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A Time for Planning? If Not Now, When?

CARL H. BUILDER and JAMES A. DEWAR^[1]

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As they do about the weather, perhaps, everyone complains about planning, but no one does anything about it. There is nothing new about lamenting either the quantity or quality of planning in American military institutions. The commercial sector, because of rapidly changing markets, has rediscovered "strategic" planning; and, in the aftermath of the Cold War, the American military shows some interest in "going to school" on corporate planning processes. Books^[2] and articles^[3] explaining the value of institutional planning and how to do it have become popular reading in both the military and commercial sectors.

As much as one might agree with the need for more and better planning in American military institutions, there is still a need to explain why we have seen so little evidence of planning for so long and why planning has been so difficult to do. Within the national security establishment, for the past 30 years, the formal planning process has been incorporated in the Planning, Programming, and Budgeting System (PPBS).^[4] That is the frame of reference adopted here for explaining what went wrong, and why, with American military planning.

It has been wryly observed that the first P (for planning) in PPBS was silent--a remark upon the absence of planning.^[5] The system seemed to be much more about programming and budgeting than it was about planning. Many of the expressed concerns about the quantity and quality of military planning center on strategic or long-range planning. Perry Smith, an experienced military planner, puts it this way:

What is missing within these [PPBS] planning structures, however, is any serious effort at strategic (long-range) planning within either the Office of the Secretary of Defense or the Joint Staff. There is some lip service paid to strategic planning in OSD and the Joint Staff, there is a long-range planning annex in the National Military Strategy Document (NMSD), and there are some individuals who honestly think some useful systematic long-range planning is going on within these two organizations; but they are wrong (at least through 1993).^[6]

That indictment is about as direct as one is likely to see. Smith extends it to the military services as well:

The military services do some strategic planning, but their efforts at long-range planning have not been well institutionalized. The services are also limited in how well they can do long-range planning with OSD and the Joint Staff doing so little. With no overarching Department of Defense long-range plan or long-range planning system, the services tend to plan in isolation.^[7]

An alternative view, developed here, is that defense planning atrophied under PPBS because the planning was substantially completed early in the Cold War; and, thereafter, programming largely supplanted planning in the making of plans. Institutionalizing planning would not have helped when the very functions of planning became trapped in the glacial thinking of the Cold War.^[8]

If the need for planning is compelling, exhortations to do more or better planning may not be enough. It may be necessary, first, to understand just why it is that planning has been neglected in the past. The thesis advanced here is that planning was neglected because the stasis of the Cold War resolved most of the uncertainties that are properly the central occupation of planning; and since planning was thus made relatively easy, planners confused planning with programming and making plans.

To program or to plan?

The definitions are not helpful: Planning and programming can be confusing, even in the dictionary sense.[9] The confusion between planning and programming is compounded because both (as well as other activities) can produce plans. Plans can be produced by programming (program plans), commander's conferences or battle staffs (operational plans), engineers (construction plans), draftsmen (house plans), insurance salesmen (financial and retirement plans), and, of course, by planners and planning staffs.

Planning need not produce plans to be successful; to be successful, planning must inform and facilitate the decision for which the planning was undertaken. Planning can be successful if it results in a decision not to act and in the absence of any plans. The product of planning is a better informed decision to act or not, with or without plans.

In PPBS, it can be argued that the proper product of the planning phase is not plans, but the decisions as to what ought to be programmed and then budgeted. The product of the programming process *is* plans--program plans. Since the PPBS process is complex, it may be easier to see the distinctions between planning and programming in a more familiar example of the two at work in residential home construction.

When the architect plans a new home with its prospective owners, there is a wide-ranging consideration of goals and constraints, of alternatives and priorities, of risks and uncertainties. Sites, interest rates, financing, style preferences, materials availability, building restrictions, all sorts of issues and considerations must be addressed and resolved in some concept of action: whether or not to proceed and, if to proceed, what kind of building ought to be constructed and where. At this point of decision, there may only be sketches and renderings and very rough estimates of cost. That is planning; and its purpose is to facilitate the decision as to what, if anything, should be programmed.

If the decision is to proceed, then the programming begins. A practicable program must be fashioned to meet the intent of the planning decision. House plans must be drawn that will conform to code and be approved. A bill of materials must be drawn up and priced. Contractors' bids or estimates must be acquired and their work must be scheduled. At this point, the home exists only on paper as a completed design or plan for those who would execute the construction program. That is programming; and its purpose is to design a feasible, executable program that conforms to the planning decision. What follows programming, if anything, is budgeting (or financing) and execution (construction).

Seen in this example, the planning phase was about *what*, if anything, ought to be built, while the programming phase was about *how* to build it. That is the most basic distinction to make between planning and programming: planning produces a *determination of what to program* and programming produces a *design for how to program* (resource and schedule) it.

Distinguished in that way, the challenges of planning and programming are quite different: The challenge of planning is to wrestle the *decision* uncertainties (e.g., the variables, alternatives, preferences) to the ground in a way and to a degree that facilitates the decision about what ought to be programmed. The challenge of programming, then, is to devise a program that effectively resolves the *design* uncertainties (e.g., schedules, quantities, allocations) about how to proceed.

Those two challenges differ fundamentally in their approaches to uncertainty: Planning does a good job if it searches out and tables all of the pertinent uncertainties bearing upon the decision about what to program and then finds a way of accommodating them. Good planning effectively deals with *decision* uncertainties, many of which cannot be resolved. Good programming addresses all *design* uncertainties, most of which can be resolved by careful design and attention to details.

These differences in the handling of uncertainties suggest sharp philosophical distinctions between planning and programming: On the planning side, the focus is on a decision; on the programming side, it is on a design. Planning is mostly about ends; programming is mostly about means to those ends. One side deals with *decision* uncertainties, the other with *design* uncertainties. But there is also an attitudinal difference between the two about uncertainty: Planning attempts to embrace and contemplate its decision uncertainties. Programming attempts to drive out and resolve its design uncertainties.[10]

Conceptually, the planning and programming functions are sequential. In practice, the hand-off between the two is neither clean nor one-way, and the functions are highly interactive.[11] Often, planning decisions are revisited during

programming as cost estimates are revised and political realities change. It is not uncommon for the Congress to modify an Administration budget request in ways that require the Executive Branch to replan and reprogram. Indeed, the acts of authorizing and appropriating represent the principal ways the Congress injects its planning ideas into the fruits of Executive Branch planning, programming, and budgeting.

Was planning a Cold War victim?

In retrospect, the historical dominance of programming over planning in American national security institutions appears to be an artifact of the stability of the Cold War. The *planning* for that war was largely completed in its first decade in the *vision* of containment[12] and the *strategy* of deterrence.[13] Thereafter, the major challenge was one of programming relatively stable resources to stable national security objectives in the face of slowly evolving technology. If planning is mostly about wrestling the outstanding uncertainties to the ground, the Cold War left military planners with precious little with which to wrestle:

- The enemy was not uncertain; it was the communist bloc, led by the Soviet Union.
- The threat was not ambiguous; it was the very survival of the nation under the shadow of a massive nuclear attack.
- The resources were not highly uncertain; the threat was so dire that the necessary funds would be provided regardless of other claims and claimants.[14]
- The locus of conflict was clear enough; it was Central Europe, where the prize of two world wars was left divided between the Cold War adversaries.
- The scenario was so consistent as to be called canonical; it was a Warsaw Pact invasion of Western Europe, escalating to the use of nuclear weapons, first in Europe and then in the heartlands of the two superpowers.

About the only uncertainty left for the planners was the question of what technology might provide to each side in the way of new weapons. Even there, however, the major technological changes came early in the Cold War with the perfection of jet aircraft, thermonuclear weapons, ballistic missiles, spacecraft, and nuclear propulsion for submarines--all in the 1950s. Thereafter, most of the changes in technology resulted in refinements on these breakthrough weapons developments.[15]

So the Cold War planners directed most of their planning efforts to the technological uncertainties. Those uncertainties became the *planning* preoccupation of the Cold War, with the result that much of the *programming* was devoted to the development of new, more technologically advanced weapon systems. The planning decision became mostly one of deciding which new weapons ought to be programmed for development.

With the end of the Cold War, the planning uncertainties appear to have been turned on their heads:

- The enemy is no longer certain; it may be "tin-pot" dictators or the reemergence of old enemies from past wars, hot and cold.
- The threat to the nation is ambiguous; it may be oil as "life blood" or regional conflicts that could spread to involve old allies or enemies, but it is no longer the very survival of the nation.
- The resources for national security are highly uncertain; the demands of other claims and claimants for the federal budget, long deferred by the Cold War, are legion and strident.
- The locus of conflict, particularly for small wars or peacemaking operations, is no longer clear; it could be almost anywhere and everywhere in the world.
- The scenarios remain to be determined; the Persian Gulf remains popular because of its oil and the militarily successful conflict waged there.[16]

Planning, anyone?

With all these uncertainties unleashed after nearly 40 years of Cold War stasis, the time for planning should surely be at hand. Or has programming become so ingrained that national security in the post-Cold War era will be programmed rather than planned? That possibility is evident in the seemingly urgent efforts to articulate a new basis for military planning. It is as if the planning uncertainties should be resolved as quickly and permanently as possible, so that the defense establishment can get back to doing what it does well--programming.

There are clues to what is going on: Are our national security institutions behaving as if they already know what forces ought to be programmed? If so, they imply that the planning is done, that the planning uncertainties have been eliminated. The so-called Base Force, the first force structure proposed in the post-Cold War era, was presented as *what ought to be programmed*. It was defined in terms of means, not ends. The Base Force was presented as if the planning had been done, this was the program, and it was time to get on with the budgeting.[17]

More recently, the Clinton Administration published its own assessment of the forces needed for the nation's security in a Bottom-Up Review.[18] Like the Base Force of the previous Administration, the Bottom-Up Review describes what military forces ought to be programmed and is heavy on means, light on ends. The methodology of the Bottom-Up Review lists steps that, in principle, should deal with the uncertainties surrounding the nature of the post-Cold War era and the range of uncertain futures. But beyond describing the methodology, the report is silent on how these uncertainties were handled. As in PPBS, the planning may be more represented than accomplished.

The new, unbounded planning uncertainties the nation faces will not be resolved quickly or permanently, regardless of the amount of detailed study they may be given. The public purse is no longer open for the urgent defense of the nation. National security has moved from a seller's to a buyer's market, with the American public questioning the amount of insurance it needs and the premium it is willing to pay.

The American defense establishment has planned before, at the start of the Cold War and before PPBS. In the late 1940s, the new Department of Defense, with its three military departments as contentious advocates, was fully engaged in the question of what ought to be programmed for the nation's security in an uncertain and rapidly changing world. The planning uncertainties were gradually resolved and the programming for the nation's Cold War posture, with some dissent, began.[19]

If the nation's security institutions want to reengage in planning, they need to confront the following planning axioms:

- The purpose of planning is to inform and facilitate the decision as to what ought to be programmed.
- The job of planning is isolate and deal with the uncertainties that bear upon that decision.

If what ought to be programmed is known or the uncertainties that bear upon what ought to be programmed are resolved, then the planning is done.

How can the uncertainties be pinned?

If the job of planning is to wrestle to the ground the uncertainties about what should be programmed, how can that job be done when many of the uncertainties are simply unresolvable in planning? The future cannot be known with certainty. At least five different methods for handling planning uncertainties can be advanced.

- *Parallel programming*. The development of the atomic bomb was fraught with planning uncertainties:[20] Two fissionable materials for atomic bombs were proposed--U235 and Pu239--but the availability of sufficient quantities of neither was assured. So the decision was made to program for the production of both materials. Two methods for the separation of U235 from U238 were proposed--by gaseous diffusion and mass spectroscopy--but, again, the success of neither was assured. So the decision was made to program both methods until one proved more practicable than the other. These planning uncertainties were confronted, not resolved, by planning; they were accommodated in a decision to program both alternatives, in what is now called parallel programming.[21]

- *Worst case and all-inclusive*. During the Cold War some of the planning uncertainties were addressed by what has come to be called "worst-case" analysis. The decisions about what defensive systems ought to be programmed were usually predicated upon the worst possible conditions--a way of dealing with the uncertainties in the conditions that would actually apply when these defensive systems were called upon. Sometimes--as with strategic forces survivability and ballistic missile defenses--these worst-case assumptions resulted in extreme demands that paralyzed programming or budgeting.

A variant of worst-case planning is a decision to program for all- inclusive objectives--where uncertainties about

future objectives can be resolved by subsuming lesser objectives under some larger, encompassing objective. For example, during the Cold War it was presumed that if our military forces were sufficient for deterring (or defeating) the Soviet Union, they should be more than adequate for any lesser foe or contingency. Although that premise did not turn out to be valid under the circumstances of history, the failure was not in the logic, but in the implicit assumption that the qualitative as well as quantitative demands for lesser contingencies could be subsumed within the greater.

- *Trend extrapolation and most probable futures.* One of the most commonly used stratagems for dealing with future uncertainties is to *predict* the future, as, for example, by extrapolating trends in technology. The planning decisions to program many advanced weapon systems have been predicated upon such predictions, more often than not with disappointing and costly results. Where the trends themselves are uncertain, some planners have resorted to statistical devices to predict the most probable future--a risky means of dealing with uncertainties unless the distribution (or range) of the uncertainties is very narrow.[22]

- *Assumption-Based Planning.* A recently developed planning tool for dealing with uncertainties is called Assumption-Based Planning (ABP).[23] It deals with planning uncertainties by looking for vulnerable assumptions in plans and programs and devising specific actions to test and compensate for failures in those assumptions. A Cold War example of the technique (before it was codified as ABP) was the planning approach to the uncertainty about the future survivability of strategic bombers on their bases. Two warning signals of an impending threat were established: the future observation of enemy submarine operations close to the US coast, and enemy testing of submarine-launched missiles on depressed trajectories (to delay their radar detection). Specific hedging actions against those eventualities were then devised, such as making plans to move the bombers inland or to install additional radars.

- *Strategy and vision.* Strategy epitomizes the conceptual passage from planning (ends oriented) to programming (means oriented) and can greatly help in resolving planning uncertainties attending the decision as to what ought to be programmed. If strategy "is a concept for relating means to ends,"[24] that concept alone can define the planning problem and suggest its solutions. For example, General Bernard Rogers' 1980s strategy of "Follow-On Forces Attack" (FOFA) for the defense of Central Europe against echeloned Soviet forces was to attack the following Soviet echelons *before* they could be brought to bear against the conventional NATO ground defenses (which were thought to be capable of withstanding the first-echelon assault). That strategy muted the uncertainties about how many Soviet echelons could be handled by the NATO ground defenses and suggested that what should be programmed were systems that could effectively strike armored forces deep in the enemy's rear areas.

By far the most powerful means for dealing with planning uncertainties is through what has become generally recognized as vision. An institutional vision, by clarifying "an organization's essential sense of identity and purpose,"[25] can resolve many uncertainties by making them irrelevant or inconsequential to the institution's sharply defined purposes.[26] For example, the US Marine Corps' unique sense of identity and clear sense of purpose makes the future uncertainties of budgets and force structures far less consequential than they are to its three brother services, whose identities have become increasingly associated with certain numbers of aircraft carriers, divisions, or aircraft wings. Hence, Marine Corps planning is likely to be less vulnerable than that of the other services to the uncertainty of its future size.[27]

All of these approaches to planning uncertainties have merits and limitations, depending upon the circumstances encountered in planning. Each deals with uncertainty in a different way:

- parallel programming--it *accepts* uncertainty by programming for all alternatives
- worst case and all-inclusive goals--they *encapsulate* uncertainty by making all other situations lesser included cases
- trend extrapolation and most probable futures--they *resolve* uncertainty by predicting the future
- Assumption-Based Planning (ABP)--it deliberately *programs* against uncertainty through warning and hedging actions
- strategy and vision--they can *finesse* many uncertainties by making them orthogonal or irrelevant to sharply focused ends

Of these, predicting the future is the most common, but treacherous, planning tool. Strategy and vision[28] can be the

most powerful, but elusive, of the concepts to implement in planning.

Which of these concepts does the recent Bottom-Up Review use in confronting its planning uncertainties? From the current documentation and conversation with some of the principals, the Review appears to lean heavily on predicting the future and all-inclusive goals--the most common and treacherous concepts used during the Cold War. It posits (predicts) four new dangers and then defines the forces (means) to handle those dangers.[29] The primary scenario that dictates these forces is two nearly simultaneous major regional contingencies, against Iraq and North Korea.

What is not apparent in the Bottom-Up Review is a rationale for why these scenarios are the right ones for sizing US forces. The Review describes the scenarios as merely illustrative of potential future wars, not predictive,[30] but neglects the uncertainties that attend their choice. It treats peace enforcement and intervention operations as lesser included cases in that these operations are deemed not to require additional forces beyond those required for two major regional contingencies (although special training and doctrine are called for).

How can planning fail?

If the purpose of planning is to inform and facilitate the decision as to what, if anything, should be programmed, how can planning fail? Any observer of planning should be able to name quite a few ways:

- by failing to decide what should be programmed (e.g., the planning process results in descriptions of the environment or the future, but does not identify the actions to be taken)
- by refusing to confront (not necessarily resolve) important uncertainties or changed circumstances (e.g., the end of the Cold War and declining budgets) in identifying what actions ought to be taken
- by failing to communicate effectively to leadership the circumstances and rationale for the programming actions that ought to be taken
- by failing to follow planning through into conformable programming and allowing the programmers to continue to do their "thing" because they don't understand or like the planning decisions
- by failing to identify appropriate actions in the light of the evident circumstances (e.g., when wishing substitutes for planning)
- by confusing whom the planning is for (e.g., the Army planning for "national security" instead of the Army), thereby confusing interests, objectives, and even responsibilities and authorities

Note that this list of failures does not include the failure of leaderships to adopt the actions identified by the planning process. If planning has identified and clearly communicated appropriate actions and the leadership rejects them, that is a leadership failure, not a planning failure.

What flavor of planning?

Little note has been given here of the different *kinds* of planning--strategic, long range, midterm, near term, short term. That is deliberate. The development and applications of Assumption-Based Planning suggested caution about the distinctions between different kinds of planning: they may be far less important than making sharper distinctions between planning and programming.

Defense planning differentiated on the basis of future time period--five to 30 years into the future--may be artificially constrained in ways that are not productive. During times of stasis, as during much of the Cold War, planning may look out confidently 10 or 20 years into the future; but during the current dynamic period, looking ahead two or five years may be very uncertain. In fact, the 10- to 20-year horizon of confidence during the Cold War gradually eroded over the years to nothing by 1989, without notice by planners until the very end. Planning should not be rigidly categorized by time horizons, but by the decisions it is to illuminate and facilitate.

Defense planning differentiated on the basis of strategic and programmatic may not serve any better than that differentiated by time period because what is strategic and programmatic can also change with planning circumstances. However, planning differentiated on the basis of client is important. Much of PPBS defense planning today presumes that the nation is the client--that the planning serves the nation's security, period. That is altogether appropriate for DOD and (perhaps) JCS planning, but not for the component military services. However much they may be obliged to

support the DOD planning processes through PPBS, they should also be engaged in institutional planning for their own service.

They are, of course, in unconscious or subliminal ways as they support the DOD PPBS, but the absence of overt, explicit planning on their own behalf hurts them. They confuse their own members when the only evidence of their service's planning is couched in terms of the nation's and not their service's interests. The altruism of such a national security perspective may be appealing to many, but the dissembling of legitimate institutional interests is corrosive within the services and, ultimately, may be a *disservice* to the nation's security.

The end of the Cold War provides a good reason and opportunity to return to planning, to put the first P back into PPBS where it can be seen and heard, perhaps for the first time since PPBS was institutionalized. However, the national security institutions may not be intellectually prepared to do so; the Cold War planning environment was clearly preferred over the one that is emerging now. If planning enjoys a renaissance, it should become much more sharply differentiated from programming; and the military services should become overt clients for institutional planning to enhance their own contributions and, yes, their own futures.

NOTES

1. The authors are senior staff members at RAND. The views presented here are their own and do not necessarily reflect those of RAND or its sponsors. The authors are indebted to colleague Colonel W. Michael Hix (Ret.) for his considerable contributions in the preparation of this article.
2. For example, Peter Schwartz, *The Art of the Long View* (New York: Doubleday Currency, 1991) and Perry M. Smith, et al., *Creating Strategic Vision: Long-Range Planning for National Security* (Washington: National Defense Univ. Press, 1987).
3. For example, Ted Greenwood and Stuart Johnson, "NATO Force Planning Without the Soviet Threat," *Parameters*, 22 (Spring 1992), 27-37.
4. The Army describes its contributing part of PPBS as PPBES, with the E representing Execution.
5. Observers have been concerned with the silent P since the late 1970s. See Donald B. Rice, *Defense Resource Management Study* (Washington: GPO, 1979), p. 6.
6. Perry M. Smith, *Assignment: Pentagon (The Insider's Guide to the Potomac Puzzle Palace)* (2d ed., rev.; Washington: Brassey's, 1993), p. 165.
7. *Ibid.*, pp. 165-66.
8. Another contributor to the decline of planning was the common notion in the Pentagon that planning dealt only with the period of time beyond the program years. Since fiscal constraints applied only to the program years, any thinking about the planning years was fiscally unconstrained and viewed as largely irrelevant to the real work at hand: the allocation of resources in the defense program and budget.
9. Planning is "to make . . . a detailed formulation of a program of action." Programming is "to provide with . . . a plan . . . under which action may be taken toward a goal." These definitions can be derived from *Webster's Ninth New Collegiate Dictionary* (Springfield, Mass.: Merriam-Webster, 1981) from the definitions provided therein for plan and planning, program and programming.
10. Indeed, one evidence of the dominance of programming in PPBS is in the attitudinal treatment of planning uncertainties as if they were programming uncertainties--uncertainties that could be resolved by more detailed study.
11. A case study that illustrates the interactive nature of the PPBS process may be found in Leslie Lewis, et al., *Assessing the Structure and Mix of Future Active and Reserve Forces: Assessment of Policies and Practices for*

Implementing Total Force Policy (Santa Monica, Calif.: RAND MR-133-OSD, 1992).

12. The concept of containment is most commonly described as a strategy rather than a vision. Here it is called a vision only because it contemplates purpose and outcomes more than the means to fulfill them. George F. Kennan originally expressed his vision of containment as "a long-term, patient but firm and vigilant containment of Russian expansive tendencies" until "either the break-up or the gradual mellowing of Soviet power." Kennan wrote as "X" in "The Sources of Soviet Conduct," *Foreign Affairs*, 25 (July 1947), 575, 582.

13. Strategy is defined here as a concept for relating means to ends, consistent with Carl H. Builder in *The Masks of War: American Military Styles in Strategy and Analysis* (Baltimore, Md.: Johns Hopkins Univ. Press, 1989), p. 49.

14. Indeed, one of the important premises of the PPBS structure was that resource requirements were an *output* of the process. The inputs were the national security objectives and the threats posed against them. The analysis was about the least-cost forces to meet those objectives, at some level of effectiveness, in the face of the threats. The cost of those forces was presumed to be the basis for a rationalized budget request. See Carl H. Builder, *Defense Planning Today: Calculus or Charade?* (Santa Monica, Calif.: RAND MR-293-AF, 1993).

15. The only subsequent and significant technological change--precision weapons--came about as the Cold War was ending. The *perfection* of precision weapons came with the appearance of large-scale integrated-circuit microchips in the mid-1970s. They were foreshadowed by the laser-guided bombs toward the end of the war in Vietnam and again in the Yom Kippur war of 1973; but they were first widely demonstrated in the Gulf War of 1991.

16. The military success in the Gulf War appears to have some bearing on its being used as a reference point in military planning. One hears the Desert Storm forces being used as a shorthand for future force requirements, as in "sufficient forces for two Desert Storm equivalents." On the other hand, one never heard of future force requirements being described in Vietnam or Korean war equivalents.

17. Of course, one could argue that the Base Force served a political purpose that outweighed planning: After the fall of the Berlin Wall, the Bush Administration needed quickly to focus the public's attention on some statement of future military force requirements, however derived, to counter the potential spread of the notion that the Cold War was won and the troops could all go home now. Planning, programming, and budgeting all operate in a political context and, therefore, serve political as well as defense planning purposes.

18. Les Aspin, *The Bottom-Up Review: Forces for a New Era*, 1 September 1993.

19. Paul Bracken, in "The Military After Next," *The Washington Quarterly*, 16 (Autumn 1993), 157-74, urges a return to ferment and dissent in national security planning.

20. For an eloquent history of these uncertainties and their resolution, see Richard Rhodes, *The Making of the Atomic Bomb* (New York: Simon & Schuster, 1988).

21. Parallel programming was resorted to again during the urgent development of intercontinental ballistic missiles (ICBMs) when several technical alternatives presented themselves.

22. The problem with most probable futures can be seen from the following analog: In the card game of Blackjack, the most probable value of a dealt card is ten (the value of all face cards and the ten-cards). Yet, one is more likely to be dealt something other than a card with value ten because the other cards are more numerous. Thus, the highest probability *event* (being dealt a card with a value of ten) is not necessarily the most probable *outcome* (which is being dealt a card with a value *other* than ten).

23. See James A. Dewar, et al., *Assumption-Based Planning: A Planning Tool for Very Uncertain Times* (Santa Monica, Calif.: RAND MR-114-A, 1993).

24. Builder, *The Masks of War*, p. 49.

25. This definition of institutional visions is described in John Setear, et al., *The Army in a Changing World: The Role of Organizational Vision* (Santa Monica, Calif.: RAND, R-3882-A, 1990), p. 17. Setear also provides criteria for the effectiveness of institutional visions, pp. 19-21.

26. One of the authors' favorite examples of how visions can make some planning uncertainties irrelevant is found in the hypothetical predicament of a little league soccer coach who has been given the least promising or capable children in the league. While most coaches will be confronted with planning uncertainties such as games won and lost, league standings, and making the playoffs, our hapless coach adopts a vision of her team becoming the most improved in the league. Her planning uncertainties become something quite different from those of the other coaches: How to get the most improvement out of each of her players, regardless of their beginning skills? How to demonstrate those improvements as a motivation to her players?

27. Admiral Rickover's planning for the naval nuclear propulsion program similarly benefited from his clear, steadfast vision of the program.

28. One way to distinguish between strategy and vision is to think of strategy as a concept for dealing with a *problem* and vision as a concept for *orienting an organization*.

29. The forces are 10 active and 5+ reserve Army divisions, 11 active and 1 reserve/training carriers for the Navy, 13 active and 7 reserve Air Force fighter wings, and 3 Marine expeditionary forces.

30. The Review warns, "Every war that the United States has fought has been different from the last, and different from what defense planners had envisioned." The document also cautions against "preparing for past wars." Yet, curiously, both of the contingencies are based on the last two US conventional wars against regular forces--invasions by Iraqi and North Korean forces.

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