

Strategic Planning for the Air Force

Leveraging Business Planning Insights to Create Future Value

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If you are going to try to go to war, or to prepare for war, in a capitalist country, you have got to let business make money out of the process or business won't work.

—Henry L. Stimson

THE RAISON D'ÊTRE of our national Air Force is force application: possessing the capabilities to apply force, on command, to an adversary state as part of the United States and alliance joint operations team. We have two tenets regarding airpower. The first tenet is the belief that planning for the future of airpower is so critical to the United States, our friends, and our allies that it must be done right. To help ensure it is done right, we could gain much by examining how planning is accomplished in the fiercely competitive world of "for profit" business. The second tenet is that some commercial planning initiatives offer the potential to improve the Air Force planning pro-



cess. This article explores strategic planning for the Air Force, illuminating how Air Force planning might incorporate some of the best planning practices used by competitive businesses. We have one hypothesis: The institutional planning process should drive the efforts and effectiveness of a 500,000-person firm, and it can and must be improved.

Perspectives

Over the past several years, the Air Force created an environment encouraging debate and promoting innovative thinking about the future. Sponsored efforts resulted in major studies and lengthy reports such as those cre-

ated by Spacecast 2020, Air Force 2025, and New World Vistas.¹ Creation of a "Revolutionary Planning Office"² as the precursor of a

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new Air Force-level deputy combining planning and programming allowed planners across the Air Force to look into the future and question where the Air Force was going, thereby identifying potential new vectors and new demands. The Air Force also created battlelabs³ to explore new concepts of operations and to allow the discovery of creative operational concepts.

Perhaps the most significant of all of these initiatives was creation of an institutionalized process linking planning functions to budget-ary decisions. At the beginning of this ambitious endeavor, there were many naysayers to convince and many hurdles to overcome. Threatened by the thought of losing control over the ability to make decisions, many Air Force representatives debated the utility of the nascent planning function and its methodology. The constant questioning, debate, investigation and examination helped bring a stabilizing force to the Air Force's quest for planning for the future. But is this the desired effect the Air Force intended to achieve through a major overhaul of its planning processes? Was the outcome visionary and creative, pedestrian and stabilizing, or something else? Can the Air Force institutionalize a more creative process? Can the Air Force establish a process for creativity and innovation at every level? What will happen when all the "plans" at all the levels have been completed? What products does the Air Force now expect from its research and development? Will it still be important for the Air Force to support innovative thinking when the details of the plan are complete? If so,

then maybe by striving for stability in Air Force plans for the future, the Air Force will find itself actually stifling creativity and innovation. If creativity and innovation in developing airpower's tools or in the application of airpower are impeded, then airpower's contributions are limited. Can this be so? It can be so, unless leaders and planners are willing to think in the boundary between order and chaos.

Long-Range Planning, Strategic Thinking, or Strategic Planning?

As a starting point, consider the apparent difference between long-range planning for the future, on the one hand, and leveraging chaos to help develop strategies that allow for the creation of more desirable futures or the creation of future value on the other.

Planning

As we define it, long-range planning is planning done without regard for risks or other constraints. Long-range planning asserts the existence of alternative futures and what is important is not planning to offset the effects of one future or another, but the awareness that some futures would require more behavioral adjustments than other futures. Alternatively, strategic thinking is having insight about the present and foresight about the future. The key to both is understanding the dynamics of the "big picture" context in which decisions are made.⁴ So, as we define it, strategic planning is planning that appreciates uncertainty and risk. It is constrained by this awareness.

Strategic planning also is cold and calculating, measuring the probabilities associated with a rather large set of exogenous variables in an attempt to understand uncertainties, reduce risk, and identify opportunities. It asserts that, enough things considered, the domain of uncertainty can be understood at a sufficiently manageable level. Long-range

planning asserts that “we could do this, or this, or this and may have to be prepared to do that, or that, or that.” Strategic planning asserts that “all things considered, we should do this.” Long-range planning, then, is rather more unconstrained than strategic planning.⁵

Consequences and the Antiplan

To do either strategic planning or long-range planning, one must look into the future (or define a vision for the future); determine what is needed, identify and test assumptions; then build the broad or detailed maps, plans, and variants for achieving the desired end state. But can this be done when the future is as unknowable as the technology developments and the behavior of competitors that will help condition the future? Of course not.

In today’s rapidly changing technology environment, it is important for any strategic decision to consider the competitors. It is imperative to determine competitors’ ability to achieve the same level of technical competence or to leverage less technical competence by superior operational schemes, and then estimate how quickly they might be able to deliver a “product” to market. Thus, embedded in the notion of the “plan” is the notion of the “antiplan.” The antiplan accepts that valuable markets will be contested and the “forces of good” are not the only ones planning or operating in the dynamic environment. The planning process is thus an iterative process. The plan is the thesis. Responses to the plan from customers, suppliers, and competitors may constitute the antithesis. Actual performance, which may be at wide variance with planned performance, is the synthesis. Said another way, the plan is a declaration of strategic intent. What actually results from the plan is more rather than less independent from the plan.

Helmuth von Moltke described it this way in an 1871 essay:

Certainly the commander in chief (Feldherr) will keep his great objective (Zweck) continuously in mind, undisturbed by the vicissitudes of events. But the path on which he hopes to

reach it can never be firmly established in advance. Throughout the campaign he must make a series of decisions on the basis of situations that cannot be foreseen. The successive acts of war are thus not premeditated

The importance of “time to market”—the speed at which a product is brought to customers and begins generating revenue or adding some other value for the firm—also holds true for the military acquisition of new weapon systems.

designs, but on the contrary are spontaneous acts guided by military measures. . . .

Strategy affords tactics the means for fighting and the probability of winning by the direction of armies and their meeting at the place of combat. On the other hand, strategy appropriates the success of every engagement and builds upon it. The demands of strategy grow silent in the face of a tactical victory and adapt themselves to the newly created situation.

Strategy is a system of expedients. It is more than a discipline; it is the transfer of knowledge to practical life, the continued development of the original leading thought in accordance with the constantly changing circumstances. It is the art of acting under the pressure of the most difficult circumstances.⁶

Thus, and with von Moltke’s advice firmly in mind, there also is a third approach: strategic development. Strategic development asserts that the Aristotelian entelechy, that which determines what a thing becomes, is not attainable by either long-range planning or strategic planning. Rather, the end state is not so much planned as it is negotiated with the developing future environment. Negotiations are active and interactive processes that reflect compromises with both internal forces and external environments. Negotiations keep von Moltke’s “original leading thought” in mind but accept that it must submit to “continued development” in the face of “con-

stantly changing circumstances.” The negotiated end, because of these dynamics, is unknowable. Negotiators may have a sense of best-case, worst-case, and initial positions; but in a true negotiation, the actual end state is unpredictable. The process of raising a child to become a self-sufficient adult is ample evidence. Parents may provide all the necessary guidance and training they deem appropriate to produce the adult that they envision their child becoming. They use existing formulas professing to have the “action plan” to success. They may feel they are working towards one “future” for their child, yet environmental influences, individual desires, and secondary interactions that are negotiated, interactive event by interactive event, result in a truly unique individual that may or may not resemble the hopes of their parents.

Strategic development is the process of preparedness for success in single-mindedly negotiating the flux of reality, whatever that reality is at any given moment. A key appears to be that adaptation and readiness for innovation may be the most important components of strategic development.

The Paradox: Planning Can Summon Failure

For companies with a product to sell, the speed at which innovative thinking produces new products to sell on the market is critical. It is not as important that some other company might produce a similar product. What is important is who got to the market first and most effectively, allowing for harvesting the greater percentage of the consumer market. The importance of “time to market”—the speed at which a product is brought to customers and begins generating revenue or adding some other value for the firm—also holds true for the military acquisition of new weapon systems. However, there is at least one added dimension to the military acquisition process. Not only is it important to be the first to develop the latest leverage technology, but it is equally as important to look at the consequences of developing that technol-

ogy and understanding how it may alter an enemy’s development strategy.

In democratic societies, openness may give an enemy sufficient strategic warning to commence building a countermeasure—especially in an era of outsourcing and privatization, aerospace contractor press releases, congressional testimony, well-publicized “vision” documents, and so forth. Thus, just advertising a particular course may render a chosen path ineffective. It is classical measure, countermeasure, countercountermeasure behavior. With the world experiencing the same technology and information explosion, one must ask, Is the current long-range planning process the most efficient method for meeting the future? Asked another way, Can we be assured the current long-range planning process will result in the outcomes (strategic position, market share, and so forth) that we desire and indeed must have?

Other Planning Models?

In order to answer those questions, it is useful to set aside, at least temporarily, extant Department of Defense (DOD) or Air Force planning models and examine other models. These models suggest that perhaps a better way to move into the future is to develop strategies based on the knowledge of today that promise to have important and enduring impacts on the future. If this is so, then developing a good strategy is not developing a new planning process or better-designed plans. It is understanding at least two fundamental points: the benefit of having a well-articulated, stable purpose, and the importance of discovering, understanding, documenting, and exploiting insights about how to create more value than others.⁷ Said another way, the process of planning and the plan itself from this perspective are less important to the organization than the organization’s focus—its well-articulated, stable purpose, its “original leading thought,” however this “thought” is modified over time—and its behavioral transformation processes. An organization’s behavioral processes are not con-

fined to how it thinks about and prepares for the future. Rather, its key behavioral processes from day to day and every day also include how it goes about creating more value than other organizations create.

In this focus on day-to-day and everyday innovation and success, organizations can differentiate themselves no matter how the future develops. Innovation is a key for staying ahead of competition, whether competition is another company in the same or adjacent market or a military competitor who may have to be overcome someday. How organizations move into the future, by long-range planning or by developing strategies, will help define how innovative that organization can be. Organizations that make planning the methodical ossification of thinking are less likely to promote innovation than those making planning a creative process for innovation. These approaches differentiate evolutionary change and revolutionary change.

Evolutionary and Revolutionary Change

Evolutionary change accepts and endorses linear improvement in product and process. A commitment to evolutionary change is a commitment to modest innovation through line extension, “block upgrades,” process improvement, and product improvement. Revolutionary change accepts all the advantages evolutionary change has to offer but appreciates the value of using discontinuities, non-linearity, and the emergent characteristics and consequences of compounded change. Revolutionary change accepts that the whole need not be limited to being greater than the sum of its parts but also that it can be, in Robert Jervis’s words, different than the sum of its parts.⁸ How an organization is structured, how it is managed, and what the stakes are concerning risks all affect whether or not long-range planning or strategic development should be pursued. What may work for one type of organization may not work for another. The key is in the creative activity of making new maps or plans, not in the imitative following and refining of existing ones.⁹

Recently, the Air Force reviewed its core values and core purpose in order to produce a guiding vision to help focus on priorities for the future. The goal of Global Engagement is to provide a vision for the future—to ensure the Air Force possesses the air and space power necessary for America’s defense in an uncertain future. Using the vision, the Air Force executes a systematic, institutionalized long-range planning process to both identify the capabilities necessary for future war fighting and to allocate the resources required to enable the vision. A closer examination of the methodology used in this planning process is warranted. Is it too restrictive to allow for flexibility, institutional agility, and the rapid responsiveness required to meet the often unpredictable demands of an uncertain future? Will it support a revolution in military affairs? Does it allow for the discontinuous technology explosions that can rapidly and radically alter the strategic landscape and can neither be predicted nor forecast? Does it consider that the antiplan may be generated by the enemy based on his knowledge of the Air Force’s desired end states?

Air Force Planning in Context

In the business world, companies that enjoy enduring success have core values and a core purpose that remain fixed while their business strategies and practices repeatedly adapt to changing environments. The metrics for continuously increasing shareholder value are as quantifiable as they appear to be inviolable. Market share, profit, and productivity all can be measured. The best businesses eschew a single “core competence” in favor of pursuing a family of constantly changing and evolving competencies.¹⁰ The ability to differentiate between the promise of profitability and the promise of loss, and the continuous revitalization around new products and processes differentiates the best businesses from other enterprises. Thus, the planning processes that businesses use may have much to offer to not-for-profit government enterprises. After examining the Air Force planning process, we can ask, What are the different

methodologies used in the business world for developing business strategies under conditions of uncertainty and rapid change that may apply to the Air Force?

Planning and programming are not the same. Planning builds mental models for the future; programming funds one model at the expense of another.

Since early 1992, the Air Force has developed a long-range planning process to aid in the prioritization of new weapon system acquisitions and technology investments for the future. There have been many additions and modifications to the initial planning process, yet the primary goal has remained the same. The goal is prioritization of the most important operational needs for the future Air Force and the investment of declining defense funds towards meeting those needs. This process aims to ensure that the Air Force has the required weapon systems and technology advancements to meet operational requirements in the future. There has been a constant struggle between advocates of revolutionary modernization pathways and advocates of more evolutionary ones in trying to achieve this goal. The desire for innovative technology to allow for a revolution in military affairs also has begun to clash with the necessity for critical upgrades to weapon systems already in the current inventory.

The Genesis

The importance and difficulty of determining operational requirements for the future and the most useful or appropriate systems to acquire, subjects the Air Force to much scrutiny. One of the biggest perceived problems in the area of defense planning has been the inadequate linkage between national security objectives and DOD budget requests for system development and procurement.¹¹ Most critics

complain about the alleged lack of rationality in past defense planning processes. Their criticism has been centered on the observation that the United States lacks an explicit strategy at both the national security and national military planning levels. So, part of the defense planning problems rests on the perception that public budget statements did not or do not reflect an underlying rationale for the allocation of resources reflected in the documented plans. But is this perception driving the Air Force down a path towards stagnant thinking and planning for present threats?

Some exculpatory thoughts underscore the effect of the legacy of the cold war on military planning because it is important to have a basic understanding of why and how the Air Force developed its current methodology for long-range planning. Throughout the cold war, the "Soviet threat" drove long-range planning. In fact, it drove all planning in the defense community. In essence, the military projected the Soviet threat and matched it or developed competitive strategies to counter it. It is hardly an overstatement to claim that the military did not plan for, but rather programmed against, a projected threat. Planning and programming are not the same. Planning builds mental models for the future; programming funds one model at the expense of another. Since the Soviet Union invested steadily in its military machine, the pace of US military innovation was fueled by threat-based obsolescence. New weapons were introduced into the force because the old ones were deemed incapable of coping with new Soviet weaponry.¹²

Defense "Reform" or Reformatting?

Since 1985, there have been five major works that have directly influenced operational requirements and systems concepts generation processes and hence Air Force strategic planning for the future. Respectively, these were the Packard Commission reports issued from February to June 1986; the Goldwater-Nichols Department of Defense Reorganization Act of 1986, enacted October 1986; the

Defense Management Report (DMR) issued by the secretary of defense to the president in July 1989; and RAND's *A Framework for Defense Planning and A Framework for Enhancing Operational Capabilities*, released August 1989 and November 1991.¹³

The Packard Commission reported to the president . . . "a need for more and better long-range planning to bring together the nation's security objectives, the forces needed to achieve them, and the resources available to support those forces." The commission also stipulated that long-range planning should be fiscally constrained, based on sound military advice, and, of course, [be] forward looking. The Packard Commission's recommendations for improving long-range planning encompassed several recommendations to improve other areas. As a vehicle for tying together the national security objectives, forces, and resources, the commission recommended a top-down planning process with the president's National Security Strategy Report followed by the secretary's defense guidance based on the president's choice from national military strategy options formulated by the secretary and the CJCS. Each of these options would be fiscally constrained by provisional five-year budget levels also formulated by the secretary and the CJCS. Integral to the military strategy options would be future projections of threats to US interests and corresponding US military capabilities to counter those threats.¹⁴

Although the Packard Commission and other earlier works were very influential for setting the stage, the RAND studies—*A Framework for Defense Planning and A Framework for Enhancing Operational Capabilities*—appear to have launched the development of the current Air Force long-range planning process. Both studies provided "recommendations for improving the entire defense planning and systems acquisition processes from the top-down direction and guidance at the national level down to the selection and acquisition of systems for development and procurement."¹⁵ The proposed framework focused on the building blocks of operational capability rather than on building blocks of hardware. It promoted the idea that long-term continuity of programs resulted by clearly

linking national security objectives to the timely procurement of hardware.¹⁶ It also advocated translating demonstrated technology into increased operational capabilities by avoiding a cumbersome and time-consuming process of technology insertion.

From these recommendations and the activities implementing the plan, the Air Force produced a vision, defined core competencies, and embarked upon building a long-range plan for meeting the vision. The thought was that a long-range plan would be an invaluable tool for better understanding the systemic and long-term effects that decisions would have on resources and capabilities. The Air Force adopted a "strategies-to-tasks" methodology for linking national objectives to the Air Force budget. This process allowed for a structure depicting the interrelationships among mission area objectives, weapons system modernization and acquisition, technology investment recommendations, and the Air Force budget. The goal was to build a common, long-range planning framework and a projected 25-year master "road map" for all Air Force suborganizations. The Air Force has traveled a long way in the long-range planning process. A vision for the future was developed and institutionalized. Core competencies were identified for all to understand and, theoretically at least, support. A long-range plan was developed and documented. The plan was used as guidance for budget allocations.

Yet, there is still some concern that the Air Force is on an evolutionary path towards the future, with its sights still on the past. Concern about whether or not the Air Force is taking advantage of the current technology explosion to leverage its war-fighting capabilities still exists. There is a continual debate over the vision and how the 25-year plan should be detailed in order to get to the plan. There is also skepticism as to the validity of the plan—that is, whether or not the plan is too rigid to accommodate change. The struggle continues between pursuing revolutionary transformations (but is also higher risk) and the evolutionary path set into motion several years ago that just keeps up with tech-

nology. How an organization directs its research and development activities will determine whether or not it follows an evolutionary path or pursues a revolutionary transformation.

The Air Force has recently organized battlelabs to hasten the process of implementing war-fighting innovations. However, the battlelabs are still burdened with resource allocation realities and political oversight.

Next Steps

What ought to be the next steps? We propose some hybrid that combines the best orderly features of mechanical planning and the inclusion of rather more untidy emergent features. Plans exist to cope with the immediate needs of the organization. They operate under a preset timetable and demand structured documentation. Planning is a valuable activity and is unfairly derided, but it is a different process from forming strategy. Planning processes are not designed to accommodate the messy process of generating insights and molding them into a winning strategy. A well-structured planning process is therefore ill suited to strategy formulation.¹⁷

Michael E. Porter describes strategy as the creation of unique and valuable position, involving a different set of activities.¹⁸ If there were only one ideal position, there would be no need for strategy. The essence of strategic positioning is to choose activities different than the rival's activities. Strategic positioning is not sustainable unless there are trade-offs with other positions. Trade-offs occur when activities are incompatible. Simply put, a trade-off means that more of one thing necessitates less of another.¹⁹ Ralph Stacey states that new strategic directions emerge spontaneously from the chaos of challenge and contradiction through a process of real-

time learning and political interaction.²⁰ While this sounds exciting, is such a process possible to implement in a large, complex organization like the Air Force?

If this emergent process can be implemented by private companies, elements of it can be implemented by organizations like the Air Force. There are several challenges common to both the Air Force and private companies. Both must identify where they are today, what their core competencies are, and where they want to be, and how they are going to get there. Market assessment, product lines, technology insertion, funding constraints, and rate of return are all common issues and concerns.

With these common challenges come several things that differentiate the Air Force from a private company. The first difference between the Air Force and private companies is the national and international consequences of making bad strategic planning decisions. If the Air Force decides not to build a capability in a particular area, such as theater missile defense, the competition or threat builds long-range missiles in order to take advantage of the weakness. The potential risk is loss of lives of service personnel and citizens (national and international). If a private company decides not to invest in a particular technology or market, the risk is a missed opportunity or at the very worst, bankruptcy. The loss of national sovereignty is not an issue with even the large corporations making a bad decision. If the United States or its Air Force fails to consider the antiplan as a part of their strategic planning deliberations, an enemy can leverage the United States Air Force's course of development and target it with an opposite response. These responses can have national and international consequences.

The second difference is the budget process supporting new acquisitions or product lines. The Air Force is given a budget after a political process involving taxpayers and congressional representatives working for the taxpayers. Within the Air Force it is a zero sum process, unless more money is allocated to the Defense Department. While it certainly is possible to take time, work, and costs out of

existing government processes and programs,²¹ there really isn't an easy way to "make profit" off existing product lines in order to reinvest in innovative technology exploration or new markets. The only way to pursue new product lines appears to be in divestment of current product lines. This divestiture is very difficult because of the institutional inertia and resistance from supporters of current product lines. Although this is somewhat true concerning companies, a company making a profit can increase allocations towards higher risk explorations. This in turn could build more revenue, which could be fed into current and potential markets continuously. The business motivation is being able to make more money, whereas the Air Force's motivation is to retain a capability edge against potential military threats.

The final difference is in how rapidly new products are introduced. The Air Force has a very long product-development cycle to bring new products to market, that is, to operational status. Because of the significant resources involved and the adverse political impact of a research and development failure, the acquisition development timeline is long, overly cautious, and full of reviews and oversight. Companies, on the other hand, have the luxury of rapidly making a decision about a new product line and initiating its production soon after the decision is made. Some companies even enjoy the ability to bypass market surveys, employing the tactics of expeditionary marketing, making a number of different versions of a product, putting them on the market, and letting the consumers determine the primary product line.²² The Air Force has recently organized battlelabs to hasten the process of implementing war-fighting innovations. However, the battlelabs are still burdened with resource allocation realities and political oversight. Oversight and the need for consensus will continually slow progress towards rapid changes.

Even so, the stated differences in the Air Force organization's planning and development for "products" actually help to promote a chaotic environment. As the environment changes, as technological

break-throughs occur, the Air Force must deviate from its plan in the midrange and long range, resulting in chaotic behavior. But this is not necessarily an unsatisfactory situation. Chaotic behavior has two important characteristics, noted by Stacey. At one level, it is inherently unpredictable, while at another level it displays a "hidden" pattern. Chaos in its scientific sense is not utter confusion. It is constrained, rather than explosive, instability. It is a combination of order and disorder in which patterns of behavior continually unfold in irregular but similar forms. In chaos, creativity is a potentially ongoing process internally generated in a spontaneous manner. It is neither proactive according to some prior design nor reactive to environmental change, but rather it is continuing interaction with other systems in the environment. A system in this state can create its own environment and its own future.²³

So, is the Air Force creating this chaotic state, strategic positioning, just by how the Air Force is organized and managed and how it executes its long-range planning process? Is this what the Air Force is doing by allowing its many suborganizations to conduct their own long-range planning process? Is the antiplan being considered sufficiently in these chaotic deliberations? What is the role of research and development in creating future value in this chaotic environment?

Creating Future Value?

The heart of creative strategic management lies in the ability of managers within an organization to develop live, active strategic issue agendas continually. Strategic issues are perceived only when individuals notice some incongruity in what is currently going on—when they question the established recipes, culture, or business philosophy. Maintaining a live strategic issue agenda depends upon people having different perceptions and then amplifying those perceptions throughout the organization by means of po-



Gen H. H. "Hap" Arnold. He had a long-range vision that built American air supremacy.

litical activity. Multiple perceptions thrive when cultures are not strongly shared.²⁴

So, as the Air Force struggles over creating future value and its 25-year plan, it should create chaos by investigating and understanding the antiplan. There should be continuous questioning and investigation conducted by highly qualified individuals who are suited for leading this task. These individuals should be skilled in industry business practices and understand drivers for future value creation. As experts in the potential usage of technology for military purposes, they need to have the unique ability to understand and explore technology forecasts and combinations of different capabilities that could be

brought together to counter the Air Force's long-range plan. Their role is twofold. One role is to recommend and develop the uniquely military technology needed to assist war fighting in the future. The second role is to investigate commercial technology explosion and to determine its implications for war fighting. This is extremely important especially in areas such as information technologies and commercial space (particularly imaging and other forms of remote sensing) capabilities.

The Air Force must take advantage of the opportunity to influence its strategic positioning by adopting the most appropriate technologies and by leveraging commercial

practices for new acquisitions. It must determine what the vulnerable and the robust nodes of the plan are. Debate should not end with the desired capability achieved or the future concept of operations identified. The Air Force must understand the technology explosion for its own purposes as well as for the enemy's. Air Force research and development must possess a balanced portfolio, with technology enhancements as directed by the plan and with technologies to counter an enemy's antiplan. It must support line extensions, "block upgrades," process and product improvement, and thus evolutionary change. However, the portfolio must be allowed to leverage the discontinuities, nonlinearity, and the emergent characteristics of the technology explosion in order to render the enemy's antiplan ineffective.

Conclusion

It is interesting to observe that as the Air Force strives for stability, it creates a state of chaos unintentionally. Perhaps the worst thing that could happen to the Air Force is to finally produce a 25-year, long-range plan for all to agree upon. If this occurs and the debates cease, creative thinking would stop. So

it is the challenge of the Air Force to manage the boundary conditions that push it into the area far from equilibrium in which spontaneous creativity may occur and new strategic directions may emerge. It is only through these actions that the Air Force will be able to manage its unknowable future.

The future of the Air Force and our nation is too important to be left to long-range plans trying to react within those future environments. To create future value for the nation by continually providing dominant air and space power, the Air Force must have a consistent strategic purpose and a dynamic, creative strategic-planning process. The process should continually seek to understand future risks and opportunities. Strategic planning should be viewed as a means for creative strategy and product development and not the end product. The strategic-planning process should consider plans and antiplans. Military operators should help identify deficiencies and opportunities to create value. The research and development laboratories should scan the technological horizon to help identify new technologies to fulfill these value opportunities. A dynamic, creative strategic-planning process can provide the Air Force its best chance to shape the future and achieve its strategic purpose. □

Notes

1. In 1994, Dr. Sheila E. Widnall, secretary of the Air Force, and Gen Ronald R. Fogleman, Air Force chief of staff, directed the Air Force Scientific Advisory Board to identify those technologies that will guarantee the air and space superiority of the United States in the twenty-first century. The study was named *New World Vistas: Air and Space Power for the 21st Century* (Washington, D.C.: USAF Scientific Advisory Board, 1995).

2. The choice of the word *Revolutionary* is significant. It reflects an awareness within the Air Force that planning had ossified in a mechanical "strategy-to-task" process aimed primarily at remediating deficiencies that existed in the Air Force's ability to fulfill its existing tasks. New tasks, new concepts of operations, were inadvertently devalued in the quest to ensure that existing tasks could be accomplished. Thus, as early as 1994 the Air Force sought a system to plan for revolutionary capabilities.

3. In 1997, the United States Air Force established six battlelabs to identify innovative ideas and to measure how well those ideas contribute to the mission of the Air Force. The six battlelabs will be small, focused, and will rely on field innovation to identify potential ways to advance the Air Force's core competencies. On-line at <http://www.hq.af.mil/xo/afbattlelab/>.

4. T. Irene Sanders, *Strategic Thinking and the New Science: Planning in the Midst of Chaos, Complexity and Change* (New York: Free Press, 1998).

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

6. Helmuth von Moltke, *Militärische Werke*, vol. 2, pt. 2, in *Moltke on the Art of War: Selected Writings*, ed. Daniel J. Hughes (Novato, Calif.: Presidio Press, 1993), 45-47.

7. Andrew Campbell and Marcus Alexander, "What's Wrong with Strategy?" *Harvard Business Review*, November-December 1997, 42.

8. Robert Jervis, "Complexity and the Analysis of Political and Social Life," *Political Science Quarterly* 112, no. 4 (Winter 1997-1998): 569-93.

9. Ralph D. Stacey, *Managing the Unknowable: Strategic Boundaries between Order and Chaos in Organizations* (San Francisco: Jossey-Bass Publishers, 1992).

10. Gary Hamel and C. K. Prahalad, *Competing for the Future* (Boston: Harvard Business School Press, 1996).

11. Lt Col Robert D. Dillman, "The DOD Operational Requirements and Systems Concepts Generation Processes: A

Need for More Improvement" (thesis, School of Advanced Airpower Studies, Maxwell AFB, Ala., November 1993), 3.

12. Clark A. Murdock, "Mission-Pull and Long-Range Planning," *Joint Forces Quarterly*, Autumn/Winter 1994-95, 29.

13. Dillman, 3.

14. *Ibid.*, 15-16.

15. *Ibid.*, 5.

16. Glenn A. Kent, *A Framework for Defense Planning* (Santa Monica, Calif.: RAND, 1989), 1.

17. Campbell and Alexander, 48.

18. Michael E. Porter, "What Is Strategy?" *Harvard Business Review*, November-December 1996, 68.

19. *Ibid.*

20. Stacey.

21. Merely the title Defense Reform Initiative suggests that there is room for improvement.

22. Rosabeth Moss Kanter, John Kao, and Fred Wiersema, eds., *Innovation: Breakthrough Thinking at 3M, DuPont, GE, Pfizer, and Rubbermaid* (New York: HarperBusiness, c.1997).

23. Stacey.

24. *Ibid.*
