**Naval War College Review**

Volume 28
Number 5 *Autumn*

Article 4

1975

# Congress and the Political Guidance of Weapons Procurement

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*Understandably, initiative for weapons procurement has generally been taken by the Department of Defense and by the Armed Forces. But the Congress must fund current and projected weapons systems. In so doing, individual members, committees, and the Congress as a whole must grapple with difficult substantive issues; with many complex problems raised by advanced military technology, the procurement process, and the functioning of the Federal bureaucracy; and with very real political concerns. The Congress can, however, participate more effectively in the weapons procurement decisionmaking process.*

# CONGRESS AND THE POLITICAL GUIDANCE OF WEAPONS PROCUREMENT

by

Jonathan E. Medalia

Congress is taking an increasingly important part in military policymaking. In particular, it has devoted much effort to the guidance of weapons procurement. This guidance has obvious and important consequences for the military budget, the force posture, arms control, and national security. Yet this guidance is difficult for Congress to implement because of problems arising from some characteristics of advanced military technology, the weapons procurement process, bureaucracies, and the Congress itself.

## Advanced Military Technology

Certain characteristics are inherent in advanced military technology. Most weapons, and all major strategic weapons systems, contain many components, used here in the broadest sense of the term. All weapons have leadtimes—the time between their conception and deployment. Weapons built by assembling preexisting components may have short leadtimes; major strategic weapons systems, involving many components and technological advances, often have 5 to 10 year leadtimes. Moreover, each component has its own leadtime.

Weapons systems and their components are increasing in sophistication, however one understands the term. Fighter aircraft have improved ordnance and electronics; ballistic missiles carry multiple warheads having improved accuracy; antitank weapons can be precision guided: weapons systems incorporate many technical advances that usually—but not always—improve military capability. This constant progress in military technology provides many avenues for improving weapons systems.

Military technology draws on, and creates, hundreds of science and engineering subfields; advances in any one can improve a weapon's overall performance.[1] Technology may be transferred to improve weapons: an advance in civilian computers may be applied to a military computer, or an advanced engine for an Air Force missile may be modified for a Navy missile.

These characteristics force constant political decisions. The menu of weapons options increases as new developments are made. As improvements become possible, they may be seen as necessary, especially if opportunities to improve U.S. weapons indicate parallel Soviet opportunities. And a constant stream of decisions must be made for each weapons project to continue.

While technology forces decisions, it also makes them more difficult by creating uncertainties. It is easy enough for politicians or bureaucrats to approve a weapon that is both militarily improved and cheap. The real world, however, forces trade-offs. Should a new weapon be cheaper so that more may be built? Which capabilities should be foregone to reduce cost? Improving one aspect of a weapon's performance may degrade its performance elsewhere. A weapon may be improved if, through delay, technology advances and the threat it is designed to counter becomes clearer. But delay could be hazardous if the weapon is needed before the improved version is built. Increased quality or quantity may enable a weapon to perform alternative missions, as in the case of improved multiple independently targetable reentry vehicle (MIRV) accuracy or wider antiballistic missile (ABM) deployment. Some technical unknowns may be recognized in advance, but others appear only as work progresses. (The aerospace industry refers to the latter as "unk-unks," or unknown unknowns.) Intelligence on which to base decisions is imperfect, partly for technical reasons. Military hardware decisions affect—by intention or otherwise—service missions and budgets, force structures, relations with allies, and national security. Yet leadtimes force decisions to be made in the present for weapons systems that must counter future, and perhaps unknown, threats.

## U.S. Weapons Procurement Style

Technology develops and technical decisions are made within a context of a nation's style of military procurement, which in essence is a set of expectations and understandings: what directions are appropriate for military technology; what types of technical characteristics should be traded for what others; who may participate in decisionmaking, and in what ways. This style is independent of technology: nations have different styles. But for each nation, the style links technical progress and the political system, strongly affecting both.

Two central characteristics of the American weapons procurement style affect congressional and bureaucratic handling of military policy. First, there is a quest for extreme technological sophistication. One rule of choice in designing weapons was stated by John Foster, former Director of Defense Research and Engineering: "Classically, the entire RDT&E [research, development, testing, and evaluation] community—and the military themselves—have favored performance over schedule and schedule over cost."[2] In following this rule, engineers tend to maximize technically elegant capabilities, such as speed and thrust-to-weight ratio on fighter aircraft, and sacrifice such prosaic characteristics as reliability, maintainability, and combat performance for them, increasing costs and producing delay.[3] Weapons systems built under Foster's rule typically incorporate many exotic components, advanced designs, and capability for multiple missions. The problem of

exotic components of dubious military value is so pervasive that it has its own name, "goldplating."

Second, participation in weapons systems decisionmaking is widespread.[4] To participate, a group needs resources and motivation. Most interested groups can obtain resources of some sort—expertise, decisionmaking authority, supporters, money, access to publicity, or a claim that a decision affects them. Hence decisions are open in some way to almost anyone who cares to participate.

In practice, participation is selective. Groups which have the largest stakes and are willing to spend the most resources participate more, and more effectively, than others. They are more familiar with the decision process and the means of influencing it. In addition, they may use their resources to exclude opponents so that the latter's views will not affect the decision. If an opponent believes that technical expertise or classified information is a prerequisite for participation, then his lack of these resources may reduce his motivation to participate. If a potential opponent believes that he will not be affected by a decision or is unaware that a decision is pending, he will have little reason to participate.

Technical sophistication leads to selective participation, and vice versa. Because weapons systems contain many components and draw on many skills, many groups and individuals stand to benefit electorally, bureaucratically, or economically from a new weapons system. This constituency includes scientists, engineers, industries, laboratories, elements of the Department of Defense (DOD), other bureaucracies, labor unions, universities, local politicians, and Congressmen.

The example of remotely piloted vehicles (RPV's) shows how technical sophistication encourages the emergence of constituencies. These are small unmanned aircraft guided in real time by a remote operator working from a television display.[5] Most RPV projects are currently in research and development (R. & D.) stages. Progress in many technologies has made RPV's much more feasible in the last few years; these technologies include command and control systems, computers, electronic warfare devices, engines, imaging infrared devices, lasers, materials, precision-guided munitions, signature reduction techniques, and televisions. Many military officers, defense scientists, and others believe RPV's will be able to perform a wide range of military missions.[6] Thus, even at a relatively early stage ($36.97 million requested for RPV R. & D. for DOD and the services in fiscal year 1975),[7] at least 46 agencies in the 3 services and at least 87 contractors have conducted RPV projects.[8] These constituents identify new missions, and new missions involve new constituents. Thus these projects have created the nucleus of a constituency sensitized to RPV potential.

Weapons systems also involve many monitors—groups and individuals in the military services, other executive bureaucracies, Congress, research organizations, and elsewhere who scrutinize weapons programs to see that they are meeting cost, performance, and schedule objectives, and to inform Congressmen and administration officials about the status of these programs. Yet new weapons programs often involve new organizational relationships, new technology, and more or better organized constituents, impeding the monitors' scrutiny. One standard solution has been to have more monitors and more regulations in order to give the highest authorities more control and to make their decisions, which involve high economic stakes and many interested parties, procedurally justifiable. Indeed, Arthur Alexander believes "equity rather than efficiency is the dominant feature of this [procurement] game."[9] Thus monitoring is often ponderous and

costly. The paperwork for one bid by one contractor on a major weapons system sometimes weighs over a ton, and 15,000 regulations may apply to building a ship.[10] The number of monitors appears to be increasing—new monitors in Congress, for example, include the Congressional Budget Office, House and Senate Budget Committees, the Office of Technology Assessment, and a Senate Armed Services Committee (SASC) professional staff that has increased from 3 to 12. Increased use is being made of the General Accounting Office, and the Congressional Research Service has an expanded staff and mandate; both organizations are responsible to the Congress.[11] The Joint Economic Committee and the Senate Foreign Relations Committee have considered topics—such as the military budget and weapons procurement—traditionally considered by the SASC and the Defense Appropriations Subcommittee.[12]

All these constituents and monitors participate in weapons systems decision-making: they are given, or have, goals and resources. Any one can use its resources to shape the weapon more to its liking, to delay or veto it, or to force other participants to compromise. An attractive compromise which leads to sophistication in advanced military technology is to include on a weapon the technology that a participant wants. Many components are desirable, though not essential, and components, like weapons systems, have their own constituencies. As long as funding is adequate or overruns or performance inadequacies are not visible, a decision-maker can avoid deciding between components and can have additional technical sophistication simply by including more components on a weapon.

This tendency is reinforced by another aspect of the U.S. weapons procurement style, "the tendency to concentrate development efforts on a few very large systems," which "encourages the services to include in a basic new weapon system all the improvements in various components that have been developed since the last system."[13] In particular, bureaucracies and contractors must press for specific components to be parts of a major weapons system in order to secure substantial funding for them; these components, if approved, may well be designed into the weapon. Thus selective participation can lead to technological sophistication in several ways.

Selective participation, and thus sophistication, are reinforced by asymmetrical incentives that can promote participation by constituents and monitors and impede participation by potential opponents. A weapons system's constituents must win funding struggles to obtain any benefits. They thus face intense pressure to restrict information on shortcomings, to stress salable characteristics, to lobby vigorously, to limit participation by others, and to press the monitors to modify their reporting—in a word, to become advocates. At the same time, no identifiable group gains monetarily by stopping a weapons system or by obtaining more efficient management. Members of public groups may obtain psychological benefits from opposing a weapon on arms control or priorities grounds. These benefits are available from the struggle as well as the victory, however, reducing the incentive for these people to spend the resources needed to win.

Technical characteristics also tend to exclude participation by would-be opponents. Long leadtimes may prevent them from learning of decisions in time to act effectively. The large number of components impedes their ability to monitor decisions. Sophisticated technology and its implications are hard for them to understand, and such understanding may appear a condition of participation. Since these opponents tend to advocate reduced sophistication, if not termination, of

weapons projects, their exclusion promotes sophistication.

### Bureaucracies

Bureaucracies have goals of their own that affect their behavior. As Morton Halperin finds after participation and study,

> All organizations seek *influence*, many also have a *mission* to perform, either overseas or at home, and some organizations need to maintain expensive *capabilities* in order to perform their missions effectively.[14]

And,

> Organizations with missions strive to maintain or to improve their 1) autonomy, 2) organizational morale, 3) organizational "essence" [i.e., a sense of what fits the organization's self-image and central purposes], and 4) roles and missions. Organizations with high-cost capabilities are also concerned with maintaining or increasing their 5) budgets.[15]

These goals cannot be discussed here in detail; for present purposes, it is enough to recognize that they exist.

These goals can conflict with congressional goals. A congressional decision regarding a weapons system may prevent a service from obtaining a desired capability or mission. Strong congressional opposition to a policy may limit the autonomy and the budget allocated to a service for that policy. Congressional access to many sources of information may lead Congress to consider choices that oppose the interests of some bureaucracies.

Technology and the U.S. weapons procurement style provide resources for bureaucratic strategies that maximize apparent congressional commitment to weapons projects or that control the flow of information to Congress. In using these strategies, bureaucracies can make congressional attempts to guide weapons procurement appear less attractive, even influencing Congress not to participate in some decisions at all.

Congressmen usually want to maintain control and preserve their options when they can; many have seen weapons programs acquire tremendous momentum and become seemingly unstoppable. Technology helps bureaucracies give Congressmen the illusion of continuing choice. Initially, bureaucracies may present highly optimistic estimates of a new weapon's performance, cost, and schedule. Since these estimates involve technical expertise and unknowns, they are hard to dispute even when they appear overly optimistic.

R. & D. projects may be presented as expanding the range of choice. In discussing the American R. & D. program, John Foster observed that in areas where American R. & D. is ahead of Soviet R. & D., we can interpret fragmentary evidence of Soviet R. & D. more easily and with more confidence because of our own work.[16] Moreover, he said, R. & D. provides options or "hedges" that reduce the leadtime to deployment and let us avoid crash programs in reaction to new Soviet developments: "At each stage in our decisionmaking [on MIRV] we could be prudent and restrained in deployment mainly because our technological leadership permitted us to overcome much of the continued Soviet secrecy."[17]

R. & D. projects are low in cost, have few opponents, and have low visibility in the public or Congress. Their arms control and foreign policy implications are usually unclear, their technical deficiencies and any optimism in estimates regarding them have not become apparent, and Congressmen can see them as too insignificant for concern. Their small cost seemingly implies little commitment to an expensive weapons system. Accordingly, the claim of technical potential or military value may suffice to obtain initial congressional funding.

As weapons projects gain larger budgets and constituencies, it is to the advantage of bureaucracies to reassure Congressmen that these projects are subject to continuing political control in R. & D. and even during deployment. As Secretary Laird said in 1970 regarding the proposed deployment of the Safeguard ABM: "This deployment . . . does not commit us to further Phase II deployment without further review and further decisions. The deployment can be modified as required by changes in the threat, arms limitation negotiations, or unilateral actions of the Soviet or Chinese Communists."[18]

Yet once weapons projects are underway, technology can provide bureaucracies with resources for claiming Congress has no choice but to continue. Hedges may become wedges, or first installments on expanded programs, despite assurances to the contrary. As a weapons system moves from conception to production, design and budgetary commitments rapidly increase.[19] Progressively fewer alternatives could start from scratch to compete with the ongoing program in terms of schedule, cost, or performance. Advocates may use the sunk cost argument: the weapon must be completed or the money already spent is wasted. They may also claim that the weapon, or the Soviet weapon it is intended to counter, has reached a "point of no return" past which verification has become impossible, so that agreements limiting it are not negotiable or that the United States has no way to know how many of a new weapon the Soviets have deployed.

Advocates may claim, as was done with ABM, that "*Safeguard technology is the only technology which is ready for deployment now,* and hence can reach operational status roughly at the same time at which the threat becomes most serious"[20] This line of analysis is not necessarily correct. In this specific case, the claim that an ABM system to protect Minuteman missiles could be deployed on time only by using existing components was misleading. First, deployment has taken longer than expected, even though Safeguard was "ready for deployment" in 1969.[21] Second, Safeguard deployment would not necessarily protect Minutemen.[22] Third, some argued that a simpler ABM designed to defend Minutemen could have been assembled from such existing components as computers and smaller radars in a reasonable time.[23] This leadtime claim can be plausible even when false. But if it is accepted, the cost and characteristics of a weapons system and the timing of its deployment are constrained by previous "technical" decisions, in which case projects presented as enhancing political choice may limit it.

Bureaucracies may use technological sophistication to their advantage. For weapons having sophisticated components, a case can be made that some components have long leadtimes, requiring advance procurement which may, in effect, be early commitment to the entire weapons system. For example, the Navy claimed that the reactor for the Trident submarine had a 6-year leadtime and that procurement of the reactor should begin without delay. Senator Symington disagreed. He saw the reactor as a commitment to Trident.

> I challenge that it would take six years to build a powerplant if at the start you knew what you wanted. . . . Getting the money now is the camel's nose under the tent. . . . The next story we get, time and time again, is, "We have already started this program and will waste all this money if we don't go ahead."[24]

Short leadtimes can also pose problems for Congressmen. Technical progress may reduce political control by shrinking the time available for action or by hiding a situation from political

view altogether. Progress on components enables some new weapons to be created rapidly and allows capabilities of existing weapons to be modified substantially and rapidly.

Bureaucracies manage the development of weapons systems. This becomes a bureaucratic resource; they may promote certain weapons and slow others with an eye to the missions they prefer. A central Air Force mission is the conduct of strategic nuclear attacks in manned bombers. While supersonic flight at high altitudes and near-supersonic flights at tree-top level are very expensive, the Air Force wants these capabilities and has advocated the B-1 bomber. This conflicts with the goals of some Congressmen who believe that there are satisfactory lower cost alternatives to the B-1. For example, the Senate Armed Services Committee called for development of the subsonic cruise armed decoy (SCAD), a standoff missile. (A standoff missile is launched by an aircraft or ship outside the range of enemy defenses.) SCAD would assist bomber penetration of air defenses. The Air Force, however, saw SCAD's standoff capability as a threat to the B-1 rationale and cancelled SCAD. In unusually blunt language, the SASC in 1973 described the fate of that missile:

> Two years ago . . . the Armed Services Committee . . . directed the Air Force to pursue [SCAD] development as a dual role system in order to provide both a decoy and an armed capability. The Air Force has proceeded with this program solely as a decoy, notwithstanding the direction of the Congress.
>
> It is generally recognized that the Air Force has resisted pursuing SCAD with an armed warhead because of its possible use as a standoff launch missile. This application could jeopardize the B-1 program because it would not be necessary to have a bomber penetration if a standoff missile were available as a cheaper and more viable alternative. . . .
>
> Last year the Air Force justification for this program identified it as having application not only to the B-52 but also the follow-on B-1 bomber. The Air Force now states that the B-1 bomber can penetrate without the SCAD as a decoy and that the SCAD, as it is presently being developed, could not be used on the B-1. This represents a dramatic departure from the original concept for employment of this system.[25]

At the same time, the Navy saw strategic cruise missiles (essentially small unmanned aircraft) as opening new missions and providing new capabilities, and pushed them vigorously despite SASC concern over the initial variety of cruise missile projects being pursued. The committee felt that SCAD should be pursued instead of a strategic submarine-launched cruise missile. Although the SASC deleted all funds from the latter program, some were restored in conference and the Navy continued work on these missiles. Thus the Air Force and Navy used management of these weapons programs to promote multiple bureaucratic goals in the face of Senate opposition based on fiscal and strategic considerations.

In managing technical development, bureaucracies obtain informational resources. For example, as evidence of Soviet R. & D. is acquired, parallel American R. & D. may enable the interpretation of fragmentary intelligence data. The people who have done the R. & D. are best able to interpret such data. It is only normal for them to relate ambiguous data to their project more easily than they could to a project they are not familiar with. Since they are generally advocates of their project, however, they have a strong incentive to

support its continuation; ability to interpret available evidence is one resource at their command.

The classification system can increase the value of technical information for bureaucracies by enabling them to use it selectively. It is common knowledge that information may be classified for purely bureaucratic reasons, such as to hide overruns or poor performance. It may be released for bureaucratic advantage in trial balloons, backgrounders, and leaks, or simply by declassification. DOD has supported its position with selectively declassified information in the 1969 ABM debate, the "R. & D. gap" of 1970-71, the 1971 debate over the Cannikin nuclear test, and annual DOD budget requests.[26]

The impact of classified information may be heightened, and the possibility for countering it reduced, by judicious timing. Information was declassified and released hours before the Senate vote on the Cannikin test. In a letter to Senator Pastore, the leader of Senate support for the test, Deputy Secretary of Defense David Packard said that the test was "essential in my view, to the optimum defensive deployments of Safeguard for protection of the Minuteman missile sites."[27] This was the first public announcement of the purpose of the test. This timing restricted criticism; not until after the vote could the Federation of American Scientists, which has opposed many administration strategic policies, issue a critique of the statement.[28]

The persuasiveness of much classified technical information can be enhanced by its apparent impenetrability. Supporters of DOD positions in Congress sometimes claim they must rely on authorities. Specifically, they can refer for "objective technical advice" to people working on a weapons system as having the greatest—and most relevant—expertise concerning it. Senator Pastore did this in advocating Trident. On 27 July 1972, the day of the Senate vote on the fiscal 1973 Trident authorization, he said:

> As we agonize over these problems, what do we do? When a man is sick he goes to see his doctor. He does not try to cure himself because, after all, he has not had the training.
>
> When we . . . want to get the best advice on subjects we ourselves have not been trained for, what do we do? We go to the experts.
>
> . . . So, in this moment, what does John Pastore do? He looks for the expert. To whom does he turn? He turns to the father of the nuclear Navy, Admiral Rickover . . . his name will be immortal when American history is written. . . .
>
> So, this morning . . . I telephoned "Rick," as I call him, and I said, "Admiral, on Trident give it to me, and give it to me straight."[29]

He then read a letter from Admiral Rickover advocating Trident.

Finally, classified information is a valuable bureaucratic resource because access to it can appear as the price of admission to decisionmaking even when it is not. Restricting access to decisionmaking restricts the range of policy choices that must be considered. When information is widely available, as in the ABM debate, the range of participants and choices increases.

### Congress

Military technology, the U.S. weapons procurement style, and bureaucracies pose difficulties for Congressmen trying to guide weapons procurement policy. These difficulties can be compounded by congressional responses to them. As with other participants, congressional motivations shape these responses. We shall examine two central

motivations, electoral and substantive. The interplay between these motivations affects Congressmen's choice of issues to consider and of strategies for handling them. In particular, we shall examine arms control as a substantive motivation because it illustrates well the tension between electoral and substantive motivations and because Congress has spent considerable effort in promoting arms control.

Writing in 1975, Franklin Long observed: "The 1960 definition of 'arms control' remains entirely adequate today; paraphrasing Thomas Schelling slightly, it is: a) to reduce the probability of war, b) to reduce the costs of preparations for war, and c) to reduce the death and destruction if control fails and war comes."[30] This definition has its limitations for identifying congressional arms control advocates. Every Congressman, regardless of position on specific issues, would claim to support each of Schelling's three goals. Contending sides in congressional debate argue that their way best promotes these goals. Who is to say which is right? Even if one could determine which votes support arms control, Congressmen have multiple motivations: one cannot know if a Congressman cast a pro-arms control vote *in order to* promote arms control. Since the administration budget request has defined the upper limits for most strategic programs in recent years, and since the strategic debate in Congress has been defined in terms of opposing or supporting administration strategic policies, we shall roughly label the contending congressional sides as critics and supporters of administration strategic policies, or simply as "critics" and "supporters."

Congressmen want to be reelected and take many actions in military policy and elsewhere toward this goal. David Mayhew notes three types of electoral activity: advertising, credit claiming, and position taking.[31] In military policy particularly, where decisions involving high risks must be made under considerable uncertainty, a fourth activity is also important. Dean Rusk called it "the effort to diffuse or avoid responsibility," and felt it of far more consequence than the struggle for power.[32]

At the same time, all Congressmen have a genuine desire to promote national security as they see it; some work for arms control goals even when they see little or no electoral payoff. Electoral motives alone cannot account for the efforts of Senator Brooke to limit MIRV flight testing; of Senators Case, Hart, Humphrey, Kennedy, Mathias, Muskie, and others on behalf of a comprehensive nuclear test ban; or of Representative Leggett and Senator McIntyre to restrict ballistic missile accuracy. Such efforts are nearly invisible to the public.

Electoral and arms control goals may conflict. Arms control goals, as indicated by strategic doctrine, rarely involve much publicity, so rarely offer major opportunities for advertising, credit claiming, or position taking. The public is generally unconcerned with arms control *per se*. People may become concerned about issues having arms control implications, but this concern has in the past focused on immediate personal threats posed by these issues—fallout in the Nuclear Test Ban Treaty case and backyard bombs in the ABM case. Critics may link the resulting publicity to arms control. When the direct personal threat ends, however, public interest declines precipitously and congressional (and executive) interest is likely to follow. Thus we have a limited rather than a comprehensive nuclear test ban treaty.

On the other hand, congressional actions often have multiple payoffs. Accordingly, it is simplistic to dismiss publicity-oriented efforts as merely cynical or to view substantive actions as taken solely in the national interest. Substantive actions appear

"responsible" and "statesmanlike" to constituents; this is good electoral politics. A Congressman may develop access to the national media for electoral reasons, but may use this resource to promote substantive goals. Media coverage may be used for communication within the Congress. As former Senator Albert Gore recalled in a 1973 interview discussing the ABM debate of 1969:

> I realized that the only possible way to win on this issue was to go over the head of the President, to take it to the public. You only reach the Congress itself on a technical issue on a rebound from the public. It's very difficult to reach one hundred Senators through a subcommittee in a public hearing unless you reach them through publicity. My fellow Senators, I realized, were not apt to read the hearings but they would read the daily press and they would watch daily television, they would read their mail, they would be aware of their constituents' interest in and sentiment about the issue.[33]

Media coverage of a Congressman's efforts also leads outside groups and bureaucratic allies to provide him with public support, information, and other resources for promoting substantive goals. And no Congressman can long promote the national interest as he sees it without being reelected.

Five strategies used by Congressmen in handling weapons procurement issues illustrate the interplay between electoral and substantive motives and summarize much of how and why Congressmen participate in weapons procurement policy. We shall discuss these strategies and their associated electoral payoffs (abbreviated E+), arms control payoffs (AC+), electoral drawbacks (E-), and arms control drawbacks (AC-).

**Strategy 1: Support the President.** A Congressman may claim that he acted as the President said the national security required. Many Congressmen use this strategy because they believe it promotes national security and because they see their role as a "board of directors." They believe it appropriate for the administration to make policy and for the Congress to monitor and approve its general direction unless it entails grave and obvious difficulties. These Congressmen have also been described as the "king's party," supporting the administration out of a sense of duty.

*E+:* Military technology poses electoral risks for Congressmen, as it requires high-stake decisions to be made under uncertainty. Congressmen can pass responsibility for policy to the President, claiming his authority and his access to expertise are essential for sound policymaking. This lets them take a statesmanlike position that is easily defended, politically safe (if not mandatory) in some constituencies, and useful for obtaining DOD contracts. This position uses few resources of its congressional adherents because DOD or the White House often provide coordination, speeches, or background material. It requires no technical expertise for Congressmen to claim they supported a position at the President's request. Yet if the policy fails, they can blame the President and avoid political responsibility. The President and his congressional supporters can thus exchange resources for mutual benefit. *AC+:* Few if any. *E-:* Since Congressmen using this strategy need little technical or policy knowledge, they are more likely to be vulnerable to criticism on technical or policy grounds. *AC-:* This strategy gives its users little incentive to study the substance of their position, makes military committees less responsive to divergent congressional views, and reduces the Congress' ability to monitor, let alone question, administration policies.

**Strategy 2: Constituent Benefactor.** Congressmen may feel unqualified to evaluate the arms control implications of new weapons, but they are more confident of their ability to evaluate the electoral implications of weapons projects that provide jobs for their constituents. Congressmen, including critics, usually support such projects regardless of their arms control implications.

*E+:* Creating jobs is a sure way to win votes. Little effort may be needed to claim credit; indeed, a Congressman who did nothing to obtain a contract for his district may believably claim credit.[34] *AC+:* Critics may need to use this strategy to stay in office. *E-:* This strategy may antagonize some constituencies, especially national ones; this is especially important for presidential aspirants. *AC-:* This strategy undoubtedly reduces administration respect for congressional critics' motivations. Administration control over allocation of jobs may inhibit congressional criticism of its policies and may place Congressmen in its debt.

**Strategy 3: Responsible Critic.** A Congressman learns of an arms control problem or opportunity, studies the situation, and acts to improve it. He may mobilize publicity in order to communicate within Congress and to the administration. More likely, he will seek changes in committee, introduce amendments, meet with administration officials, or take other actions that attract little publicity.

*E+:* This strategy may appear statesmanlike to those constituents who follow the issue. *AC+:* It can place an arms control issue on the agenda of unfinished business and can educate policymakers about it. This may produce results rapidly or, more likely, may prepare the way for later actions. *E-:* It may involve spending time, effort, and other resources on an issue having little electoral payoff. *AC-:* Issues are often chosen for this strategy haphazardly: a staff member has studied it, a journalist discovers that a technical development has arms control implications. Sometimes a Congressman becomes interested in a narrowly defined issue and makes it a policy "hobby." As a result, this strategy discourages linking such issues to larger policy goals.

**Strategy 4: The Big Challenge.** This strategy is best exemplified by the Senate ABM debate of 1969 and by congressional challenges to the B-1 bomber, the Trident submarine, and MIRV. It nominally seeks to delete or reduce funding for a major weapons system at or near a deployment decision. Since such victories are rare, it may also seek to raise issues to congressional, public, and executive attention. It involves mobilizing expertise in and out of Congress, coordinating congressional and other resources, drawing the attention of other Congressmen, and, when possible, mobilizing or capitalizing on public support.

*E+:* This strategy allows Congressmen to take visible positions on national issues, especially when intense publicity is involved, thereby looking statesmanlike. *AC+:* This strategy may place issues on the agenda for future congressional or administration action. It may lead some Congressmen to learn about the issue; they may, in turn, modify their positions, as happened with the SASC on Trident, ABM, and MIRV. It encourages Congressmen to devote resources to military policy. It provides critics with bargaining leverage within the Congress or vis-a-vis the executive branch. *E-:* Recorded votes force Congressmen to take visible positions; for large, diverse states, this will inevitably alienate some constituents. *AC-:* Both sides tend to make the debate a stark, oversimplified contest between good and evil, especially when publicity is involved. Also, this strategy is often used well after a constituency has

developed and key technical decisions made, making its success less likely and less efficacious.

Strategy 5: Outrage. A Congressman learns of a cost overrun, performance deficiency, instance of waste or mismanagement, misleading or false bureaucratic statement, or other cases where reality and expectation diverge on major weapons systems. He then publicizes his anger, such as through hearings or speeches. His charges may be carried by the media and produce a brief controversy.

*E+:* A Congressman may use this strategy to gain substantial publicity with little expertise, because often the issue under challenge is narrowly drawn and the opposing case indefensible. For Representatives, who have more trouble than Senators in obtaining publicity, this strategy offers a good chance of gaining nationwide—and thereby districtwide—recognition, as Representative Aspin has found.[35] The strategy allows a Congressman to show himself as "just folks" rather than as a calculating politician. Constituents do not expect a Congressman to know of all military procurement difficulties, let alone how to prevent them. In seeming to share constituents' anger at the uncontrollability of the Military Establishment, Congressmen reinforce these expectations, thereby avoiding responsibility for the difficulties being criticized and the need to do anything about them. *AC+:* The cumulation of these cases helps build public support for critics. The electoral payoffs provide a strong incentive for Congressmen to monitor military procurement. The strategy facilitates remedial legislation. It may also be the only congressional response possible when bureaucratic strategies or inadequate congressional monitoring produce a *fait accompli. E-:* Few if any. *AC-:* Since this is a *post hoc* strategy, it does not change the situation in question. This strategy, with its issues selected for their electoral payoff, may put Congressmen "on the record and off the hook," reducing their incentive to study arms control problems. The ease of obtaining electoral benefits through issues discovered haphazardly and chosen for no substantive reason makes Congressmen less likely to monitor military procurement in a more routinized and effective manner. Finally, this strategy can reinforce one view found in the executive branch: that Congressmen are interested only in electoral aspects of issues, know little of substance, and are unwilling or unable to do their homework. This view encourages bureaucrats to ignore or maneuver around them.

Electoral and arms control objectives sometimes appear to conflict. For most of these strategies, when the primary payoff is electoral, the primary drawback is for arms control, and vice versa. For the critics' strategies, however, there is a longer term mutually reinforcing interaction between these two goals. The Military Establishment, in seeking to avoid political control, has created a public image of being out of control. This image supports congressional efforts to control it. Some strategies with electoral payoffs that oppose administration strategic policies, such as "Outrage" and "The Big Challenge," feed this public image. In so doing, they build a climate in which arms control comes to be seen by Congressmen and the public as responsible. As the electoral value of arms control increases, working for arms control objectives may show opportunities for using these two strategies for electoral gain. Conversely, these strategies may expose arms control opportunities.

## Congressional Opportunities

How can Congress participate more effectively in weapons procurement policymaking? The foregoing analysis suggests several opportunities, including

the use of strategic doctrine, of monitoring R. & D., and of congressional procedures. Again, arms control will be used to illustrate these opportunities.

**Strategic Doctrine.** Executive branch resources are overwhelming in military policy. Yet Congress controls resources critical to bureaucracies, such as the budget. Congressional critics have difficulties in harnessing these resources to promote arms control. While Congress cannot duplicate executive branch technical and analytic resources, it can compete with the executive in assessing the desirability of alternative military policies. Strategic doctrine provides a highly useful framework for making this assessment. It offers a selective focus for deciding which issues to consider, thereby using limited resources to best effect.

Deterrence is currently the dominant strategic doctrine. It seeks to maintain strategic stability so as to prevent nuclear war. Theorists have focused on how to deter nuclear and nonnuclear attacks, and how to respond if deterrence fails. These questions involve the conditions under which the U.S. Government would risk national survival; Congress has a right and a duty to ask them.

Strategic doctrine may be used to criticize policies not based on doctrine. A critic has a strong case if he can show that such policies were made for narrow bureaucratic or political reasons or that they merely evolved incrementally. In September 1974, for example, Senator Nunn claimed that the U.S. stockpile of tactical nuclear weapons in Europe had "just accumulated over a period of years" and "not on the basis of any logical analysis."[36] He used this logic in amending the fiscal year 1975 military procurement authorization bill to freeze the size of the nuclear stockpile in Europe while having DOD study U.S. policies regarding tactical nuclear weapons and their relation to deterrence and conventional forces.

In considering strategic policy, the Congress sometimes has great difficulty in relating means to ends. Congressional critics may use strategic doctrine on behalf of mutually reinforcing incremental steps that promote a larger policy objective. This might be called "jointed incrementalism," and it has been of value for arms control.[37] For example, the détente fostered by the Nuclear Test Ban Treaty assisted the negotiation of the ABM Treaty, which was based on deterrence doctrine and furthered strategic stability and détente. And the risk in withdrawal from one treaty is magnified because it could threaten other treaties, détente, and the prospects for future treaties.

Doctrine can open new areas for arms control. If the United States had not accepted strategic parity—as much a consequence of deterrence doctrine as of the difficulty of maintaining superiority through technical means—the Strategic Arms Limitation Talks (SALT) could not have been held. Strategic factors were of considerable importance in the SASC's 1970 limit on area ABM, which constrained President Nixon's SALT options. This limit apparently made an ABM treaty more attractive to the administration. If future political leaders decide that increased intercontinental ballistic missile vulnerability is a source of instability, they could eliminate these missiles unilaterally or by treaty and move from a triad to a dyad of strategic weapons.

Strategic doctrine is itself subject to change. Policy goals change as new domestic and international realities present new constraints and opportunities. Technological change affects the means of reaching fundamental policy goals. These changes may in turn force a change in doctrine, presenting new opportunities and constraints.

Since doctrine affects policy outcomes, executive branch policymakers try to change it to their advantage. Congressional critics could do likewise.

Congress affects doctrine anyway, even if by default. Appropriating funds for alternate weapons systems can promote goals indicated by alternate doctrines. New congressional resources should enable critics to guide doctrine more effectively. Even when they are unsuccessful, debate over doctrine can illuminate areas of disagreement, expand areas of agreement, and sensitize Congressmen to the implications of alternative policies.

While doctrine is a useful guide for arms control efforts, it has its limitations. For example, existing theories are of little value in predicting the extraordinarily complex interactions involved in tactical nuclear warfare or the requirements for deterring it. Similarly, doctrine is of limited utility for the complex negotiations on the reduction of military forces in Europe.

**Monitoring Military R. & D.** Congressional critics have often used doctrinal arguments to try to stop strategic weapons systems facing a procurement decision. By then, they are often too late. To promote doctrinally guided weapons policies more effectively, then, critics should look and act earlier in the weapons acquisition cycle, during research and development. In these stages, decision flexibility is at a maximum. The rationale for a weapon may be unclear or nonexistent, and major decisions may remain to be made. Constituencies are still small; as they develop later, they exert tremendous political pressure for major weapons systems, against which doctrinally based arguments concerning desirability are seldom effective.

Research projects leading to potentially destabilizing weapons systems are unlikely to be limited by multilateral agreement. The researching nation would obviously hesitate to propose an agreement limiting secret projects. Moreover, it is rarely possible to monitor basic research. The ABM Treaty's limit on exotic ballistic missile defense systems is a hopeful exception, but even here basic research is not subject to adequate verification. Generally, potentially destabilizing weapons must be guided unilaterally if at all in their early stages. Monitoring R. & D. can help critics perform this important task.

Monitoring weapons systems through their life cycle, beginning with R. & D., can sensitize Congressmen to the weapons acquisition cycle. Examining the budget on an annual basis, looking at one weapons system one year and another the next, reduces continuity and provides great incentives for challenging highly visible procurement requests to gain electoral benefits. Following weaponry over time indicates what actions are most possible when, what the implications are of decisions taken at early stages, which parochial interests are involved, and how seemingly technical decisions can constrain future political decisions. In pointing out such implications, it can encourage action sooner rather than later.

Monitoring R. & D. is important because learning, like weapons development, takes time. In several instances, arguments opposing a weapons system were later used by its former supporters. The Senate Armed Services Committee used many of the arguments of ABM opponents in rejecting area ABM in 1970. In 1972 it adopted several recommendations that Members of Congress for Peace Through Law, an informal organization of liberal Congressmen, had made and the SASC had rejected in 1971.[38] In 1972 Secretary of State Rogers used arguments made earlier by ABM opponents in defending the SALT agreements.[39] Developing an alternate position can give a weapon's supporters a rationale to change their positions—even if they change for political reasons, as one key Senator apparently did in opposing area ABM in 1970.[40] The arguments may even persuade some Congressmen. This is especially likely if

the arguments are updated as the weapon progresses, as can happen by continually monitoring R. & D.

Caution must be exercised in restricting R. & D., however. Improvements in verification technology expand the area in which arms control agreements are negotiable. The SALT agreements could not have been negotiated without satellites and other means of verification, and advances in seismology have opened a comprehensive nuclear test ban to serious discussion. Thus critics may promote verification technology R. & D. in order to improve arms control opportunities.

R. & D. projects are seldom clearly and unequivocally stabilizing or destabilizing. Some might be useful, if not essential, for either an assured destruction or a first strike capability. If Congress applies too strict a decision rule against any R. & D. that might be used in a first strike mode, then it might handicap efforts to sustain an assured destruction capability as well.

This uncertainty about R. & D. items is particularly strong for basic research, which explores new areas of technology. Basic research can assist arms control efforts by indicating new weapons systems that could jeopardize the deterrent, new areas of verification technology, and areas in which technological progress is highly unlikely. But there is a dilemma. It is important to know if a potentially destabilizing military system is feasible so that countermeasures may be developed if necessary. The best, and perhaps the only, way of assessing feasibility in such cases is to pursue the basic research. An indication of feasibility, however, exerts pressure to develop and procure the system and its countersystem. Congressmen should be aware of these conflicting implications and should be cautious in either supporting or opposing basic research.

**Procedures.** It is often easier for Congress to act on procedure instead of substance.[41] Procedural changes can provide access points, or "handles," for promoting policies that Congress would not consider directly. Several could be constructed: discretionary access points, enabling access to policy at the discretion of Congressmen; barrier access points, requiring congressional access and choice before a project can be continued; adversary access points, requiring an effective adversary process as part of the decisionmaking process; and inclusory access points, enabling participation by interested groups outside government, by the media, and by the public.

Congressional monitoring of R. & D. would be facilitated by inserting access points into the R. & D. process. In 1974 Representative Harrington unsuccessfully sought to amend the Arms Control and Disarmament Act to require the Arms Control and Disarmament Agency (ACDA) to report to Congress on the arms control implications of certain American actions and of strategic weapons programs having an estimated cost greater than $50 million for a fiscal year.[42] Another law could require similar statements for all R. & D. projects having a budget of over, say, $1 million.[43] Such statements could consider arms control, bureaucratic, fiscal, foreign policy, and military implications. This procedure would broaden the range of participants. Any Congressman could review it and call it to the attention of the relevant committees, the Congress as a whole, the executive branch, or the media. Unclassified versions could be reviewed by nongovernmental arms control groups, which could refer statements to their members having special competence or interest in the subject.

Capability to monitor R. & D. and other aspects of military policy would also be improved by having a more systematic means of so doing. The current congressional monitoring system does not provide timely information; it

is not comprehensive in the range of weapons projects covered; it does not possess sufficient analytic skill. Congress cannot rely on the executive bureaucracies to provide information working against their interests. It cannot rely on agencies seemingly friendly to arms control, such as ACDA, to provide information or analysis, as that could jeopardize their working relations within the executive branch. Nor can it rely on outside critics—academic analysts, former government officials, lobbyists, journalists, and scientists—to monitor arms control developments. While their specific interests and overall philosophies often coincide with those of congressional critics, they do not have the time, resources, or coordination to provide an adequate monitoring system.

It is simple enough to recommend creating another congressional institution, say a Congressional National Security Policy Office, to monitor R. & D., to study arms control implications and projected cost estimates of weapons systems, to identify major forthcoming decisions on weapons projects, to study the relationship of weapons systems to overall force postures and national goals, and so on. If Congress wants this capability, however, an existing congressional organization, the Congressional Budget Office (CBO), could provide it. CBO must now prepare a congressional military budget as part of its work. Congress could give it the resources commensurate with an expanded mandate.

Even without such expansion, CBO could increase its resources at low cost by developing closer relations with academia. The academic community would be of greater value to policymakers if its resources were more fully used and better coordinated. CBO could award grants or contracts for academic analysts to study military policy issues. It could provide them with relevant information, including classified information where appropriate. They, in turn, could analyze these issues and could alert CBO to others. They could draw on this relationship for their research, obtaining data and research topics. Some personnel might move between CBO and academia, enabling each group to gain from the perspectives of the other.

While new procedures may improve the critics' efficacy, existing procedures offer the most effective—and certainly the easiest—way of so doing. Congressional critics rarely have the votes to implement a comprehensive, coordinated program through legislation directly. They may, however, use existing procedures to develop bargaining resources to nudge weapons decisions in directions they prefer. Existing procedures offer endless ways to produce delay: requirements for reports, briefings, statements of R. & D. implications, or presidential certification of a weapon's value; debate over amendments and resolutions; use of the courts to challenge cost increases, procedural fairness in awarding contracts, or executive compliance with other procedures; creating additional regulations or enforcing existing ones more strictly; making information more widely available, hence increasing the range of participants; more careful congressional monitoring; and even filibustering.

Use of these procedures may increase the monetary cost of a weapon and delay its entry into the force structure. Critics will not refrain from participating simply because they, like all other participants, raise the various costs of weapons systems. Indeed, the costs of their participation may promote strategic stability. If a destabilizing weapon will be procured anyway, it will be less destabilizing if it does not work, if it is so complex that it breaks down quickly, if its entry into the force structure is delayed, if its great expense reduces the number procured, or if policy goals, strategic doctrine, or the Soviet threat changes over time so

that the weapon is obsolete or not needed.

An inescapable conclusion follows. Congressional critics may use existing procedures intentionally to raise the costs of a weapons system in order to promote arms control. Given their limited resources, their rare success at eliminating weapons systems, and the ease and effectiveness of inducing delay, it is attractive to build procedural roadblocks to stall a weapons system or to force compromises that reduce its destabilizing aspects.

It will be immediately argued that this approach is devious, costly, and dangerous. These points may be answered as follows. Procedural tactics have traditionally been a main weapon by which a congressional minority has obstructed the policies of a majority and by which special interests have obtained special legislation. Nor has their use been limited to trivial matters: they have been used against civil rights legislation, environmental regulations, and tax reform. Surely it is not remiss to use well-established congressional procedures to promote strategic stability.

This approach appears to raise the monetary costs of procuring strategic weapons systems. True, it is more costly than a "rational" approach of deciding early on that a weapons system having specified characteristics would contribute to national security and making a commitment at that time to that weapon. But the rational approach is not followed anyway. Indeed, increased participation by the critics would probably lower the monetary costs of strategic forces. They often advocate smaller numbers of weapons and the elimination of some weapons systems. They often oppose state-of-the-art capabilities (such as extreme ballistic missile accuracy or extreme warhead yield-to-weight ratios), claiming deterrence does not require them. Any increased cost would have to be weighed against increased strategic stability which is, after all, the central reason for procuring these weapons.

Some might argue that this approach is playing politics with national security. Of course it is. But "policy-making is politics," as Roger Hilsman noted.[44] Weapons are funded and procured through the political system. Any attempt to influence them must ultimately be taken by or reflected in political decisions. Some efforts are made to guide weapons decisions so as to promote security, but others are made for parochial ends: to secure a contract for a corporation or congressional district, to obtain a new bureaucratic mission, or to include exotic components on a proposed weapons system. These efforts play politics with national security, and many use procedural means to do so.

Others might argue that this approach jeopardizes national security by delaying or limiting weapons they see as essential to it. Critics would counter that certain weapons or certain of their features destabilize the strategic balance and thereby threaten security. The debate over which weapons best promote security has not yet ended. Until it does, it seems as legitimate for one side as for the other to promote its view

## BIOGRAPHIC SUMMARY

Dr. Jonathan E. Medalia did his undergraduate work at Cornell University and earned both his master's degree and doctorate from Stanford University. He was a Research Fellow in Foreign Policy at Brookings Institution from 1972 until 1974 and later became a Postdoctoral Fellow for the Center for International Studies at MIT. He is currently doing research in fields pertaining to Congress and military policy, and remotely piloted military aircraft.

of security through procedural means.

In sum, while the interactions discussed in this paper obstruct the critics' efforts, they also suggest opportunities for these Congressmen to improve their efficacy. If technological sophistication and selective participation in weapons systems decisionmaking work to exclude the critics, they may construct access points for themselves and their outside allies. They can use strategic doctrine to harness means to ends, linking technical questions to the more basic questions of national goals which they are in a position to ask and decide. While decisions made in R. & D. stages constrain later decisions, critics can use strategic doctrine to monitor R. & D., participating earlier and with more effective use of their limited resources than they could by mounting a Big Challenge to a weapon's deployment. If they feel additional information to be a prerequisite to participation, they can change the rules of the game. Finally, the critics can gain bargaining leverage by using existing procedures with imagination.

## NOTES

1. See David G. Hoag, "Ballistic-Missile Guidance," in Bernard T. Feld, Ted Greenwood, George W. Rathjens, and Steven Weinberg, eds., *Impact of New Technologies on the Arms Race* (Cambridge, Mass.: MIT Press, 1971), pp. 19-105; and Herbert F. York, "Multiple-Warhead Missiles," *Scientific American*, November 1973, pp. 18-27.

2. U.S. Congress, Senate, Committee on Armed Services, *Hearings: Fiscal Year 1973 Authorization for Military Procurement . . .*, 92d Congress, 2d sess., 1972, pt. 2, p. 735.

3. See "Statement of Pierre Sprey, Manager, Systems Division, Enviro Control, Inc.," in U.S. Congress, Senate, Committee on Armed Services, *Hearings: Weapon Systems Acquisition Process*, 92d Congress, 1st sess., 1972 (hearings held in 1971) [hereinafter *SASC WSAP Hearings*], pp. 239-289, and especially pp. 250-267.

4. According to Arthur Alexander, "One of the most important features of U.S. military R&D is the extent of buyer participation in the total acquisition process." Arthur Alexander, "Weapons Acquisition in the Soviet Union, the United States, and France," Rand Paper Series P-4989 (Santa Monica, Calif.: Rand, 1973), p. 12. Of course, many other groups participate as well, as discussed in the present paper.

5. For more on RPV's, see special sections on RPV's in *Aviation Week and Space Technology*, 22 January 1973, pp. 38-98; and in *Astronautics and Aeronautics*, September 1974, pp. 36-70, and October 1974, pp. 46-63.

6. Curtis V. Bryan and James H. Pennington list 32 potential naval roles for RPV's in "RPV Potential for Naval Applications," *ibid.*, p. 62.

7. U.S. Congress, Senate, Committee on Armed Services, *Hearings: Fiscal Year 1975 Authorization for Military Procurement . . .*, 93d Congress, 2d sess., 1974, pt. 6, p. 3035.

8. These agencies and contractors are listed in Jonathan E. Medalia, "Policy Implications of Remotely Piloted Vehicles," mimeographed (Cambridge: Center for International Studies, Massachusetts Institute of Technology, 1975), pp. 38-46.

9. Alexander, p. 13, italics omitted.

10. "Statement of Gilbert W. Fitzhugh, Chairman, President's Blue Ribbon Defense Panel; Chairman of the Board, Metropolitan Life Insurance Co.," *SASC WSAP Hearings*, p. 13; and "Statement of Vice Admiral H.G. Rickover, U.S. Navy, Director, Naval Nuclear Propulsion Program," *ibid.*, p. 301.

11. Anne Hessing Cahn, Congress, *Military Affairs and (a Bit of) Information*, Sage Professional Papers in American Politics (Beverly Hills: Sage, 1974), vol. II, pp. 35-37.

12. U.S. Congress, Joint Economic Committee, Subcommittee on Economy in Government, *Hearings: The Military Budget and National Economic Priorities*, 91st Congress, 1st sess., 1969; and U.S. Congress, Senate, Committee on Foreign Relations, Subcommittee on Arms Control, International Law and Organization, *Hearings: Arms Control Implications of Current Defense Budget*, 92d Congress, 1st sess., 1971.

13. "Testimony of Gilbert W. Fitzhugh," *SASC WSAP Hearings*, p. 13.

14. Morton H. Halperin, "Why Bureaucrats Play Games," *Foreign Policy*, Spring 1971, p. 74 (original italics).

15. *Ibid.*, p. 76.

16. John S. Foster, Jr., "Address Before American Newspaper Publishers Association," New York: 23 April 1970 (Defense Department news release No. 343-70), p. 5.

17. *Ibid.*

18. U.S. Congress, Senate, Committee on Armed Services, *Hearings: Authorization for Military Procurement, . . . Fiscal Year 1971 . . .*, 91st Congress, 2d sess., 1970, pt. 1, p. 216.

19. See U.S. General Accounting Office, *Report to the Committee on Armed Services, House of Representatives: Cost Growth in Major Weapon Systems*, No. B-163058, 26 March 1973, pp. 5-14.

20. Charles M. Herzfeld, "Missile Defense—Can It Work?" in *Why ABM?: Policy Issues in the Missile Defense Controversy*, Johan J. Holst and William Schneider, Jr., eds. (New York: Pergamon, 1969; paperback ed.), p. 22 (original italics).

21. In 1969 Safeguard was estimated to "first [reach] the phases of deployment" in 1973; U.S. Congress, Senate, Committee on Foreign Relations, Subcommittee on International Organization and Disarmament Affairs, *Hearings: Strategic and Foreign Policy Implications of ABM Systems*, 91st Congress, 1st sess., 1969 [hereinafter *SFRC ABM Hearings*], pt. 1, p. 203, testimony of John S. Foster, Jr. In 1973 the first Safeguard site at Grand Forks, N.D., was scheduled to reach an equipment readiness date in fall 1974, an initial operational capability 6 months later, and full operational capability "somewhat later than that"; U.S. Congress, Senate, Committee on Armed Services, *Hearings: Fiscal Year 1974 Authorization for Military Procurement . . .*, 93rd Congress, 1st sess., 1973, pt. 3, p. 1369, testimony of General Leber, Safeguard System Manager.

22. *SFRC ABM Hearings*, pt. 1, p. 332.

23. *Ibid.*, pt. 2, p. 601.

24. U.S. Congress, Senate, Committee on Armed Services, *Hearings: Military Implications of the Treaty on the Limitations of Anti-Ballistic Missile Systems and the Interim Agreement on Limitation of Strategic Offensive Arms*, 92d Congress, 2d sess., 1972, p. 526. See John Steinbruner and Barry Carter, "Organizational and Political Dimensions of the Strategic Posture: The Problems of Reform," *Daedalus*, Summer 1975, pp. 137-138.

25. U.S. Congress, Senate, Committee on Armed Services, *Report: Authorizing Appropriations for Fiscal Year 1974 for Military Procurement . . .*, 93rd Congress, 1st sess., 1973, p. 28.

26. Regarding the ABM debate, see *SFRC ABM Hearings*, pt. 1, p. 171; regarding the "R&D Gap," see Foster, "Address," p. 3; regarding the Cannikin debate, see "Atomic Energy Commission Authorizations 1972," *Congressional Record*, 20 July 1971, pp. 26045-46; regarding DOD budget requests see John Newhouse, *Cold Dawn: The Story of SALT* (New York: Holt, Rinehart and Winston, 1973), pp. 201-2.

27. "Atomic Energy Commission Authorizations 1972," p. 26046.

28. U.S. Congress, Senate, Committee on Foreign Relations, Subcommittee on Arms Control, International Law and Organization, *Hearings: Prospects for Comprehensive Nuclear Test Ban Treaty*, 92d Congress, 1st sess., 1971, pp. 71-72.

29. "Military Procurement Authorizations 1973," *Congressional Record*, 27 July 1972, p. S11995, daily ed.

30. Franklin A. Long, "Arms Control from the Perspective of the Nineteen-Seventies," *Daedalus*, Summer 1975, p. 1.

31. David R. Mayhew, *Congress: The Electoral Connection* (New Haven: Yale University Press, 1974), pp. 49-73.

32. Dean Rusk, Address to the Policymaking Officers of the Department of State, 20 February 1961, cited in Roger Hilsman, *To Move a Nation: The Politics of Foreign Policy in the Administration of John F. Kennedy* (New York: Doubleday, 1967; New York: Dell, Delta ed., 1968), p. 15.

33. Personal interview with the author, Washington, D.C., August 1973.

34. Mayhew, *Congress*, p. 60.

35. See Constance Holden, "Congressman Les Aspin: Bee in the Brass's Bonnet," *Science*, 3 August 1973, pp. 424-7.

36. John W. Finney, "U.S. Considers Reduction of Atom Arms in Europe," *The New York Times*, 24 September 1974, pp. 1, 7.

37. Regarding disjointed incrementalism, see David Braybrooke and Charles E. Lindblom, *A Strategy of Decision: Policy Evaluation as a Social Process* (New York: Free Press, 1963), pp. 81-110.

38. Members of Congress for Peace Through Law, "Report to MCPL Supporters," mimeographed (Washington: 1 June 1972). See also *Aviation Week and Space Technology*, 1 May 1972, p. 13.

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40. An area ABM system would seek to defend large areas, as opposed to missiles or other point targets, from ballistic missile attack.

41. For discussions of the importance of congressional procedures, see Les Aspin, "Why Doesn't Congress Do Something?" *Foreign Policy*, Summer 1974, pp. 70-82; and Les Aspin, "The Defense Budget and Foreign Policy: The Role of Congress," *Daedalus*, Summer 1975, pp. 155-174.

42. For text of this amendment, see "Amending the Arms Control and Disarmament Act," *Congressional Record*, 24 April 1974, p. H3097, daily ed.; for floor debate on this amendment, see *ibid.*, pp. H3097-H3107.

43. Cahn, pp. 57-58.

44. Hilsman, p. 3.

The author wishes to thank the Arms Control Program, the Center for International Studies, Massachusetts Institute of Technology, for supporting the research for this article.