admiral Elmo Zumwalt, former Chief of Naval Operations. All are known to question the value of the Carter Administration's SALT II Treaty.

citizens with broad and varied backgrounds who possessed a good grasp of foreign policy and other relevant public issues.

One explanation offered why this particular group was selected was that the Reagan Administration felt some obligation toward them, but did not wish to, or was unable to include them in regular Government posts.

Subsequently the press reported that the Administration had rejected William Van Cleave as chairman. Van Cleave, often characterized as a "hard-liner," last fall had criticized publicly the President's decision on deploying the MX ICBM. Van Cleave was reported as saying that Edwin Meese 3rd, counselor to President Reagan, had told him his selection as chairman was reversed because of his op-

position to the MX decision.

It is acknowledged that other, undisclosed reasons might better explain the dismissal of Van Cleave. Nevertheless, if agreement with the President's defense decisions or political loyalty are now accepted as requirements for GAC membership, then this runs counter to the belief of most commentators that a spectrum of views should characterize the GAC and that one of its chief values is to permit Administration officials to hear different, even conflicting ideas.

Some commentators objected to a committee heavily populated with analysts and technicians on the grounds that this offers the President and other high administration officials nothing in the way of advice that they cannot readily get in other ways. The Government has in its employ numerous technicians who can be called upon and it also has funds to hire outside technicians as consultants, if necessary.

THE WORK OF THE GAC

A. Early Years

Since the work of the GAC was, and remains, classified no official information has been published on recommendations it has made to the President. However, there have been a few unofficial reports regarding some of its recommendations on important international arms control negotiations.

During the early years, although McCloy had much influence with the Kennedy White House, the GAC did not have much of a range of action beyond the Director of ACDA. Allegedly it made some recommendations, for instance, on nuclear test ban negotiations that were significant. In another instance, the committee supported U.S. ratification of the Geneva Protocol prohibiting use of chemical weapons. It helped to stimulate official action on this treaty.

After its decline in the Johnson era the GAC rose to heights of activity and positive attempts to influence policy during the first Nixon administration which have probably not been equalled since.

B. The MIRV Incident

In one noteworthy instance, as reported in the press, the GAC made certain recommendations for the SALT negotiations then in a sensitive stage in 1970 which became a minor *cause celebre*. It is the only time in the history of the GAC in which a serious leak occurred regarding its recommendations. It seems to have come from outside the committee, probably from a faction in the administration which thought it would help bolster its case against a contending faction. In April of that year the press reported that the GAC recommended a moratorium on deployment of offensive and defensive strategic missiles while the United States-Soviet negotiations were in progress aiming at formal agreements to control strategic weapons. The moratorium would have included a halt in the testing of MIRV warheads in the development of which the United States was then ahead of the Soviet Union. At that time the issue of controlling MIRV warheads was a controversial

(Continued on page 12)

(Continued from page 11)

one in the ranks of U.S. policymakers. There were strong pressures to retain the U.S. advantage. The United States officially proposed a ban on MIRVs but with on-site inspection, unacceptable to the Soviets. Later in 1970, according to more leaked press reports, the GAC proposed to the President a ban in the testing and deployment of MIRV warheads without any obligation of on-site inspection. By that time the United States had already decided to drop proposals to restrict MIRV warheads. Ironically, the committee's warning that without the restrictions it recommended the strategic balance could be upset has come true. The Soviet Union's development of MIRV warheads since that time has resulted in a serious threat to the survival of U.S. ICBMs.

C. Eclipse of the Committee

Although the President actively sought advice from the GAC early in the SALT negotiations (1969-1970) it appears that, as time went on and these negotiations became more involved and progressed toward agreement, the GAC's advice was no longer sought and probably had diminishing impact on those few officials at the top who were formulating U.S. policy. The efforts of the GAC in the policy arena brought it into contention with the National Security Adviser, Henry Kissinger, who was the center of arms control policy formulation at that time. Resistance to the overtures of the GAC was manifest in the fact that significant policy and negotiating documents were forbidden to it, thus crippling its ability to make meaningful recommendations. Within the committee

discouragement grew and its membership shrank. The fervor of the GAC might not have been so resented if its recommendations had been generally supportive of administration policy. But it was presenting alternative ideas that were out of harmony with the official line.

The character of the candidates nominated by President Nixon for the vacancies on the GAC in 1971 and 1972 with their particular viewpoints in regard to arms control and defense matters suggest that the President was no longer seeking a broad range of opinions and independence of thinking by the members of the committee. It appears that by 1972 the GAC had little if any effect on negotiations. It is now known that negotiations at that time on SALT were so closely held within the National Security Council that the chief negotiator himself, Ambassador Gerard Smith, did not know of highly secret negotiations being conducted in "back channels" by Henry Kissinger, the President's Assistant for National Security Affairs. Once the SALT I agreements were concluded in May 1972 and were ratified later that year, and once President Nixon was reelected, the GAC became relatively submerged for several years.

During the committee's life under President Ford it took what has been described as a "long view" in arms control matters. It avoided current problems and did not make recommendations, such as it had under McCloy, that were not welcomed by Kissinger and the President.

As noted above, the GAC enjoyed a resumption of Executive attention under the chairmanship of Thomas Watson when Jimmy Carter was President. Among others, it allegedly made certain noteworthy recommendations on deployment of the MX ICBM.

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