CONCEPTS OF OPERATIONS:
A MORE COHERENT FRAMEWORK FOR DEFENSE PLANNING

Glenn A. Kent

August 1983

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Prepared for

The United States Air Force
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PREFACE

Under the rubric of Project AIR FORCE, "Strategic Policy for the Long-Term Competition," Rand is examining alternative future U.S. national security strategies and the implications for the United States Air Force. As part of this effort, the present Note proposes a framework for a more coherent approach to defense planning, based on concepts of operations. The framework involves functionally oriented elements ranging from national objectives to the actual employment of forces. This Note focuses on the use of a well-laid-out concept of operations to manage the planning and acquisition of our military systems.

It is hoped that this Note will stimulate a greater awareness of the utility of a more perceptive and disciplined framework for defense planning and that the essential ideas of the framework will be adopted by the various forums in which policies, objectives, strategies, and concepts of operations are formulated and defined.
SUMMARY

Members of Congress and military analysts are growing increasingly critical of the seeming absence of a logical and persuasive framework that relates larger defense budgets to increased security for this nation. They are also concerned that programs for systems and equipment are proliferating and that these programs are too often advocated on an individual basis without adequate attention to the manner in which the weapons might be employed.

This Note establishes the utility of concepts of operations as the central feature of a more logical and coherent framework for planning. The Note also provides a disciplined vernacular for the purpose of improving communication.

The framework for planning involves six levels, or categories, of activity, each of which typically takes place in a specific organizational setting.

- **Level I:** The National Security Council, in concert with the Congress, defines and announces policies, national security objectives, overall strategies, and commitments.

- **Level II:** A high-level policy group in the Department of Defense, in concert with the Congress, defines specific strategies and determines required military capabilities and broad allocation of defense resources to mission areas.

- **Level III:** The military services, with the advice and oversight of the Office of the Secretary of Defense, the Joint Chiefs of Staff, and the Congress, formulate concepts of operations to attain specific operational capabilities.

- **Level IV:** The military services, with the oversight and direction of the Office of the Secretary of Defense and the Congress, develop and acquire systems and equipment.

- **Level V:** The military services, with the oversight of the Joint Chiefs of Staff, direction from elements of the Office of the Secretary of Defense, and the consent of the Congress, organize, equip, train, and support operational units.
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- Level VI: Operational commands, organized under the direction of the National Command Authority, the Secretary of Defense, and the Chairman of the Joint Chiefs of Staff, develop operational plans, conduct training exercises, and, when required, deploy and employ forces and conduct campaigns.

Although readers may assume that a somewhat rigorous framework for defense planning already exists and is used extensively, the facts are otherwise: For a variety of reasons, traceable to the natural organizational tensions and the special features of the U.S. political, civil service, and military systems, coherent articulation among the first three levels is lacking.

This Note proposes that we develop and adopt a more coherent framework with emphasis on the formulation of concepts of operations and provides examples to demonstrate that doing so would significantly improve the way in which the Department of Defense and military services do business. In particular, the use of the framework with respect to concept of operations (Level III) would increase the consistency of planning by the military services. It would also improve communications within the Executive Branch and with the Congress with regard to the substance of our defense programs and the relationship of these programs to desired military capabilities and to national security.

The Note also discusses four specific aspects of defense planning: feedback, allocations, command and control, and the role of the Chairman of the Joint Chiefs of Staff. An appendix offers an exemplar package for Levels I and II.

The benefits afforded by a well-thought-out and disciplined framework for attaining specific operational capabilities are persuasive, and it is hoped that various elements in the military services will adopt and use such a framework more extensively. No new directive is required for adoption; the framework need only be used.
ACKNOWLEDGMENTS

The framework set forth in this Note is a distillation and refinement of ideas from many people over several years. I acknowledge the many helpful suggestions provided by Paul Davis, Ted Warner, Gene Fisher, and Tom Brown at Rand. I also acknowledge the thoughtful insights provided by Tom Rona of Boeing at the inception of this paper. Finally, I thank Shirley Birch for her tireless efforts in processing this document.
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I. INTRODUCTION

The United States can and should improve its defense planning. Planners should focus on relating military forces and capabilities to our national objectives. Members of Congress and national security analysts increasingly criticize the lack of coherent policy articulation relating larger defense budgets to increased security for this nation. Many ask: What are our strategies and commitments--political, economic, and military--and what military capabilities are required to underwrite them? How much should be allocated to defense? Within that total allocation, what is the appropriate allocation to various missions and within missions to types of forces? How much should be allocated to the acquisition of new forces, to consumables (weapons and munitions), and to increased readiness?

There is no simple way for the Department of Defense to solve the problem or to convince others that the problem is being addressed effectively. But, it seems clear that the situation can be greatly improved--both in fact and in perception--by establishing in the first instance a better framework for defense planning than now exists.

This Note develops a more coherent framework for defense planning--one intended to be logical, disciplined, and easily understood. It starts from the top with policy and national security objectives and shows how in a general way to maintain coherence down through the acquisition of systems and the employment of forces. In particular, it focuses on the utility and benefits of concepts of operations to attain specific operational capabilities.

The framework set forth here in many respects differs little from what many observers believe we are doing now. I hope, however, that this framework will be more complete, more disciplined, and more universally adopted. In particular, I believe that the approach offers an opportunity for more informed judgments. The next section describes the proposed framework, focusing on concepts of operations as an integrating approach to better planning.
II. AN INTEGRATING APPROACH TO BETTER DEFENSE PLANNING

The central feature of the proposed framework involves segmenting the process of defense planning into a number of discrete, interdependent, hierarchical levels, or functional categories, of activity. Each level is defined and specified in the requisite degree of detail and completeness so as to satisfy the demands and constraints imposed or implied by the other levels.

The several activities that lie between our broad national security objectives, on the one hand, and the acquisition of systems and employment of forces, on the other, may be divided in a number of ways. Too few levels would result in a lack of clarity as to cause and effect; too many would burden the user, overlap, and finally generate their own form of confusion. This paper proposes the following six separate but interrelated levels.

- Level I: The National Security Council, in concert with the Congress, defines and announces broad policies, national security objectives, overall strategies, and commitments to other nations designed to achieve these objectives.

- Level II: A high-level policy group in the Department of Defense, in concert with the Congress, defines specific strategies and determines required military capabilities and the broad allocation of defense resources to mission areas.

- Level III: The military services, with the advice and oversight of the Office of the Secretary of Defense, the Joint Chiefs of Staff, and the Congress, formulate concepts of operations to attain specific operational capabilities.

- Level IV: The military services, with the oversight and direction of the Office of the Secretary of Defense and the Congress, develop and acquire systems and equipment.

- Level V: The military services, with the oversight of the Joint Chiefs of Staff, direction from elements of the Office of the Secretary of defense, and the consent of the Congress, organize, equip, train, and support operational units.
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Level VI: The operational commands, organized under the direction of the National Command Authority, Secretary of Defense, and Chairman of the Joint Chiefs of Staff, develop operational plans, conduct training exercises, and, when required, deploy and employ forces and conduct campaigns.

LEVEL I: OBJECTIVES

The highest levels of government—the National Security Council, in concert with the Congress—determine, in the context of enemy (Soviet) objectives and capabilities, our policies, national security objectives, overall strategies, and commitments (both political and military). Pronouncements on these matters should be conveyed to all government agencies having responsibilities related to national security and announced to the public as appropriate. For example, statements on these matters should be included in the opening chapter of the annual Department of Defense "posture statement" (Report to the Congress).

Determinations at the top level are driven by the aspirations and capabilities of the potential enemies that threaten our security and by the broad national goals set forth, among other places, in our Declaration of Independence and Constitution. Since World War II, the major threat to the continued realization of these goals has been the expansionist policy and objectives of the leaders of the Soviet Union. Soviet leaders have openly stated their fundamental opposition to capitalism in general and to the United States in particular. Further, they have fielded an awesome array of forces to underwrite these objectives.

Our policy in response to Soviet objectives continues to be one of deterrence. We seek to preclude the Soviets’ achieving their aspirations to dominate areas anywhere in the world, and, in particular, along the periphery of the USSR, when that domination threatens our security, way of life, and existence as an independent nation.¹ Strongly implied in this policy statement are all the actions that could assist

¹ Our policies (and objectives), of course, are not completely driven by Soviet aspirations. I am simply giving an example of the framework at this level. An exemplar package for Levels I and II appears in the Appendix.
the United States in successfully fulfilling its role as the leading power of the West.

The next step comes a little harder. We must now determine and articulate our specific national security objectives, our overall strategies, and our commitments to other nations for achieving these objectives. These objectives must be framed in the context of Soviet aspirations and capabilities and in such a way as to provide more meaning, direction, and dimension to the need for containing the Soviet Union and exercising our international leadership. Note that both strategies and commitments contain political and economic components, as well as a military dimension.

LEVEL II: ASSESSMENT OF CAPABILITIES

The highest levels of the Department of Defense define the specifics of the overall strategies\(^2\) and commitments formulated at Level I. This high-level policy group, the exact composition of which would vary with the Secretary's preference, should include, in addition to the Secretary of Defense and the Chairman of the Joint Chiefs of Staff, the Service secretaries, Service chiefs, and relevant advisers to the Secretary of Defense, such as the Under Secretary for Policy.

The high-level policy group should determine the broad military capabilities that must be attained to underwrite the chosen strategies and commitments—or, in reverse, the strategies and commitments that are feasible in light of our overall military and political posture. It should also consider the total amount of money that should be requested for defense allocations among various missions and types of forces, and within types of forces, allocations among modernization of basic systems, increased readiness, war consumables, etc. The annual Report to the Congress should focus on these matters, specifying which capabilities we should strive to achieve and which operational concepts are to be underwritten (see Level III).

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\(^2\) Strategies are the connectors between objectives and capabilities and must accommodate to both. Thus, strategies appear in both Level I (Objectives) and Level II (Assessment of Capabilities). Strategies are further refined in Level II. I use strategy here in the broad sense at the higher levels of planning, as distinct from the development of plans
LEVEL III: FORMULATION OF OPERATIONAL CONCEPTS

The Services, with the advice and oversight of the Office of the Secretary of Defense and the Joint Chiefs of Staff, develop operational concepts that will provide, in an operational sense, the specific military capabilities that will, in concert with other capabilities, allow us to implement the strategies set forth in the previous level. This critical and difficult level, which has yet to be accomplished successfully with any consistency, is the focus of this Note.

These concepts of operations must, in the first instance, describe the framework. In the second instance, they must describe the systems, equipment, and tactics that are required to provide the capability being sought, but they must always do so within the established framework. The systems and equipment should first be defined generically and then, when appropriate, by brand name.

Concepts of operations should be formulated under the direction of flag-rank officers by teams headed by operationally oriented colonels. The colonels will require strong technical support to identify what is useful and analytic support to determine the utility of various approaches and the marginal return of certain features. Once the concepts are formulated and approved, they must continue to be refined, and a strong feedback loop will be needed to generate updates.

In this formulation, the framework of the concept of how we are to attain a better military capability becomes the architectural blueprint for developing and procuring systems and equipment. Thus, the correct form of a Mission Element Needs Statement (MENS) should be as follows: "The concept of operations just described to attain this new (or enhanced) military capability should be accepted and underwritten. The appropriate Service should undertake programs to develop and acquire the equipment and tactics to underwrite this concept of operations."

Heretofore, MENS have been systematically perverted into statements of need for a particular piece of hardware with particular specifications. The decision whether to validate and underwrite a particular concept would usually be determined by a high-level policy group in DoD.

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of operation, which are developed later, by operational commands, with the oversight of the Joint Chiefs of Staff.
Planners in the Service headquarters should draw up the authoritative list of specific capabilities for which concepts should be developed. Once approved, the list should serve as a sustaining guide and mandate. The proper balance must be struck between being too general, on the one hand, and too specific, on the other. The following list of specific capabilities for which concepts of operations should be developed suggests the proper level of aggregation.

1. To prevent enemy aircraft from successfully interfering with the operation of our own ground units and air support of these ground units.

2. To disable and neutralize enemy ground maneuver units directly engaged in assault in order to prevent breakthroughs against NATO forces defending the Central Front in Europe.

3. To interdict, at night and in adverse weather, Soviet maneuver units in follow-on echelons that are designed to provide the sustaining power for a Soviet blitzkrieg offensive in Europe. (Similar concepts should cover other theaters on the periphery of the Soviet Union, for example, Southwest Asia and Korea.)

4. To suppress the generation of Soviet aircraft sorties in areas relevant to operations in the Central Region of Europe.

5. To acquire and kill Soviet submarines in particular areas of theaters.

6. To project U.S. forces rapidly around the world, with particular attention to the timely projection of power to Southwest Asia.

7. To neutralize or destroy enemy satellites.

8. To track Soviet main force ground units within the USSR and in contiguous theaters from satellites.

9. To track enemy aircraft from satellites.

The statements of the desired military capabilities always include two elements: (1) the military function that is to be attained—destroy or delay ground maneuver units, suppress aircraft sorties, kill submarines, track aircraft, and so forth and (2) the environment—
geographical area, medium, enemy posture, etc.--in which the function is to be accomplished. In some instances, it is appropriate to identify the means to be used--bombers, satellites, missiles, etc.--to accomplish the missions.

In most cases, the capabilities can be achieved in different ways and by systems operated by different Services. For example, concepts to achieve the first three capabilities listed above surely require the integration of systems owned and operated by elements of different Services--the Army and the Air Force. Thus, the above capabilities must be defined in terms of combined arms operations. They are not otherwise meaningful.

By and large, the tasks assigned to research organizations, scientific groups (like the Defense Science Board and scientific advisory groups to the various Services), and ad hoc groups should be framed in the terms set forth above. This is not usually done. Groups are not asked to formulate or evaluate concepts of operations designed to provide specific capabilities. Rather, they are asked to study, in the abstract, such matters as a new fighter, stand-off missiles, how to operate at night and in adverse weather, or, still worse, war at sea, land warfare, space warfare, protracted war, C^3I, (command, control, communications, and intelligence), and electronic warfare. Such efforts may make a contribution, but they fall far short of helping to identify the context in which we can attain the capabilities essential to support our various defense strategies.

At this point, a brief example of how to approach problems in terms of concepts is in order. Assume for the moment that there is a consensus that, after a Soviet counterforce attack with nuclear weapons on U.S. forces, the United States should have the capability in a retaliatory counterforce strike to engage and neutralize Soviet land armies.

The framework for a concept to achieve the capability to engage and neutralize Soviet land forces would involve real-time surveillance systems, assessment centers, command centers, real-time control centers, strike assets, and communications. But, such a framework could never be formulated by independently and abstractly studying strategic conflict, C^3I, or strike assets. There is no substitute for framing the problem,
as set forth above, in terms of the fundamental and specific capability that you aspire to achieve, and then attempting to define a feasible concept that provides that capability.

The idea of using a well-defined concept of operations is not new. It has been used in the past and, in some instances, is being used now. For example, the Office of the Secretary of Defense and the Air Force are refining concepts for two important capabilities--to interdict Soviet maneuver units in follow-on echelons and to suppress the generation of Soviet sorties in the area of the Central Front--and programs to underwrite these concepts are being defined. These programs would be undertaken by different Services in the United States and by agencies in other countries. But this laudable approach centering on well-defined concepts of operations represents an exception; it is not followed consistently by the Services and the research and development community.

One test of the viability of the concept approach is to formulate and define an exemplary concept, and then to examine the utility of doing so. To this end, the framework of a concept to achieve one of the above capabilities--that of interdicting Soviet maneuver units in follow-on echelons in the Central Front with attack aircraft and other strike assets--is described in the next subsection. The framework in this vernacular is the structure and basic functional flow of the various elements embodied in the concept.

**Framework of a Concept to Interdict Soviet Ground Maneuver Units in Follow-on Echelons with Conventional Weapons**

The starting premise is that this capability, if achieved, will contribute to the broad or general military capability of the forward defense of Western Europe. In turn, the strategies of forward defense and flexible response will help to underwrite the specific national security objective of deterring Soviet aggression against our allies.

The concept is described in two parts: First, the framework of the concept of operations is defined; second, the generic systems that make this concept feasible (and presumably superior) are characterized. Systems in this context include the necessary hardware, organization software, and personnel.
The military objective to be achieved is to delay, disrupt, and destroy Soviet maneuver units beyond (behind) the immediate point of contact, to prevent follow-on units from assisting in and exploiting breakthroughs achieved by forces in assault, and thus to critically disrupt the entire multiechelon Soviet offensive. To achieve this, our forces must deny the avenues of approach and lines of communications and otherwise disrupt the mobility of the Soviet maneuver units. This includes destroying the structure of these units—the trucks, armored personnel carriers, artillery, tanks, and associated logistic support elements.

The vehicles of the follow-on echelon forces will, for the most part, be traveling (or parked) on roads, stopped at choke points of our making, or parked in assembly areas. Many sections of roads will contain 20 (and perhaps up to 50) vehicles per kilometer; vehicles in clusters of up to 10 will be spaced less than 20 meters apart. These convoys will be heavily defended by SA-4, SA-6, SA-8, and SA-10 surface-to-air missiles, ZSU-23/4 antiaircraft guns, and the shoulder-fired SA-7s carried by individual Soviet soldiers.

According to this concept:

1. All relevant sensors will conduct surveillance of critical areas. Relevant data from the sensor facilities associated with these sensors will be transmitted to assessment centers.

2. Assessors at assessment centers will provide assessments of present enemy dispositions, predict overall enemy intent and axes of major thrusts, and predict and monitor the density of vehicles at particular killing zones.

3. The area commander (and, in turn, subordinate commanders) at command centers will determine the overall operational strategy to be followed by U.S. forces, apportion these forces to various missions, and determine when and where interdiction attacks will be mounted—i.e., what killing zones are to be attacked at what times (when, where, and with what). Selection of particular sections of roads as killing zones are made on the assumption that the convoys must pass through the zone in
order to support a particular line of advance and that attacks to delay advancing columns (e.g., attacking bridges or laying mines) will generate congested killing zones. Potential assembly areas can be identified on the basis of prevailing Soviet practice and the availability of such areas in a particular region.

4. Operational units will generate sorties of attack assets according to the schedule specified by the command section.

5. Ground attack control centers (GACCs) will provide control of these attack assets in the engagement and kill of targets. The GACCs will assign specific attack assets to specific targets (target boxes). The control centers can operate these strike assets in broadcast control (cueing); close control (control to a release point, whereupon the pilot of the strike aircraft will acquire the target with an engagement system under his control); or precise control (precise guidance to actual weapon release; this applies to both aircraft and missiles).

This framework provides an example of how a concept of operations can guide our efforts to achieve an important and specific military capability. The success of the concept depends critically on the existence of a wide range of interrelated capabilities and activities, including the following:

- An array of intelligence sensors feeding data in near real time into the assessment centers.
- Means for promptly displaying the incoming intelligence data.
- A well-trained group of assessors to assess the situation on the basis of the intelligence data available, discern Soviet intentions, predict Soviet actions, and, in particular, identify the times when certain killing zones will be likely to be occupied by large concentrations of vehicles and analyze their relative importance to the success of the enemy's overall objectives at that particular time.
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- Command centers, where senior officers allocate forces to various missions in time and place within the interdiction mission.

- Control centers (as in air defense) to control strike assets in the engagement and kill of targets.

- External engagement systems, such as the precision location strike system (PLSS), Pave Mover (now joint surveillance and targeting attack radar system--JSTARS), and global positioning system (GPS), to be used by these control centers.

- A communications system that ties the assessment centers, command centers, and control centers together and resists enemy jamming.

- Navigation systems that allow aircraft ingress and egress at night, in adverse weather, and at very low altitudes.

- On-board engagement systems, such as helmet-mounted sights, low-altitude navigation and targeting infrared for night (LANTIRN), and radars, that recognize and engage targets.

- Effective weapons with effective warheads or weapons/dispensers with effective munitions that ultimately disable or destroy the targets.

Overlying all of this, we must have a robust capability for suppressing enemy defenses both in the air and on the ground. These separate specific military capabilities require their own concept(s) of operations and systems. They are not discussed in this paper.

This framework is the first and most important step. It identifies the facilities and players in generic form. Once it is approved, there remains the continuing task of identifying by brand name the equipment to hang on the framework to make the concept a reality.

The Utility of Concepts of Operations

Only with the use of explicit concepts of operations can one provide a basis for the identification of the component parts, whether they be surveillance systems, assessment centers, control centers, delivery systems, weapons, or munitions. We must develop and underwrite
such end-to-end mission-oriented concepts and then initiate programs (or reorient existing programs) to provide the systems and equipment necessary to make the concept a reality. Such programs require an overall project manager who fully understands the concept and oversees all the individual programs in much the same way that a master builder oversees the construction of a large building and integrates the activities of the electricians, bricklayers, plumbers, and others who are involved.

With an approach that centers on concepts of operations, we can provide more effective advocacy for our programs. Program(s) are being undertaken to provide the systems and equipment that make feasible the concepts that provide specific military capabilities. In the aggregate, these specific capabilities provide the broader military capabilities to support the strategies that underwrite national security objectives.

The approach of formulating a concept and then having different agencies undertake programs to develop and acquire systems and equipment to underwrite the concept lends itself well to cooperative undertakings with our allies. For example, a concept for interdicting Soviet maneuver units in follow-on echelons in NATO's Central Region could be formulated on a joint basis. An international group to serve as the master planners would then be appointed. After the allies had agreed to the framework of concepts to accomplish the critical missions, individual countries would undertake programs to develop and acquire the various systems and equipment that underwrite the concept--but always in the framework that has been agreed on.

Flag-rank officers from the military services should oversee the formulation of appropriate concepts and then seek approval of these concepts from higher officials and congressional committees. These officers would seek endorsement of the overall worthiness of the concepts and of their acceptance and support. This would be quite different from seeking approval for individual systems and equipment. Once approved, existing programs should be adjusted or new programs initiated to provide the appropriate systems and equipment to underwrite the concepts.
Many organizations are necessarily set up according to systems or equipment or to accommodate the budget process. Somewhere in the corporate headquarters of the Air Force, however, there should be an organization that is set up according to specific capabilities. That is, the sign over the colonel's door should say that he is the master planner of, for example, "Interdiction of Soviet Follow-on Echelons." Inside his office should be an approved framework of a concept. Those involved in acquiring the equipment and systems to underwrite that concept to provide that capability should build on that framework.

Organization according to concepts of operations is criticized for adding another layer of bureaucracy. I do not see it that way. The people at corporate headquarters are supposed to manage, but in macrooperational terms, not in microtechnical terms. The approach offered here promotes the opportunity of people at the headquarters to accomplish their most critical responsibilities.

In summary, the concepts of operations designed to provide specific military capabilities serve as both connectors and building blocks. They connect acquisition and testing of systems and the training of personnel to the attainment of key military capabilities, thus serving as the framework for the acquisition process.

Sound and explicit concepts also reflect the essential connection between desired military capabilities and the limits for the application of state-of-the-art technology. The connection reminds us of the critical two-way relationship between the formulation of concepts of operation and the opportunities provided by new technology. With the integrating discipline of a rigorous and explicit concept, one is better able to translate emerging technologies into new, potentially decisive, military capabilities.

Concepts of operations form the basic building blocks for the accumulation of the broad military capabilities that underwrite the nation's military strategies. These strategies, in turn, support our international commitments. Each building block of capability contributes to the overall capability to underwrite various strategies and commitments.
LEVEL IV: ACQUISITION OF SYSTEMS AND EQUIPMENT

The military services, with the oversight and direction of elements of the Office of the Secretary of Defense, acquire the systems and equipment specified in the concepts of operations. Today, there are far too many programs, and in too many instances a lack of coherence as to the capability being sought and the marginal return of the particular program to our security. This lack of coherence originates, at least in many cases, in the absence of an explicit connection between acquisition programs and concepts of operations that provide for specific military capabilities.

The acquisition process must be directly linked to a well-conceived concept. Stated another way, we should not undertake programs to underwrite a concept unless it is clear that the capability to be provided directly and explicitly enhances our overall security. All too often, the research and development process simply produces technology awaiting an application (or, invention becomes the mother of necessity). At the same time, the marginal utility to enhanced security of a new system is seldom addressed systematically.

The cardinal rule to be followed is, Identify requirements in terms of specific capabilities to support our strategies and then acquire the equipment and systems—aircraft, missiles, weapons, jammers, etc.—that provide the required capability. By and large, that is not being done. Too often, requirements are identified in terms of systems. Or even worse, the statement of need is formulated not in terms of the operational capability desired, but in terms of technical specifications for a particular system, even when this particular system has not been shown to underwrite a concept of operations (that is not defined) to achieve a specific capability (that is not stated).

In the context of our proposed framework, the acquisition level should include four types of activity (called steps here for the sake of convenience). These steps, which take place with various degrees of emphasis over the lifetime, measured in decades, of the acquisition process, are as follows:
1. Those responsible for the acquisition process should, in the context of the framework, break down the functions to be performed according to the operational concept into entities that can be handled by the acquisition mechanisms.

2. Proposals are then requested. Industry responds to these requests in the form of acquisition and procurement packages that must then be validated so as to establish that they are technically within the state of the art and can be obtained at affordable costs, within the required time, and with no unusual degree of risk.

3. Following validation, acquisition plans are established, with the concept of operations serving as the integrator of various acquisition efforts.

4. Finally, procurement actions are initiated as appropriate.

I have deliberately separated the development of concepts of operations from the acquisition of specific systems and equipment. Concepts of operations must be developed with full cognizance of the operational issues involved in performing a given mission. Yet, the developer of concepts must have a strong link to the acquisition community.

While technical people and managers can and must play a critical role in formulating the concept, people with operational experience must play the leading role in formulating integrated ways of providing specific military capabilities. These people should be organized into groups representing specific operational needs and capabilities, such as interdiction of follow-on echelons, defense suppression, and satellite negation.

The acquisition process, which is centered on and organized around the procurement of specific military hardware, can be led by individuals with specialized knowledge of technical matters and acquisition management. But, their efforts must be guided by the integrating theme of a well-defined concept.
To be worthy of DoD and congressional support, the specific capability that the concept is to provide must directly enhance our security. This means, among other things, that after their staffs review it, the Secretary of Defense and the Chairman of the Joint Chiefs of Staff must support the concept, keep informed of the progress of the various programs in the acquisition process to achieve this capability, and encourage its completion.

Development programs should be conducted within the framework of the operational concept. Most important, all of the building blocks inherent in the concept should receive consistent priority.

For example, with regard to the concept for interdiction of follow-on echelons discussed earlier, the control centers, the platform(s) that carry on-board engagement systems and weapons, the strike assets, and the weapons and munitions that are designed to kill targets must be internally consistent with regard to integrated operation and their development and deployment schedules. Operational testing should be designed and conducted to demonstrate the ability to provide the total capability specified by the concept of operations. This differs from testing to determine whether a specific piece of equipment separately meets a series of purely technical specifications.

The concept should also serve as the basis of programming and budgeting. It is crucial at all phases of procurement that there be no holes--i.e., that the lack of a particular system or piece of equipment not reduce the overall capability. With well-defined concepts, there will be less likelihood during periodic program reviews to retain programs that provide the "bricks" while deleting the program that provides the equally essential "mortar."

Last, but not least, we should recognize the need for continuing scrutiny of the various elements of a particular concept throughout the acquisition programs. The individual procurement tasks must be updated or modified as warranted by adjustments in the concept made necessary by the evolving environment, including changes in the threat, and by the progress of technology. Competent overview at the concept level can help to prevent premature obsolescence and the taking of unwarranted risks, to say nothing of "gold-plating" and perpetual refinements. A
commitment to obtain the required specific military capabilities that support our strategies as rapidly and effectively as possible should be the sole guiding principle.

In the context of this dynamic acquisition environment, marked by changes in the character of our adversaries and by frequent technological innovation on our side, the consistent, long-term use of operational concepts as the guide for acquisition offers the best chance for the timely fielding of military capabilities that meet the defense needs of this nation.

Levels V and VI are briefly noted below to complete the list of steps in the overall planning process. Much more can and should be said about these levels, but not in this Note, which focuses on Levels III and IV.

LEVEL V: EQUIPMENT, TRAINING, AND SUPPORT OF OPERATIONAL UNITS

The military services, with direction from the Chairman of the Joint Chiefs of Staff and elements of the Office of the Secretary of Defense and guidance from the separate and unified commands, organize, equip, train, and support operational units. The effectiveness of operational units would be improved if training, equipage, and support were conducted according to an overarching concept to gain specific capabilities.

Improvements at this level must stem from a clearer and more rigorous process at higher levels and in particular at Levels III and IV. Clearly, well-laid-out concepts of operations can play an important role in determining requirements for training and support. The Services should evaluate these requirements in terms of whether we can underwrite the concept—that is, whether the systems, equipment, and tactics provide the specific capability being sought.

LEVEL VI: ORGANIZATION OF OPERATIONAL COMMANDS

Operational commands, organized under the direction of the National Command Authority, Secretary of Defense, and Chairman of the Joint Chiefs of Staff, develop operational plans, conduct training exercises,
and, when required, employ forces and conduct campaigns. Given a clear definition of strategies and objectives and the immediate tasks to be performed, the operational commands are expected to execute their assigned tasks within the constraints of the capabilities (systems, equipment, and resources) available to them.

The operating commands should play a key role in formulating and evaluating concepts of operations. They should also provide strong feedback to all higher levels. But, in the final analysis, any lack of relevant capabilities to support our strategies and objectives must be corrected at higher levels.
III. SPECIFIC ASPECTS OF DEFENSE PLANNING

FEEDBACK

Feedback plays an important role at all six levels of the proposed framework for defense planning. There would be little sense in establishing and announcing a national security objective if there were no viable strategy for underwriting it. For example, if we lack the military capability to support objectives and strategies having to do with liberating countries in Eastern Europe from Soviet domination, then we must fashion our national security objectives relating to frustrating Soviet aspirations in that region in the light of that reality.

Similarly, there is no purpose in setting forth a concept for a specific operational capability that is clearly not feasible, from either a technical or cost standpoint. If the cost were prohibitive, the Defense Resources Board of the Department of Defense, or the Congress, would refuse to approve the various programs that were to provide the systems and equipment that underwrote the concept.

The forces at the disposal of the United States today are widely agreed to be inadequate to meet the global commitments and attendant national strategies. Yet, despite this so-called strategy-force mismatch, successive administrations have been unwilling to abandon international commitments or modify existing strategies because they have found such changes politically unacceptable both domestically and internationally. They have found in particular that American retrenchment would dishearten our allies and friends and encourage Soviet adventurism. I would suggest the following approach to this problem: Set objectives even if (1) they are not fully achievable today but can be achieved in time and (2) even if they are achievable only in favorable--but nevertheless plausible--scenarios.

The framework expressly includes the Congress as an important factor in the defense planning process and in the feedback loops. Both Houses participate in the evolution of policies, national security objectives, and strategies, and their committees play a central role in funding the efforts that provide us the broad military capabilities.
If the Department of Defense used the operational concepts approach, the Congress would be far less likely to mistakenly deny the necessary priorities or funding levels for important programs. At the same time, the Congress would also be less likely to attempt to manage in detail the concept development and the system acquisition phases if these showed a clear relationship to the higher level national objectives and strategies.

ALLOCATIONS

The operational concepts framework has particular relevance to the problem of allocation of resources for defense. First, it can assist both the Administration and the Congress in making the overall determination regarding the amount to be allocated to defense. This determination should be based primarily on considerations at Level I and Level II and, of course, the state of the national economy.

The framework can also guide allocations under the total DoD budget. Broadly, these allocations fall into two categories:

1. Allocations to programs for force modernization—to provide systems and equipment to underwrite concepts of operations to provide new or more effective military capabilities.
2. Allocations to programs to enhance military readiness—to improve operational units already in being.

With respect to modernization, more emphasis should be placed on allocations programs organized around well-defined concepts of operations designed to provide important military capabilities. This practice would help us to develop and support the programs that offered the best marginal return in securing enhanced national security.

The utility curves that demonstrate the relationship between increased resources allocated to a mission area and enhanced national security are difficult to construct. Nevertheless, high-level planners in the Department of Defense should aspire to develop these relationships and present them to the Congress. Explicit corporate judgments based on rigorous, logical analyses can contribute to the desired illumination.
An approach to allocations based on specific mission areas organized in terms of concepts of operations would provide a much better basis for presentations to Congress than the current hodgepodge of separate line items for individual systems and equipment. The current approach invites congressional markups where line items are altered by subtracting or adding dollars without any sense of the impact that such changes have on our military capabilities or our ability to support agreed to concepts of operations, existing strategies, and announced national objectives. No approach systematically relates budget changes to the best marginal return for our national security. The Congress might be able to do better in this regard if the DoD presentation were based on concepts of operations.

COMMAND AND CONTROL

The functions of command and control are central to the effective employment of forces by operational commands. Commanders require timely data to make informed decisions as to the employment of forces. Control centers need timely data and reliable communications to forces to execute these decisions. The development and support of programs to provide systems, equipment, and facilities to accomplish these functions of command and control would profit greatly by the use of the concept of operations described here.

A well-defined overall concept of operations for employing forces to gain specific capabilities is the framework for obtaining the required insight for command and control. The wrong way is to study command and control—or worse yet, C^3—in isolation and in the abstract.

THE ROLE OF THE CHAIRMAN OF THE JOINT CHIEFS OF STAFF

The role of the Chairman of the Joint Chiefs of Staff becomes clearer in the framework for planning set forth in this paper. The Chairman is an important participant in the definition of national objectives and broad military strategies undertaken in Level I. The Secretary of Defense and the Chairman of the Joint Chiefs of Staff should play a central role in the formulation of military strategies to
attain national objectives in Level II. The Secretary would be supported by elements of his staff; the Chairman would be supported by a planning staff in the Office of the Joint Chiefs of Staff and by elements of the National Defense University dedicated to defining objectives, military strategies, and overall capabilities.

The Chairman would monitor the development of concepts of operations formulated elsewhere, primarily, by the military services. In addition to his role with regard to front-end planning, the Chairman would, of course, have an oversight role or a direct role in operational matters—the organization, equipment, and training of forces, the development of operational plans, and the deployment and, if required, employment of forces.

In this framework, the forum for addressing strategies, capabilities, and broad allocations would be a high-level policy group in DoD. The composition of the group would be similar to that of the current Defense Resources Board; the Service chiefs would be full-fledged members. The Chairman would be allowed to address the matters before this forum from a "joint" perspective derived from his staff and his judgment. The Chairman would not be required to obtain prior agreement from the Service chiefs regarding his presentations and judgments in this forum. Such agreements (generally at the expense of perception and illumination) would be appropriate only if the strategies, overall capabilities, and allocations were the sole purview of the Joint Chiefs of Staff and the meetings of the Joint Chiefs represented the forum for the final adjudication of these matters.
IV. CONCLUDING REMARKS

Our defense planning today lacks coherence. A necessary, but not sufficient, condition for improvement in this area is the establishment of a common, logical framework and a common vernacular for addressing the myriad tasks that lie between the identification of broad policy goals and the provision of well-trained and well-equipped military forces able to support the realization of these goals. Further, the framework must identify the forums in which each task in the framework is to be accomplished. The next step is to persuade all the players involved to use this framework, this vernacular, and these forums.

This paper sets forth such a framework—along with a disciplined vernacular—and suggests the forums for accomplishing the many tasks. Certainly not everyone will consider this framework and vernacular ideal. It will not solve all problems nor cover all cases, but it can be further refined in practice. Its adoption and use should yield better results than an approach in which we continue to talk vaguely about some ill-defined, but ubiquitous entity called defense policy.

In adopting a framework that, in some instances, implies a major redirection in approach, we must avoid imposing it bureaucratically on the current process. The last thing we need are additional directives that define more squares to be filled; these would only exacerbate the existing semiparalysis.

This framework offers a general approach. It is not a cure-all. It is not a detailed operating manual. No amount of procedural rigor will make the result useful unless the substantive contributions are sound, creative, and highly effective. Such substance can come only from the efforts of outstanding, experienced, and motivated people.

If the people involved are convinced of the merit of some particular aspect of the framework, they can adopt it without further ado. No encompassing new directive is required. Air Force planning could focus, for example, on a well-thought-out (and approved) framework for the concept of operations for accomplishing counter air, interdiction, close air support, and so forth. The framework would obviate the necessity of seemingly starting from scratch at every turn.
APPENDIX
EXEMPLAR PACKAGE FOR LEVELS I AND II

It is one thing to describe a framework. It is quite another thing to make it work. How might the framework fare in actual practice? Can statements for the different levels be developed in a straightforward, useful manner? One way to find out is to develop exemplar "packages." This has been done in brief form and set forth below for the first two levels. It is, however, not an exhaustive treatment of this complex matter. Such a package, properly expanded, could form the opening statement by the Secretary of Defense in his annual Report to the Congress.

The emphasis is on the framework rather than on the justification of particular statements. The statements proceed from Soviet aspirations and capabilities to U.S. national security objectives to strategies and finally, to overall capabilities to underwrite these strategies.

The present threat to our security is dominated by the aspirations of and the worldwide environment created by the leaders of the Soviet Union. These aspirations drive our overall policy of containment. National security objectives react to specific manifestations of the environment created by the Soviets and give direction and dimensions to our overall policy.

The Soviets seek to establish an environment worldwide (and, in particular, along the periphery of the USSR) that threatens our security and vital national interests in several ways:

1. They have developed and deployed massive military forces that could be employed in large-scale aggression in Europe, Southwest Asia, and Northeast Asia.

2. They have developed and deployed a vast array of strategic weapons—ICBMs, SLCMs, and bombers—that threaten the military and economic resources of the United States and of our allies.
3. They have developed, maintained, and continue to deploy an awesome array of forces for the defense of their homeland against attack by either conventional or nuclear weapons.

4. They are making substantial progress in their capability to project power outside the USSR, deploying increasing numbers of long-range combat aircraft, naval units, and mobile army units, as well as the associated command and control, transport, and support elements.

5. They are striving to achieve "blue water" naval combat capabilities in many areas of the world, including the Indian Ocean and the Mediterranean; they also striving to increase their presence in the western hemisphere.

6. They have, in just two decades, floated a navy that has substantial capability in the mission area of sea denial and threatens our ability to keep open the sea lines of communication between the United States and overseas theaters.

7. They have continued to foment and to support "wars of liberation" around the globe; they use proxy forces to project their influence; when successful, their actions frequently lead to alliances and military cooperation that enhance the Soviet capability to project power.

8. They seek to create a political and military environment around the world that erodes the credibility of the United States as a firm and worthy ally.

The aspirations of the Soviet Union, along with its increasing military capability, have created an environment in which the United States, to protect its own vital interests, has had to define and announce the following specific national security objectives:

1. Deter strategic nuclear attack against our people, our leadership, and our industrial worth.

2. Deter nuclear attack against our military forces in CONUS (strategic nuclear forces, conventional forces including airlift and sealift) and associated command and control.
3. Prevent Soviet coercion of and Soviet aggression against any of our allies. In particular, deter (1) any Soviet attempt to overwhelm NATO forces in Western Europe and (2) deter nuclear attack against U.S. and allied theater nuclear forces in that theater.

4. Maintain a close alliance with Japan and Korea so as to continue their alignment with the United States. Also, ensure that the People's Republic of China does not become closely aligned with the USSR.

5. Prevent the Soviet Union from creating an environment in the Middle East, the Persian Gulf, or the region around the Horn of Africa that could result in denial of oil, at reasonable prices, to the United States, NATO, and Japan. This includes deterring any action, overt or covert, by the Soviet Union against Iran, Saudi Arabia, or other oil-producing nations around the Persian Gulf and preventing any indirect domination of these countries by the Soviet Union.

6. Inherent in the first five objectives is that of preventing the Soviets from creating an overall environment in which countries would deem it in their best interest to accommodate the USSR in areas critical to U.S. security. The Soviets could foster such an environment by creating the perception that the United States could not be depended on to defend the interests of its allies. Specifically, the United States must guard against the perception that it would be deterred from taking action critical to defend its allies' interests because of fear of escalation to the use of nuclear weapons. This situation would arise if the Soviets achieved the appearance or the reality of a clear-cut, substantial strategic nuclear superiority, however measured. We must also ensure that countries aligned with the United States are not easy prey to Soviet proxy forces.

The national security objectives set forth above are explicitly recognized as being vital to our security. Overall strategies and commitments that would underwrite these objectives are summarized below in general terms.
First, our present strategy to deter Soviet attack on our leadership, industrial worth, and people is based principally on the threat of U.S. retaliatory attacks against the Soviet leadership and industrial facilities and, in particular, against facilities associated with the capability to sustain war. Military forces in the form of a strategic triad are maintained to underwrite this strategy. In this case, our strategy is to deter by threat of a devastating retaliatory attack. The strategy requires the United States to have the capability to hold Soviet leadership and certain Soviet industrial facilities at risk to our attack for an indeterminate time—even after a Soviet attack on our forces; enduring survival is therefore a necessary element for these forces.

The capability to make Soviet attacks on our industry and peoples significantly less efficient through posture (a damage-limiting capability) is not being underwritten in any substantial manner at present. Whether or not we should include this strategy in our defense plans is a matter for urgent review.

Second, we deter nuclear attack against our forces in CONUS by a two-tier strategy of (1) making Soviet initial attack inefficient by our posture and (2) threatening Soviet forces with retaliatory strikes. To deter by posture, we base our strategic nuclear attack forces (and associated command and control) in a survivable mode so that the balance of U.S. and Soviet nuclear attack forces following a Soviet first strike would be significantly less favorable to the Soviets than the balance prior to such an attack. The Soviets would not prefer the "correlation of forces" postattack to that existing preattack; the exchange ratio of Soviets weapons expended to U.S. weapons destroyed would be so adverse (inefficient) that the Soviets could perceive no net advantage in attacking in the first place.

In deterrence by threat of retaliatory strikes, we threaten Soviet forces, including strategic nuclear forces, theater nuclear forces, and conventional projection forces (land, air, and sea). The purpose of these strikes is to deny the Soviets any meaningful military victory should they attack against our forces. This is the same theme expressed above. The capability of our forces must be such that the Soviets would
prefer the correlation of forces before an attack by them to that postattack.

Soviet forces include strategic nuclear forces, theater nuclear forces, and conventional projection forces. Geographically, the latter category includes Soviet forces in central Russia, along the Sino-Soviet border, in the western military districts, and perhaps in Warsaw Pact countries.

The United States prefers to deter Soviet attack by posture (preventing an effective attack in the first place) over deterring by threat of reprisal attacks. Deterring by threat involves an assessment by the Soviets of the U.S. will to respond. This assessment would be more likely to be subject to miscalculation by the Soviets than any technical assessment as to the outcome of counterforce strikes.

Third, deterrence of Soviet coercion of and aggression against Western Europe is underwritten by the close participation of the United States in the NATO Alliance and by the adoption of a strategy of forward defense and flexible response. The strategy involves the deployment of versatile U.S. military forces in forward positions on the sovereign territory of our allies—forces that have the capability with conventional weapons to contain and/or repel any Soviet attack before it achieves significant territorial gains. This is to be coupled with a firm political commitment that any attack on NATO will involve the United States—that an attack against one is an attack against all.

We also deploy a variety of theater nuclear weapons on NATO territory to provide a further deterrent to the Soviet use of conventional or mass-destruction weapons. The theater nuclear weapons raise the possibility that any major Soviet attack could escalate to strikes by intermediate-range forces and possibly intercontinental range strategic nuclear forces against high-value targets in central Russia.

The presence and commitment of naval forces in the Southern and Northern Regions of NATO also help to underwrite this objective. Furthermore, we maintain airlift and sealift forces, naval forces, deployable fighter/attack aircraft, and long-range combat aircraft so that the Soviets will perceive that the United States can bring its full might to bear if they attack and that after we contain the initial Soviet thrust, time is on the side of NATO.
The overall strategy related to our security objectives in NATO involves political and economic components in addition to our overall military capabilities. These include, typically, the dual-track approach (arms reduction talks plus commitment to deployment) to the problem of intermediate-range theater nuclear forces; consultations with our allies in regard to U.S. moves relative to the security and stability of the Middle East oil producers; and sharing the burdens and the benefits of joint development and production of weapon systems.

Fourth, to maintain a solid alliance with Japan and South Korea and to prevent the Soviet Union from creating an environment in which the People's Republic of China might consider it to Chinese advantage to align itself closely with the Soviet Union, we—among other actions—maintain a military presence in the western Pacific in general and in South Korea and Japan in particular. Our military presence in the western Pacific also serves to underscore the possibility that in the event of aggression on the Central Front in Europe the United States might assist and reinforce the People's Republic of China in a manner that would serve the overall interests of the United States. The latent military threat posed by the People's Republic of China, increased by the possible provision of U.S. military assistance, will likely compel the Soviets to continue to maintain substantial forces facing China. Such a commitment serves to deter Soviet aggression in Europe and the Far East.

Fifth, the overall strategy for underwriting our specific national security objective with respect to maintaining the flow of oil from the Middle East and the Persian Gulf is still being formulated. We must present to the Soviets the clear prospect that any employment of its military might to gain control, direct or indirect, of the energy resources of the greater Middle East will, at the very least, involve a direct confrontation with U.S. and allied forces in that area and perhaps elsewhere.

We do not now occupy secure bases in this vital region. So, central to any overall strategy must be the capability to establish enclaves (lodgements) somewhere in threatened areas in response to any Soviet invasion or incursion in the north. How far to the north this
defense can be established and whether our forces can be interposed between Soviet forces and vital oil facilities depends on the size, character, and mobility of the invading forces, on the assistance provided by the host country, and on other details of scenario.

Most important, the viability of our strategies depends on specific operational capabilities: (1) how rapidly U.S. air power could be established in the area and how rapidly enclaves for ground forces could be established and reinforced so that they could withstand any Soviet assault; should the Soviets attempt a campaign to dislodge our forces, (2) how effectively the United States could impede the invasion and movement southward through interdiction of Soviet ground units (both combat and support) and (3) how effectively the United States could interdict Soviet transports attempting air landings of Soviet troops.

Many of the military capabilities provided in support of the NATO forward defense strategy discussed above could be employed to underwrite our capability to project power to the Middle East. Aircraft that can interdict Soviet maneuver units in second echelon in the NATO conflict could also provide a decisive advantage in countering the initial enemy thrusts in Southwest Asia while other air and ground units were being marshaled for containment and counterthrusts. These strike aircraft must, of course, have sufficient payload capacity and operating range to conduct these interdiction operations from bases located at considerable distance from the Soviet lines of communications that are to be attacked.

Sixth, the strategy to enhance the global political and military posture of the United States is underwritten by the combination of the broad military capabilities described in the foregoing. Specifically, (1) we must retain at least essential equivalence to the Soviet strength in strategic nuclear forces; (2) we must help defend nations that forgo the possession of nuclear weapons by extending our nuclear umbrella and by helping them to field adequate conventional forces on a timely and realistic basis; (3) we must maintain the capability for sufficient strategic force projection, supported by adequate air and sea logistic systems, to make our overseas commitments credible.