DISSUASION STRATEGY

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Thinking Smarter About Defense

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Executive Summary

In the 2001 Quadrennial Defense Review (QDR), Secretary of Defense Donald Rumsfeld introduced the concept of dissuasion, citing it as one of the "four key goals that will guide the development of US forces and capabilities, their deployment and use."[1] This view was subsequently confirmed in both *The National Defense Strategy of the United States*, published in 2005, and the 2006 QDR.[2] Yet despite its apparent prominence in US defense planning, there is significant uncertainty and even confusion regarding a number of key issues: What exactly is dissuasion, and how does it differ from deterrence? How can the United States operationalize dissuasion; that is, what types of instruments can be used to dissuade both opponents and allies alike? Finally, what are the main impediments to a successful dissuasion strategy, and how can they be overcome? This report addresses each of these issues.

What is Dissuasion?

This report defines dissuasion as *actions taken to increase the target's perception of the anticipated costs and/or decrease its perception of the likely benefits from developing, expanding, or transferring a military capability that would be threatening or otherwise undesirable from the US perspective*. In simpler terms, dissuasion can be viewed as a kind of "pre-deterrence" in which the target—which may be an opponent or even an ally—is discouraged, not from employing the military capabilities it possesses, but from creating such capabilities in the first place. If the target were to acquire an initial operational capability

[1] Department of Defense, *Quadrennial Defense Review Report*, September 30, 2001, p. iii.

[2] Department of Defense, *The National Defense Strategy of the United States of America*, March 2005; and Department of Defense, *Report of the 2006 Quadrennial Defense Review*, February 2006, especially p. 31.

despite early dissuasion efforts, the goal would then be to deter it from using that capability while also dissuading it from expanding (or transferring) the capability.

A Dissuasion Strategy Framework

The definition offered above assumes that if the anticipated costs significantly outweigh the benefits, a rational decision-maker will be dissuaded from developing, expanding, or transferring capabilities viewed as threatening by the United States. But what exactly does dissuasion entail? One critical difference between dissuasion and deterrence is that while the latter focuses exclusively on the threat of military retaliation to influence the target's behavior, the former incorporates a wide range of economic, diplomatic, military and other instruments that can be used to alter either side of its cost-benefit calculation.

Elevating the Target's Perception of Anticipated Costs

Developing and expanding a military capability not only entails direct economic costs, but can also entail diplomatic and military costs and risks. In each area, different levers are available to drive up the target's estimate of prospective costs, and perhaps tip the scales in favor of those who believe the price has simply become too high to proceed.

Economic Costs

Particularly for a dominant power like the United States, existing advantages in scale (i.e., the enormous size of its defense budget) and diversity (i.e., the wide range of military capabilities it is able to develop and field) can increase economic costs for potential competitors by presenting them with a high "barrier to entry" in virtually every area of military competition. The target's economic costs can also be increased through competitive strategies that divert its available resource stream into less threatening areas; multilateral export controls that make it more difficult and expensive to acquire dangerous technologies; and a

demonstrated willingness and capability to conduct preventive strikes, which can force the target to heavily invest in passive and active defenses to protect their new capabilities.

Diplomatic Costs

There are a number of ways in which states can increase the diplomatic costs attached to the development, expansion, or transfer of a threatening capability. First, states can be persuaded to commit publicly to formal arms control and nonproliferation agreements. Second, the United States should avoid fielding potentially disruptive capabilities in advance of its competitors, which would provide them with valuable political and diplomatic cover. Third, a strategy of international isolation can contribute to dissuasion by labeling a target as a "rogue" or "pariah," striking a blow at the prestige and legitimacy of its government and key leaders. Finally, allies in particular may be dissuaded by the fear of "abandonment"—the termination of alliance commitments or the failure to provide an expected level of assistance.

Military Costs

By demonstrating a willingness and ability to resort to military action, preventive war or preventive strikes against some actors may contribute to the dissuasion of others by driving up the military costs they are likely to face should they continue to develop proscribed capabilities. Another method of increasing military costs is to escalate the military competition through arms racing. By decreasing the target's ability to prevail in a conflict, the development and deployment of new capabilities may dissuade that target from continuing on a course of action viewed as dangerous by the United States.

Diminishing the Target's Perception of Anticipated Benefits

In addition to increasing the projected costs involved in developing or expanding threatening capabilities, an effective dissuasion strategy should also seek to reduce the benefits that the target believes would

flow from such actions. This side of the cost-versus-benefit equation can be influenced by, among other things, convincing the target that the capability it seeks is not survivable, diminishing the target's perception of that capability's operational effectiveness, and threatening to change the character of the competition.

Convince the Target that the Capability it Seeks is Not Survivable

Prospective adversaries may decide to forego developing or expanding a capability if they believe that it would not be survivable and thus not employable for its intended purpose. The goal is to make rival decision-makers question the wisdom of expending resources on capabilities that could be easily neutralized in the event of future hostilities. The vulnerability of critical enabling systems might be conveyed through diplomatic channels, highlighted in military field exercises and wargames, or demonstrated in ongoing US military operations in other theaters.

Diminish the Target's Perception of the Capability's Operational Effectiveness

Active and passive defenses can reduce a target state's estimation of the benefits that would likely flow from developing or expanding an offensive system. The attractiveness of any given offensive system very much rises and falls based upon how the target perceives the effectiveness (and affordability) of defensive counters to that system. Moreover, as long as the threat to deploy a defensive system is credible, it may not be necessary to actually field it on a large-scale in order to have the desired dissuasive effect.

Change the Character of the Competition

Another way to discourage a rival from developing or expanding a new capability is to threaten to change the character of the military competition, either by developing revolutionary new capabilities, new operational concepts, or both. By increasing a rival's uncertainty as to how

the United States might compete in the future, the risk grows that it will develop a capability that has only marginal utility. Confronted with this prospect, a rival is likely to anticipate fewer benefits from the development of a particular military capability.

Making Dissuasion Work

Like deterrence, dissuasion often runs the risk of failure, and may even yield negative results. Ultimately, the success of either deterrence or dissuasion depends on the target responding in the desired manner. The possibility always exists, however, that it will not be so accommodating. This observation serves as a reminder that the successful use of dissuasion depends on more than just an appreciation of the various tools and techniques that might be adopted to influence a target; it also requires a well-developed understanding of the chief impediments to success, as well as a corresponding effort to avoid those pitfalls.

Impediments To A Successful Dissuasion Strategy

The Universal Rationality Trap

When crafting dissuasion strategies, it is imperative to avoid what might be called the "universal rationality trap." Like deterrence, dissuasion assumes that if the anticipated costs significantly outweigh the benefits, a rational decision-maker will refrain from undertaking a particular course of action. Yet all actors do not view the world in the same way; nor, consequently, do they share the same model of rationality. What might appear "irrational" from the perspective of American observers could be entirely logical when the target's culture, religious beliefs, political concerns, personal jealousies, life experiences, and other psychological factors (e.g., the degree of stress to which the target is exposed) are taken into consideration. Dissuasion strategy, therefore, must be informed by an understanding of how the target perceives the world and evaluates alternative courses of action.

Choosing the Right Tools: Dissuasion's Overt and Covert Elements

Assessing which dissuasion instruments can and should be used in a given situation is central to developing a successful dissuasion strategy. Toward this end, one important consideration is whether dissuasion should be pursued overtly or covertly. Whereas some dissuasion strategy initiatives are best pursued in the light of day so that the target (or targets) and others can readily discern them, others are best pursued covertly, such that a target cannot easily discern a direct link between US actions and their intent. This is especially useful when an acknowledged link would serve to increase the target's resolve to pursue the course of action that is the object of US dissuasion efforts. At times, therefore, a dissuasion strategy might depend on the target not being aware it is being targeted at all.

Second-Order Effects

Even if the "right" tools are selected and a target is successfully dissuaded from pursuing a particular capability, an important issue still remains: How will the target employ the resources liberated by an effective dissuasion strategy, and what new competitive path will it pursue? There is an old saying, "Be careful what you ask for, you might just get it." For those contemplating dissuasion strategies, it is worth considering what course of action a rival might pursue once dissuaded from entering a particular area of the military competition. In some cases, the rival may choose a new path that *actually decreases* the overall US competitive position. Put another way, one must consider the second-order effects of a dissuasion strategy that achieves its first-order goal.

Improving the Prospects for Dissuasion

The Importance of Intelligence

Perhaps the most important prerequisite for a successful dissuasion strategy is good intelligence, not just on the United States' existing and prospective rivals, but also on its allies and partners as well. Without

good intelligence, it is impossible for decision-makers to determine who should be dissuaded, from what, and by what means.

Institutionalizing Dissuasion

If dissuasion is to truly become one of the pillars of US defense strategy—along with deterring and defeating aggression, defending the homeland, and reassuring allies and partners—then it must become the object of focused and sustained attention, analysis, and advocacy. Moreover, if dissuasion is to be undertaken successfully, it will depend in large part on the dedicated efforts of both analysts and senior decision-makers to ensure that the necessary intelligence is acquired and utilized appropriately; that dissuasion strategies are continuously assessed to determine whether they are having their intended effects; and to make certain that attempts to dissuade are properly integrated with, and do not come at the expense of, parallel efforts to deter, defeat, defend and reassure. Given these considerations, it is important that dissuasion be institutionalized within the Defense Department. Toward this end, a Senior Dissuasion Strategy Group (SDSG) might be established, comprising the most senior Defense leaders. This body would review the work of a Dissuasion Strategy Working Group, or DSWG, with the Director, Office of Net Assessment, serving as its chair.

I. Introduction

This report develops a framework for thinking about dissuasion strategy; outlines how the Defense Department might organize to support the crafting and execution of dissuasion strategies; and identifies important questions that merit additional research and analysis.

What is Dissuasion?

During the Cold War, a veritable cottage industry sprung up to examine "assurance" and particularly "deterrence" from nearly every conceivable perspective. Alliance "fault lines," "extended deterrence," "steady-state deterrence," and "crisis stability" were just a few of the terms developed in an attempt to provide a better understanding of these two important strategic concepts.1 By contrast, the concept of dissuasion is a relative newcomer; little has been written about it in comparison to deterrence, with which it is often linked.[2] The term itself was introduced (some

[1] Deterrence is defined as "the prevention from action by fear of the consequences. Deterrence is a state of mind brought about by the existence of a credible threat of unacceptable counteraction." *Joint Publication 1-02, DOD Dictionary of Military and Associated Terms* (As amended through 12 July 2007), available at http://www.dtic.mil/doctrine/jel/doddict/data/d/01662.html. For deterrence to be effective, a number of conditions must be met. First, we must communicate a threat to the target of our deterrence efforts. Second, the threat must be clearly understood by the target. Third, the target must then believe that the anticipated cost of undertaking the action we wish to prevent outweighs the anticipated benefit. Finally, the target must believe that we will take the action we have threatened in the event deterrence fails (i.e., our threat must be credible).

[2] To cite but one example, in his classic work *Arms and Influence*, Thomas C. Schelling writes extensively on the issue of deterrence, but does not directly address dissuasion. At one point Schelling notes that the term dissuasion—a "nice" noun—has been employed by at least one other scholar, but does not go on to develop the term himself. Thomas C. Schelling, *Arms and Influence* (New Haven: Yale University Press, 1966), p. 71.

might say "reintroduced") into US defense planning in the 2001 Quadrennial Defense Review (QDR), conducted by the incoming administration of President George W. Bush. In the QDR, Secretary of Defense Donald Rumsfeld cited dissuasion as one of the "four key goals that will guide the development of US forces and capabilities, their deployment and use."[3] The other three—"*assuring* friends and allies of the United States' steadiness of purpose and its capability to fulfill its commitments," "*deterring* aggression and coercion," and "decisively *defeating* any adversary if deterrence fails"—had long been part of the US military posture.[4]

Although responsible for introducing the term dissuasion into the defense lexicon and placing it alongside the existing pillars of US defense strategy, Secretary Rumsfeld did not actually define the concept in the 2001 QDR. Instead, he simply stated that a key US goal would involve "dissuading adversaries from undertaking programs or operations that could threaten US interests or those of our allies and friends."[5] This understandably created some confusion, however, as dissuasion appeared to embody aspects of deterrence. Despite this ambiguity, the 2001 QDR did offer a brief description of what dissuasion was, and hinted at what a strategy of dissuasion might entail:

> Through its strategy and actions, the United States influences the nature of future military competitions, channels threats in certain directions, and complicates military planning for potential adversaries in the future. Well targeted strategy and policy can therefore *dissuade other countries from initiating future military competitions*. The United States can exert influence through the conduct of its research, development, test, and demonstration programs. It can do so by maintaining or enhancing advantages in key areas of military capability. Given the availability of advanced technology and systems to potential adversaries, dissuasion will also require the United States to experiment with revolutionary concepts, capabilities, and organizational arrangements and to encourage the development of a culture within the military

[3] Department of Defense, *Quadrennial Defense Review Report*, September 30, 2001, p. iii. Hereafter referred to as 2001 QDR.
[4] *2001 QDR*, pp. iii–iv.
[5] *2001 QDR*, p. iv.

> that embraces innovation and risk-taking. To have this dissuasive effect, this combination of technical, experimental, and operational activity has to have a clear focus. New processes and organizations are needed within the defense establishment to provide this focus.[6] [Authors' emphasis]

The critical insight in this description is the suggestion that other nations could be discouraged, not only from attacking or coercing the United States and its allies, but from engaging in a military competition with the United States in the first place. This characteristic of dissuasion was further elaborated by Stephen Cambone, who played a key role in crafting the 2001 QDR as the principal deputy undersecretary of defense for policy and a close advisor to Secretary Rumsfeld. According to Cambone:

> We would like to dissuade potential adversaries from undertaking programs or courses of action that could or might threaten the United States, its interests, and those of our allies and friends.... [I]t's important that potential adversaries understand...there are things that you may wish to do, there are efforts you may wish to undertake, but you need to understand from the beginning, before you even start, that these are not going to be winning efforts. So don't bother going down that course. Say out of that area because you cannot succeed there. It's a little different than the deterrent side, which presumes that an adversary has the capability in hand and that we are trying to prevent him from using [it].[7]

Expressed in this manner, the distinction between dissuasion and deterrence becomes clearer: whereas deterrence seeks to prevent a rival from employing or threatening to employ existing military capabilities, dissuasion focuses on discouraging a rival from *developing* threatening capabilities in the first place. This view of dissuasion was subsequently

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[6] *2001 QDR*, p. 12.

[7] Stephen Cambone, "Developing the National Military Strategy in a New Security Era," *DFI International Air and Space Seminar Series*, December 12, 2001. Cited in Brad Roberts, *Operationalizing Dissuasion of China: Practicalities and Pitfalls* (Alexandria, VA: Institute for Defense Analyses, April 2005), p. 4.

reconfirmed in 2005, in *The National Defense Strategy of the United States of America*, which stated that:

> Would-be opponents seek to offset our advantages. In response, we seek to limit their strategic options and dissuade them from adopting threatening capabilities, methods, and ambitions. We will work to dissuade potential adversaries from adopting threatening capabilities, methods, and ambitions, particularly by sustaining and developing our own key military advantages.[8]

It has also been sustained in the most recent QDR, published in February 2006, which holds that the United States "will attempt to dissuade any military competitor from developing disruptive or other capabilities that could enable regional hegemony or hostile action against the United States or other friendly countries…"[9] The 2006 QDR then goes on to suggest how this might be accomplished:

> The United States will develop capabilities that would present any adversary with complex and multidimensional challenges and complicate its offensive planning efforts. These include the pursuit of investments that capitalize on enduring U.S. advantages in key strategic and operational areas, such as persistent surveillance and long-range strike, stealth, operational maneuver and sustainment of air, sea and ground forces at strategic distances, air dominance and undersea warfare.[10]

Building upon these sources, this report defines dissuasion as "*actions taken to increase the target's perception of the anticipated cost and/or decrease its perception of the likely benefits from developing, expanding, or transferring a military capability that would be threatening or otherwise undesirable from the US perspective*."[11] In

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[8] Department of Defense, *The National Defense Strategy of the United States of America*, March 2005, p. 7.

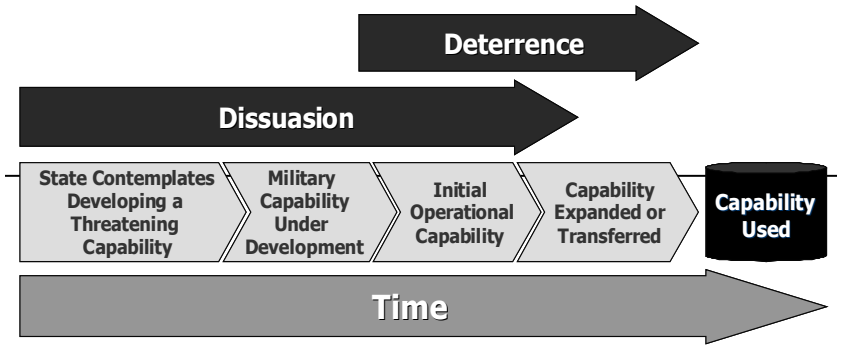
[9] Department of Defense, *Quadrennial Defense Review Report*, February 6, 2006, p. 30. Hereafter referred to as 2006 QDR.

[10] *2006 QDR*, p. 31.

[11] This definition includes transferring military capabilities because, under some circumstances, doing so can have the net effect of "creating" military capabilities for the recipient. For example, the transfer of existing Soviet-built SS-4/5 ballistic missiles to Cuba in October 1962 would have created an

simpler terms, dissuasion can be viewed as a kind of "pre-deterrence" in which the target—which may be an opponent or even an ally—is discouraged, not from employing the military capabilities it possesses, but from creating such capabilities in the first place (see Figure 1 below).[12] If the target were to acquire an initial operational capability despite early dissuasion efforts, the goal would then be to deter it from using that capability while also dissuading it from expanding (or transferring) the capability.

Figure 1 — Dissuasion in a Temporal Context



The Origins of Dissuasion

Although it has gained increased attention in recent years, dissuasion is not an entirely novel concept. Its roots date back to the latter part of the Cold War, when defense strategists began to consider how the United States might discourage the Soviet Union from developing or

important new military capability for the Soviet Union—short-notice, rapid nuclear strikes against the US homeland. In that case, it could be said that the United States dissuaded the Soviet Union from building up its missile forces in Cuba and deterred the use of the SS-4 medium-range ballistic missile (MRBM) launchers that actually became operational in Cuba during the crisis.

[12] Dissuasion shares similarities with compellence as well as deterrence, insofar as the goal may be to convince a target to abandon a course of action that is already underway (e.g., halting the expansion of a capability it already possesses) rather than to discourage it from undertaking a particular course of action to begin with. On the distinction between deterrence and compellence, see Schelling, *Arms and Influence*, pp. 69–73.

fielding capabilities that were particularly threatening. In the late 1980s Andrew Marshall's Office of Net Assessment, in the Office of the Secretary of Defense, developed a concept called "competitive strategies," which was designed to align the United States' enduring advantages against the Soviet Union's enduring weaknesses, and to pursue strategies that would emphasize military competitions where these two factors intersected.[13] The idea behind the competitive strategies concept, which was designed to pursue dissuasion indirectly, was to encourage the Soviets to pursue military competitions in areas that were favorable to the United States, thus discouraging Moscow from pursuing more promising (and, from the US perspective, potentially more threatening) capabilities. Another aspect of competitive strategies involved pursuing areas of competition that could impose disproportionate costs on Moscow, thereby draining resources away from the development and fielding of capabilities that the United States viewed as more threatening. This approach to the long-term strategic competition with the Soviet Union eventually became an explicit element of US defense strategy;[14] it was formally adopted by Secretary of Defense Casper Weinberger in 1986, and later reaffirmed by Secretary of Defense Frank Carlucci.[15] The Cold War ended, however, before it could be firmly institutionalized within the Department of Defense (DoD).[16]

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[13] The conceptual origins of competitive strategy extend back to at least the early 1970s. See A.W. Marshall, *Long-Term Competition with the Soviets: A Framework for Strategic Analysis* (Santa Monica, CA: RAND, April 1972). According to Marshall, most of this report was actually written between 1969 and 1970. A.W. Marshall, "Competitive Strategies — History and Background," Internal Department of Defense document, March 1988, p. 6.

[14] See David J. Andre, *New Competitive Strategies: Tools and Methodologies, Volume 1: Review of the Department of Defense Competitive Strategies Initiative*, 1986–1990 (McLean, VA: SAIC, November 1990).

[15] See, for example: Casper W. Weinberger, *Report of the Secretary of Defense Casper W. Weinberger to the Congress on the FY 1987 Budget, FY 1988 Authorization Request and FY 1987–1991 Defense Programs* (Washington, DC: GPO, 1986), pp. 85–88; Frank C. Carlucci, *Report of the Secretary of Defense Frank C. Carlucci to the Congress on the Amended FY 1988 / FY 1989 Biennial Budget* (Washington, DC: GPO, 1988), pp. 115–118.

[16] Before its introduction in the 2001 QDR, the concept of dissuasion was also advanced by the National Defense Panel, which was formed by Congress in 1997 to examine long-term challenges to US security. In its report, the panel noted that the emerging revolution in military affairs might allow the United States to create strategic options that "could be used…to dissuade prospective competitors from undertaking aggressive military competition…" National Defense Panel, *Transforming Defense: National Security in the 21st Century*, December 1997, p. 57. This passage was written by one of the authors of the present report, Andrew Krepinevich, who was a member of the National Defense

Why Examine Dissuasion?

What explains the recent resurgence of interest in dissuasion? In all likelihood there are a number of reasons, including growing concerns over the reliability of deterrence against terrorists and rogue regimes; the elevated sense of homeland vulnerability after the dramatic attacks of September 11th; and the difficulty and costs involved in defending against attacks with weapons of mass destruction (WMD). Two general factors stand out, however: the wide range of threats now confronting the United States, and the increased strategic maneuvering room afforded to the US in the aftermath of the Cold War. Together, these developments have given the United States both the motive and the ability, respectively, to explore new strategic concepts in an effort to provide increased security for itself as well as its allies.

Since the collapse of the Soviet Union, no country or alliance of states has developed the military capabilities needed to challenge the United States in the currently dominant methods of conventional warfare (e.g., mechanized, combined arms land warfare; manned, tactical aviation; and aircraft carrier-centric, "blue-water" maritime operations). Instead, the competition has been driven either to the extremes of the conflict spectrum (e.g., acquisition of WMD, irregular warfare, and terrorism) or to asymmetric competition in the realm of "mainstream" conventional operations (e.g., by pursuing anti-access/area-denial (A2/AD) capabilities).[17] Given the severity of these threats, the United States has a strong incentive to discourage competition in areas that might, over time, jeopardize its current dominance of the conventional warfare regime, while also preventing states and non-state actors from investing in WMD and threatening asymmetric capabilities and tactics.

At the same time, another result of the Soviet Union's collapse has been the unrivaled position the United States now enjoys in the international system, one that provides unusually wide opportunities for dissuasion. As the world's dominant power, the United States has a significant ability to influence the behavior of opponents and allies

Panel and earlier served in Andrew Marshall's Office of Net Assessment during the time that the competitive strategies concept was being pursued.

[17] As used in this report, anti-access capabilities are those whose purpose is to prevent the entry of rival power-projection forces into a theater of operations (e.g., threatening fixed, forward bases with destruction by missile attack), as well as to contest the US military's ability to operate in the air, space, and information domains. Area-denial capabilities are focused on preventing rival forces' freedom of action in littoral waters.

alike, whether through military, economic, diplomatic or other means. Moreover, in this "unipolar" world, second-tier states have a powerful incentive to align their policies with the preferences of the sole pole (i.e., to "bandwagon" with the United States), or to avoid actions that may incur its focused enmity.[18]

The next chapter of this report develops a framework for examining dissuasion, and describes a number of instruments that might be used by the United States in its efforts to discourage others from developing, expanding or transferring threatening capabilities. Chapter III looks at several key challenges to implementing a successful dissuasion strategy, and suggests two important remedies that would allow the Defense Department to better develop and execute such strategies in the future. Finally, Chapter IV raises a number of important issues that should be explored in future studies.

[18] William Wohlforth, "The Stability of a Unipolar World," *International Security*, Vol. 24, No. 1, Summer 1999, pp. 23–28.

II. A Dissuasion Strategy Framework

As noted above, the goal of dissuasion is to increase the target's perception of the anticipated costs and decrease its estimate of the benefits that would likely accrue from developing, expanding, or transferring a military capability considered threatening or otherwise undesirable from the US perspective. It is assumed that if the anticipated costs significantly outweigh the benefits, a rational decision-maker will be dissuaded from engaging in such activity.[19] But what exactly does dissuasion entail? One critical difference between dissuasion and deterrence is that while the latter focuses exclusively on the threat of military retaliation to influence the target's behavior, the former incorporates a wide range of economic, diplomatic, military and other instruments that can be used to alter its cost-benefit calculus (see Table 1 below). The remainder of this chapter focuses on these instruments and how they might be applied in a generic sense to convince others that, in terms of trying to compete with the United States, "the game is not worth the candle."

Elevate the Target's Cost Perceptions

Developing and expanding a military capability not only entails direct economic costs, but can also entail diplomatic and military costs and risks. In each area, different levers are available to drive up the target's estimate of prospective costs, and perhaps tip the scales in favor of those who believe the price has simply become too high to proceed. Some of these levers may increase costs in two or more areas simultaneously.

[19] Of course, the way in which senior US decision-makers evaluate costs and benefits may not seem rational to America's rivals. Thus understanding how the target perceives the world and evaluates the pros and cons of alternative courses of action is critical to implementing a successful dissuasion strategy. These issues are addressed in more detail in the following chapter.

For instance, the threat of preventive strikes against a target's weapons research, development, and production infrastructure would not only drive up the military costs involved in attempting to develop or expand a given capability, but also the target's perception of the potential economic and political costs involved. Similarly, the diplomatic costs associated with abrogating international agreements to develop a threatening capability could spill over into the other two areas by providing the justification for broad economic sanctions or internationally authorized military operations.

Table 1: Notional Dissuasion Framework

Elevate the Target's Perception of Probable Costs	Diminish the Target's Anticipated Benefits
Economic Costs • Exploit scale and diversity advantages • Pursue cost-imposing competitive strategies • Leverage multilateral export controls • Compel investments in facility security, expanded arsenals, and countermeasures	**Convince the Target that the Capability it Seeks is Not Survivable** • Develop and field the capabilities needed to disable/ destroy all relevant classes of targets • Demonstrate US capabilities in field exercises and/or in current operations
Diplomatic Costs • Take advantage of the target's arms control and other diplomatic commitments • Avoid being the "first mover" into contentious areas, legitimating foreign competition • Mobilize the international community in order to isolate the target • Threaten to withdraw support for allies	**Diminish the Target's Perception of the Capability's Operational Effectiveness** • Develop and/or field active defenses, passive defenses, and counter-measures
Military Costs • Maintain capabilities for and convey a willingness to conduct preventive strikes, and if necessary, wage preventive wars • Escalate a military competition by introducing new capabilities	**Change the Character of the Competition** • Develop and field new capabilities that render the target's systems obsolete • Develop new operational and organizational concepts that reduce the relevance of the target's capability

Economic Costs

Scale and Diversity Advantages

Thanks to its continuing economic strength and its incomparable defense industrial base, the United States possesses important and enduring advantages in the scale of its military effort (i.e., its enormous defense budget) and the diversity of the capabilities it is able to develop and field. The dissuasive effects of these factors are in evidence today. Due to its proficiency in a wide range of military competitions (e.g., air-to-air combat, anti-submarine warfare, and precision attack) and warfare dimensions (e.g., sea, undersea, space, ground, air and cyberspace), rivals are confronted with a "barrier to entry" that is already high and likely to grow still higher. Under these circumstances, most states are likely to conclude that the costs of competing directly with the United States are prohibitive. An analogy might be drawn to small companies with limited capital; few would choose to compete in a multi-product market in which a massive, vibrant firm already enjoys a monopoly position across a diverse and ever-expanding product line. Not surprisingly, then, few if any competitors seek to challenge the United States for supremacy of the "global commons," meaning the air, space, and maritime domains.[20] At best, some may be pursuing strategies of denial.[21] Nor is any state looking to challenge the United States in areas such as mechanized warfare or air-to-air combat. The sheer size of the US military in tandem with its ability to combine different warfare elements (e.g., air power in support of mechanized combat) ensures that the cost of competing with the United States will remain extraordinarily high for the foreseeable future.[22]

[20] "Cyberspace" is arguably also a constituent domain of the "global commons." Unlike the air, space, and maritime domains, however, the barrier to entry for competing with the United States in cyberspace is relatively low. Unsurprisingly, several countries—including, most notably, China—are competing aggressively with the United States in that domain.

[21] Barry Posen, "Command of the Commons: The Military Foundation of U.S. Hegemony," *International Security*, Vol. 28, No. 1, Summer 2003, pp. 5–46.

[22] Despite the large size of the US defense budget, it is finite. As a result, it is simply impractical for the US military to maintain or enhance its position in every conceivable area of competition. It is important, therefore, for senior defense officials to focus on those areas that are critical to current military effectiveness or that seem likely to yield a high return in the future. Military systems whose utility is declining in the current environment or in the most important future warfighting scenarios, and those systems that are redundant with other assets performing the same mission as well or better, should be divested. These "divestment savings" can be better invested in rapidly growing "markets" (e.g., unmanned systems, next-generation stealth, advanced sensors,

How else might the United States use its scale and diversity advantages for the purpose of dissuasion? One method in particular is worth noting. The overall strength of the US economy and its defense industrial base could allow it to exploit what might be called the "second-move advantage"—the ability to quickly match and surpass an opponent's efforts to create a new military capability, thus raising significantly the economic costs of attempting to gain a strategic advantage with that capability. This strategy was employed by Britain during its era of naval dominance. As Samuel Huntington notes:

> What…should be the policy of a superior power with respect to making a technological change which its inferior rivals are likely to make in the near future? The British navy had a traditional answer to this problem: never introduce any development which will render existing ships obsolete but be prepared if any other state does make an innovation to push ahead an emergency construction program which will restore the previously existing ratio.[23]

The combination of its technical superiority, its advanced industrial base, and its ability to compete based on time enabled the Admiralty to maintain its dominant position in an existing form of military competition (e.g., wooden ships-of-the-line) without having to engage in self-obsolescence by advancing to the next competitive regime any sooner than was absolutely necessary. Although competitors could make the first move and introduce a new capability, the British were able to follow quickly and, more importantly, surpass the efforts of that competitor before it could achieve a meaningful advantage in the new war-fighting regime. As Peter Padfield notes, this desire to wait until a rival had moved first:

> …accorded with all natural instincts to preserve a familiar and if not physically comfortable at least comforting and highly successful way of life, and it kept costs down by preserving existing dockyards, ships and naval skills which were known to be superior. And,

high-speed computing), as well as in long-term, high-payoff R&D initiatives (e.g., directed energy, nanotechnology, robotics, biotechnology).

[23] Samuel P. Huntington, "Arms Races: Prerequisites and Results," in Robert J. Art and Kenneth N. Waltz, eds., *The Use of Force*, 4th ed. (Lanham, Maryland: University Press of America, 1993), pp. 106–107.

> most important, it worked—because concealed beneath its bland surface was a riot of practical inventiveness which equalled (sic) the French or Americans, who were also prolific in ideas for devaluing British battle superiority; and because the country had engineering and industrial potential which exceeded anything elsewhere.[24]

Britain's maritime competition with France in the mid-19th century offers a good example of the value of pursuing a second-move advantage. In March 1858, the French Navy laid down four warships with iron plates bolted over their timber sides, marking the beginning of the revolution that displaced the wooden ship-of-the-line. These ships were not the first ironclads, but they were the first ocean-going ironclads—a deliberate effort by the French to leap over the British superiority in conventional wooden ships-of-the-line. Moreover, ironclads represented the only logical way to build ships that could cope with the introduction of rifled shell guns, which greatly increased both the accuracy and the penetrating power of a warship's guns.[25] Once the French challenge became clear, however, the British began to construct ironclads, quickly outstripping their rival both in the number and the quality of these warships. By 1864, France had essentially lost interest in directly challenging British naval supremacy, in part because "Britain's industrial strength in an age of rapidly advancing technology…could not be approached by France."[26]

It is interesting to note that during this period of naval revolution the Royal Navy did not possess a large advantage in numbers over the French fleet. For example, by the 1870s Great Britain had only a 40–35 advantage in the number of ironclads built and under construction. Nevertheless, the British fleet was still, by "all rational calculation," more than a match for its French counterpart. The more important factor explaining British dominance during this period of rapid technological progression (and thus rapid obsolescence of warships) remained its ability to compete based on time. For in addition to the deployed fleet, the Royal Navy's Constructors' Department had detailed plans for armor-plating existing timber ships to swell the number of ironclads quickly

[24] Peter Padfield, *Battleship* (Edinburg, UK: Birlinn Press, 2000), pp. 11–12.
[25] Padfield, *Battleship*, p. 11.
[26] Kennedy, *The Rise and Fall of British Naval Mastery* (Amherst, NY: Humanity Books, 1983 [1976]), p. 174.

in the event any serious threat should develop.[27] As Paul Kennedy concludes, "The ability to build more and faster than anyone else…and the immense financial resources of the nation—it was upon these firm foundations that Britain's maritime mastery rested for the remainder of the [19th] century…"[28] In sum, the combination of maintaining the most powerful fleet-in-being and the ability to expand it—or adapt it—more rapidly than any of its adversaries exerted a strong dissuasive effect on Britain's maritime rivals.

For the United States to exploit the second-move advantage as an instrument of dissuasion, it is imperative to maintain a vigorous R&D program and a healthy defense industrial base. Given the time it typically takes the US military to develop and field new capabilities, however, it is not clear that the current US defense industrial base is sufficiently agile for the United States to leverage a second-move strategy effectively. For example, roughly two decades elapsed between the Air Force's request for proposals to develop an Advanced Tactical Fighter to replace the F-15 Eagle in 1986 and the delivery of the first operational F-22 Raptor in 2003. Unfortunately, decade-long development timelines for modern US weapons systems are more the rule than the exception.

Cost-Imposing Competitive Strategies

An adversary's perception of the estimated cost of developing or expanding a threatening capability can also be increased by diverting its available resource stream into higher priority areas. This indirect means of dissuasion was a central feature of the "competitive strategies" approach to long-term competition with the Soviet Union during the Cold War.[29] One cost-imposing approach involves developing capabilities that encourage a rival to invest in expensive but relatively benign defensive systems. For example, during the latter part of the Cold War the United States had fielded a large land- and sea-based ballistic missile force against which the Soviet Union had no effective defenses. The Soviet Union also had fielded a large ballistic missile force that the United States could not counter effectively by employing anti-ballistic missile (ABM) defenses. Realizing this, Washington not only declined to deploy

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[27] Padfield, *Battleship*, pp. 61–62.

[28] Paul M. Kennedy, *The Rise and Fall of British Naval Mastery*, p. 172.

[29] For a general overview of the competitive strategies approach to defense planning during the Cold War, see David J. Andre, *New Competitive Strategies Tools and Methodologies*, Volume 1; and A.W. Marshall, "Competitive Strategies — History and Background," unpublished paper, March 1988.

the missile defense system that was permitted by the 1972 ABM Treaty, but also dismantled the Army Air Defense Command (ARADCOM).

The Soviet Union, however, not only deployed the missile defense system allowed by the treaty, it also maintained extensive air defenses against a possible attack by American bombers. This puzzled Washington, since from the US perspective it would do the Soviets little good to spend large sums maintaining an air defense system in the absence of an effective ABM system. It would be akin to trying to keep the flies out of one's home by installing a screen door but leaving the windows open. Speculation as to why Moscow would pursue such a path varied widely. While some believed that Russia's long experience with foreign invasions had produced a "strategic culture"[30] which gave high priority to any form of defense, others guessed that PVO Strany, the Soviet military command responsible for air defense (and which, interestingly, had no US military counterpart), had been highly effective bureaucratically in advocating the need for defenses.

No matter what the reason, for the Soviets, fielding, maintaining and upgrading a modern air defense system against the world's most formidable air force was an expensive proposition, one made all the more so by the Soviet Union's long borders. Although the United States could not understand the strategic logic behind the Soviet's actions, it became determined to exploit it for the purpose of dissuasion. Consequently, the US military continued upgrading its bomber force, first with the B-1B Lancer and then with the B-2 Spirit stealth bomber. By continuing to field new bombers, the United States gave voice to those in the Soviet Union who argued for sustaining the air defense system. Huge sums of money that could have been invested in far more threatening capabilities—for example, nuclear strike systems, advanced submarines, or next generation armor—were instead funneled into Soviet air defenses, a relatively benign (and easily defeated) capability.

It is important to remember, however, that when crafting dissuasion strategies that impose costs on an adversary, it is necessary to do so in a way that keeps the rival *in the competition*, rather than driving him out. In this way dissuasion differs from deterrence, where the higher the cost, the better the deterrent. For example, although the US bomber force could be maintained and modernized at far less expense

[30] For an overview of strategic culture, see Alastair Iain Johnston, "Thinking About Strategic Culture," *International Security*, Vol. 19, No. 4, Spring 1995, pp. 32–64.

than the costs associated with effecting corresponding improvements in the Soviet air defense network, the success of this strategy depended on the United States finding the "sweet spot" in its cost-imposing strategy: a situation that imposed the maximum costs the Soviets would be willing to bear to modernize their air defenses, without crossing a cost threshold that would find the Soviets deciding to depart the air defense mission altogether. In short, this indirect approach involves creating in the mind of one's rival a belief that the benefits of pursuing the course of action (in this case, maintaining and modernizing a national air defense network) exceed, if only just barely, the costs incurred.[31]

Leverage Multilateral Export Controls

Multilateral export controls and supplier regimes can also significantly increase the cost and time required to acquire technologies and materials critical for developing a new military capability. Consider the Nuclear Suppliers' Group, Australia Group, and the Missile Technology Control Regime (MTCR). While all three are far from foolproof in blocking the transfer of sensitive technology, they have unquestionably made it more expensive and time-consuming for states to develop nuclear, chemical, and biological weapons, as well as ballistic and cruise missiles for delivering them. Although determined competitors may acquire the necessary technology through clandestine networks (e.g., by setting up ostensibly legitimate "front" companies to procure restricted technologies in foreign countries) or through indigenous development programs, these paths are considerably more costly than unrestrained technology acquisition from abroad. To increase these regimes' dissuasive effects, the United States could elicit the cooperation of additional states capable

[31] It is interesting to speculate what the effect of an American B-2 stealth bomber force would have been on Soviet calculations with respect to their air defense forces. The Defense Department originally planned to field 132 of these bombers, which would have severely challenged Soviet air defenses, and required Moscow to undertake a major expansion and modernization of its air defense forces if their effectiveness were to be retained. Would this bomber force have put the US cost-imposing dissuasion strategy in the heart of the "sweet spot" or would Moscow have finally decided that the cost of remaining in the penetrating bomber-air defense competition now exceeded the benefits? If the latter case obtained, the question then arises: What would the Soviets have chosen to do with the resources liberated by its decision? Put another way: What were the possible second-order effects of pushing Moscow's costs beyond its anticipated benefits? (Note that in the case described here, dissuasion involves encouraging the target to persist in a particular area of the military competition (i.e., air defense) in order to discourage competition in an area that is the object of dissuasion efforts.)

of producing sensitive technologies; widen the range of restricted technologies; and, most importantly, encourage more rigorous enforcement of current export-control guidelines. Finally, the United States could establish export control regimes in emerging areas of concern (e.g., high-energy lasers and adaptive optics, radio-frequency (RF) weapons, and nanotechnology, among others) to erect higher acquisition barriers as a means of dissuading rival investment.

Compel Investments in Facility Security

The anticipated economic costs associated with developing, expanding, or transferring a capability targeted for dissuasion can be increased by military means as well. The perceived ability and willingness of the United States (or its allies) to conduct preventive strikes to derail threatening weapons development programs (e.g., Israel's 1981 attack on Iraq's Osirak nuclear reactor), for example, could convince states interested in such programs that they must invest in costly passive and active defenses. Thus, in addition to the direct expense involved in developing a given military capability, the target would need to add the substantial cost of such measures as dispersing, hardening (e.g., building facilities underground), and defending critical development and production facilities.[32]

The history of Libya's chemical weapons program from the 1980s through the mid-1990s provides an example of the potential effectiveness of this dissuasion instrument. In the early 1980s, Libya began construction of a "pharmaceutical" plant in Rabta that, as designed, could have produced more than one ton of blister or nerve agent per day.[33] The plant reportedly had a number of specific features, which taken collectively, were strongly indicative of the production of CW agents.[34]

[32] Preventive war obviously has its risks as well. As the United States' experience in Iraq shows, it is difficult to predict the consequences of military action. During the early days of the Cold War, for example, despite the threat the Soviet Union would pose once it had developed a nuclear arsenal, the United States refrained from pursuing a preventive war or preventive strikes.

[33] For detailed information on the development of the Rabta facility, see T.C. Wiegele, *The Clandestine Building of Libya's Chemical Weapons Factory: A Study in International Collusion* (Carbondale, IL: Southern Illinois University Press, 1992).

[34] Features indicative of CW production included glass-lined cauldrons, corrosion-resistant pipes, gas-tight walls, and an extremely elaborate ventilation system. Edward M. Spiers, *Chemical and Biological Weapons: A Study of Proliferation* (New York: St. Martin's Press, 1994), pp. 66–67. See also: W.C. Rempel and R. Wright, "How Spying, Analysis, and Luck Provided Proof

The physical configuration of the plant, moreover, made it unsuitable for production of pharmaceuticals. In response to international pressure to open up the site to inspection and repeated US threats of preventive attack, the Rabta project was abandoned in 1990 and construction secretly began on a massive underground facility, built into a mountainside near Tarhunah, a small town located southeast of Tripoli. While the Libyan government maintained that construction at Tarhunah was part of its "Great Man-Made River Project," which, when completed, would supposedly pipe millions of cubic meters of water per year from well fields in the Sahara Desert to the heavily populated coast, the US intelligence community described the six-square-mile site as "the world's largest underground chemical weapons plant."[35] Once the US government became aware of the Tarhunah project in 1992, it convinced the German government to stop its manufacturing firm, Westfalia-Becorit, from shipping replacement bits for the 60-ton rotary boring machines that Libya was using to tunnel into the Tarhunah mountainside.[36] Although Libya was eventually able to find replacement suppliers, primarily in Asia, it took time and additional funding. The cumulative cost associated with constructing a hardened underground facility, defending it with air defenses and ground troops once it was discovered, moving CW-related equipment from the abandoned Rabta site to Tarhunah, and acquiring additional export-controlled equipment for the facility on the black market grew steadily higher. While it is impossible to say whether it was a result of upward-spiraling costs, international diplomatic efforts, threats of US military action, or some other factor, activity at Tarhunah came to a standstill by the summer of 1996.[37]

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of Libyan Chemical Warfare Plant," *The Providence Sunday Journal*, January 22, 1989, pp. A1, A8.

[35] John M. Deutch, Director of Central Intelligence, *Testimony before the Senate Subcommittee on Intelligence*, March 1996.

[36] Westfalia-Becorit claimed that it legally transferred the boring machines to a Thai firm, which in turn sold them to Libya to build tunnels for a river irrigation project. Douglas Waller, "Target Gaddafi, Again," *Time*, April 1, 1996, p. 46.

[37] Philip Finnegan, "Libya Ceases Work on Chem Factory," *Defense News*, December 16–22, 1996, pp. 1, 19.

Diplomatic Costs

Arms Control

In theory, one means for increasing the diplomatic costs associated with the development, expansion, or transfer of a threatening capability involves persuading competitors to commit publicly to formal arms control and nonproliferation agreements. For example, while the Nuclear Nonproliferation Treaty (NPT), Chemical Weapons Convention (CWC), and Biological Weapons Convention (CWC) all have clear shortcomings (e.g., inadequate verification and poor enforcement), they do provide a basis for rebuking diplomatically those states that are caught violating them. Abrogation of these international commitments could also be used to justify economic penalties, or perhaps even military action.

There are many historical precedents for pursuing self-serving arms control agreements to dissuade rivals from competing in certain areas. The Royal Navy, for example, used the Washington Naval Treaty of 1922—which forbade the construction of new battleships (among other things) and placed strict limits on aircraft carriers—to extend the life of its waning maritime supremacy.[38] At that time London was the beneficiary of a major buildup of its naval capabilities that had extended from roughly 1905 to the end of World War I. Post-war economics made it all but impossible to modernize the Royal Navy, even though naval-related technologies continued to progress at a rapid rate. The British Admiralty therefore sought to lock in its advantageous position by dissuading other maritime powers—the United States and Japan in particular—from building up their naval forces.

Unfortunately, arms control agreements that initially seem promising sometimes have unintended long-term consequences. For instance, the United States is currently prevented by the Intermediate-Range Nuclear Forces (INF) Treaty from developing or flight testing any ground-launched ballistic or cruise missile system with a range between 500 and 5,500 kilometers, regardless of the type of payload (e.g., nuclear or conventional).[39] With a maximum range in excess of 300 kilometers, the extended-range variant of the Army Tactical Missile System (ATACMS) is not far from that threshold. Given current trends,

[38] *Treaty Between the United States of America, the British Empire, France, Italy, and Japan*, Signed at Washington, February 6, 1922, http://www.ibiblio.org/pha/pre-war/1922/nav_lim.html, accessed on November 28, 2006.
[39] Thomas Risse-Kappen, "Did Peace Through Strength End the Cold War?" *International Security*, Vol. 16, No.1, Summer 1991, pg. 165.

the Army's ability to increase the range of its precision striking power will probably bump up against INF limitations. Similarly, developing certain biotechnologies that could be militarily valuable in the future may be constrained by the Biological Warfare Convention (BWC) signed in 1972. Until its recent abrogation, the ABM Treaty signed by President Richard Nixon and General Secretary Leonid Brezhnev during the height of the Cold War was a major impediment to the development of effective defenses against emerging ballistic missile threats, such as the one posed by North Korea. In short, while the United States should consider how international arms control and nonproliferation agreements might be used to dissuade states from entering particularly sensitive areas of future competition (e.g., the fielding of anti-satellite (ASAT) weapons), equal consideration must be given to avoiding constraints on US development of capabilities that might prove important to its overall future military effectiveness.

Avoid Being the First Mover into Contentious Areas

As noted above, the British Navy often chose not to develop and field new military technologies ahead of its competitors, relying instead on its ability to out-produce any rival that did introduce a novel capability (i.e., the strategy of the second-move, discussed above). For example, during the last few decades of the 19th century, the Royal Navy intentionally avoided developing torpedoes and submarines in an effort to discourage competitors from investing in them and potentially obsolescing British investments in state-of-the-art capital ships.[40] Today, the United States should also avoid being the first country to field military capabilities that, if other countries followed suit, would undermine America's overall (or "net") strategic position. By openly fielding such capabilities the United States encourages others to do so as well, not only by demonstrating their effectiveness, but also by increasing the prestige associated with having them (as some actors are likely to want the same capabilities as the world's most advanced military power) as well as making them easier to develop (because competitors can simply "follow-the-leader" and avoid any dead ends or false starts encountered by the United States in the course of its development process).[41]

[40] Nicholas A. Lambert, *Sir John Fisher's Naval Revolution* (Columbia: University of South Carolina Press, 2002), p. 40.

[41] The United States might find it useful, however, to feign interest in a new technology that it has already determined to be a "dead end" in order to induce competitors to waste resources trying to develop it. For example, there have

In addition, should the United States field potentially disruptive capabilities in advance of its competitors, this would also provide them with valuable political and diplomatic cover. Although they may develop and field such capabilities regardless of what America does, adversaries should be forced to shoulder the full diplomatic burden of their actions. Disruptive technologies that the United States might officially downplay for these reasons could include, for example, RF weapons, space-denial capabilities, and low-yield nuclear weapons. At the same time, however, just as the British secretly funneled significant resources into submarine and torpedo R&D while feigning disinterest in them, the United States should quietly pursue the R&D necessary to respond quickly if and when these capabilities are needed.

Isolate the Target

Perhaps the easiest and most obvious way to impose costs on a target is to simply isolate it, depriving it of any material and intangible benefits it may receive from its relationship with the United States until it chooses to abandon its threatening activities. A potentially more effective strategy of dissuasion, however, would be to persuade as many other states as possible to follow this course of action as well. By informing other states of the target's actions and convincing them that those actions are indeed threatening, an international coalition could be mobilized against the target, either formally through international institutions such as the United Nations, or informally through tacit and ad hoc agreements between concerned governments. As a result, it may be possible to transform the target into a "rogue" or "pariah" state in the eyes of the international community, an outcome that can impose significant costs.

A strategy of international isolation can contribute to dissuasion in a number of important ways. For example, by effectively labeling a target as a rogue or a pariah, isolation can strike a blow at the prestige and legitimacy of its government and key leaders. Most heads of state aspire to play a role on the world stage, whether to achieve concrete foreign policy objectives such as economic and security arrangements, to increase domestic political support by acquiring international aid or appearing as an important world leader, or simply for reasons of personal vanity. By convincing other states to shun a target of

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been a number of military capabilities that, in the eyes of their advocates, were imbued with the potential to affect a dramatic change in the competitive balance but which never panned out. Among them are air ships, flying-deck cruisers, and atomic powered aircraft.

dissuasion or treat it as a direct threat, a policy of international isolation can undermine its efforts to pursue these and other goals, and can ultimately prevent the target from acquiring different types of support from a wide range of sources. In addition to casting the opprobrium of the international community against it, isolation can also make it easier to impose significant economic costs on a target by facilitating the use of multilateral economic sanctions. For those states whose governments rely heavily on the international community for trade, material assistance, or political legitimacy, the fear of isolation could significantly increase the perceived cost of embarking upon the development of a proscribed capability.

One prominent and apparently quite successful example of isolation is the international community's treatment of Libya, which was until recently the prototypical pariah state. Hostile relations between the United States and Libya date back to the 1970s, and can be traced to a number of factors, including Libyan leader Muammar Qadhafi's close relationship with the Soviet Union; his support for Palestinian resistance groups; and more generally his support for and use of terrorism, most notably the 1988 bombing of a Pan Am flight over Lockerbie, Scotland and the 1989 bombing of a French UTA plane over Niger. In response to evidence that implicated Libya in these attacks, the United Nations Security Council imposed economic sanctions on Qadhafi's regime in 1992 (the United States continued to impose its own unilateral economic sanctions against Libya, which it had done since 1973).

In the past several years, however, a significant change has taken place in Libya's behavior. In 1999, it handed over two suspects in the Lockerbie bombing to the United Nations for trial in the Netherlands, and cooperated with the French in their investigation of the UTA case. In response, the UN Security Council suspended its sanctions, and lifted them permanently in 2003. Even more surprising, though, was Qadhafi's December 2003 announcement of his intention to dismantle Libya's chemical, biological, and nuclear weapons and related infrastructure as part of an effort to normalize relations with the United States.

What role did isolation play in Libya's turnaround? Although some have attributed its behavior to the fear of a military attack by the United States in the aftermath Operation Iraqi Freedom, Libya had in fact pursued the goal of normalization with the United States since at least the early 1990s if not earlier. Moreover, it also undertook secret negotiations with the United States in 1999, during which it displayed

a willingness to make significant concessions. Ultimately, Libya's decision to renounce terrorism and relinquish its unconventional weapons was due in large part—though certainly not exclusively—to the effects of international isolation.

In the first place, decades of sanctions had taken a severe toll on Libya's economy, which relies heavily on profits generated from the sale of oil. Because Libya's oil industry was based on American technology and equipment, US sanctions imposed significant costs. Not only did it become more time-consuming and expensive to acquire spare parts and technical expertise, but in some cases the Libyan government was forced to purchase new equipment from European suppliers to replace American equipment that, while in disrepair, still retained considerable service life. By preventing Libya from purchasing oil equipment on the open market, the application of multilateral sanctions in 1992 exacerbated this problem. As a result, oil production could not be expanded, living standards declined, and popular dissatisfaction grew.[42] In addition to exacting significant economic costs through multilateral sanctions, isolation imposed diplomatic costs as well. By tarnishing the reputation of his country and preventing him from playing a leading role in Arab and African affairs, "US policies aimed at isolating Libya…successfully exploited Qadhafi's concern for his international image."[43] In sum, the Libyan example demonstrates that isolation can indeed serve as an important component of a dissuasion strategy.

Threaten to Withdraw American Support

As mentioned earlier, even allies or partners of the United States may be targets of dissuasion strategies. There are a number of reasons why the development of a new military capability on the part of an ally may be highly destabilizing, although two in particular stand out. First, by developing or otherwise acquiring a threatening military capability, an ally's actions may contribute to the further proliferation of that capability, either directly (i.e., by transferring it to others, or by providing others with the knowledge or materials necessary to develop the capability themselves) or indirectly (i.e., by serving as an example that others then

[42] Wyn Q. Bowen, "Libya and Nuclear Proliferation: Stepping Back from the Brink," *Adelphi Papers*, Vol. 46, Issue 380, 2006, pp. 54–55. See also Yahia H. Zoubir, "The United States and Libya: From Confrontation to Normalization," *Middle East Policy*, Vol. 13, No. 2, Summer 2006, p. 55.

[43] Dafna Hochman, "Rehabilitating a Rogue: Libya's WMD Reversal and Lessons for US Policy," *Parameters*, Vol. 36, No. 1, Spring 2006, p. 75.

seek to emulate). Second, the development of a threatening capability by an ally could also serve as the catalyst for a military conflict. Again, this could occur directly, as possession of the new capability emboldens the ally to take on its opponents, or indirectly, as possession of the new capability provokes the ally's opponents to launch preventive attacks of their own. Should such a conflict occur, the United States' relationship with its ally might force it to intervene, even if it would prefer not to.

Dissuading allies will often present unique challenges, however, as many of the instruments discussed in this report are unlikely to be applied against states with a close relationship to the United States. Nevertheless, allies often depend on the support of the United States as much if not more than the United States depends on them, an imbalance that gives the United States significant leverage should it choose to exert its influence. In particular, allies may be dissuaded by the fear of "abandonment"—the termination of alliance commitments or the failure to provide an expected level of assistance.[44] Although it is unlikely that the United States will completely abandon one of its allies, and threats to do so are therefore not likely to be credible, it may be in a position to limit the degree of support it provides. This can impose diplomatic as well as material costs on the ally, dissuading it from a particular course of action.

For example, during the 1970s the United States learned that Taiwan was secretly engaging in work at its nuclear facilities indicative of a clandestine effort to develop nuclear weapons. Although this was not entirely surprising—after all, the government of Taiwan faced an existential threat from the People's Republic of China, which had tested its own nuclear weapon in 1964—it did have the potential to be highly destabilizing. A central concern was that Taiwan's efforts to acquire a nuclear device could provoke China to strike preventively, setting off a war that the United States might be forced to intervene in. Under both the Ford and Carter administrations, the United States repeatedly pressed Taiwan's leadership to halt its activities, and to provide the United States with credible guarantees that it was not pursuing nuclear weapons.[45]

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[44] Glenn H. Snyder, "The Security Dilemma in Alliance Politics," *World Politics*, Vol. 36, No. 4, July 1984, p. 466.

[45] For details on Taiwan's nuclear program and the US efforts to restrain it, see David Albright and Corey Gay, "Nuclear Nightmare Averted," *Bulletin of the Atomic Scientists*, Vol. 54, January/February 1998.

In this case, pressure on Taiwan consisted of suggestions that the United States might withdraw its support for Taiwan's civilian nuclear power program, and perhaps even go beyond that should Taiwan fail to comply. In September 1976, for example, the State Department cabled the US ambassador to Taiwan, Leonard Unger, and instructed him to meet with the Taiwanese foreign minister and warn him that Taiwan's development of a national reprocessing facility "would fundamentally jeopardize the prospects for continued cooperation between our two governments in the nuclear field." The ambassador was also instructed to call attention to legislative initiatives in the US Congress, such as the Symington Amendment to "deny US military and economic assistance to any country that acquires a national reprocessing capability."[46] Six months later, in March 1977, Ambassador Unger was directed to meet with Taiwanese Premier Chiang Ching-kuo to pressure Taiwan into making major (and costly) changes to its civilian nuclear research program to address US concerns about proliferation. Unger's talking points stated that "unless the ROC's [Republic of China, i.e., Taiwan] nuclear program is significantly modified to eliminate all proliferation risks, we [the United States government] will not be able to continue cooperation on peaceful nuclear energy matters. Other important relationships between us will also suffer."[47] For his part, Chiang was well aware that the United States was using Taiwan's dependence on it as a not-so-subtle weapon. During a subsequent effort by the United States to pressure Taiwan on this issue the following year, Unger recalled Chiang's complaint that the United States, "because of its unique relationship with the Republic of China and the latter's extreme vulnerability…is dealing with this government in a fashion which few other countries would tolerate."[48]

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[46] State Department cable 219733 to Embassy Taiwan, "ROC's Nuclear Intentions," 4 September 1977, originally classified Secret EXDIS, pp. 3–4. Available at the George Washington University National Security Archive website,http://www.gwu.edu/~nsarchiv/nukevault/ebb221/T-6a.pdf(accessed on December 10, 2007).

[47] State Department cable 67316 to Embassy Taiwan, "Nuclear Representation to the ROC," 26 March 1977, originally classified Secret NODIS. Available at the George Washington University National Security Archive website, http://www.gwu.edu/~nsarchiv/nukevault/ebb221/T-13a.pdf (accessed on December 10, 2007).

[48] U.S. Embassy Taiwan cable 6065 to State Department, "Follow-up to Nuclear Team Visit: Demarche to President Chiang," 8 September 1978, originally classified Secret NODIS, available at the George Washington University National Security Archive website, http://www.gwu.edu/~nsarchiv/nukevault/ebb221/T-21a.pdf (accessed on December 10, 2007).

Ultimately, these efforts did pay off, and the United States managed to convince Taiwan to abandon its efforts—although the issue was raised again in the late 1980s.

Military Costs

Preventive Strikes and Preventive War

In the strictest sense, the use of force is indicative of the failure of dissuasion. At the same time, however, by demonstrating a state's willingness and its ability to resort to military action, the use of force against some actors can in theory contribute to the dissuasion of others.

Whether as a primary or secondary consideration, this logic has undoubtedly influenced great powers both in the past and in the present. The Romans, for example, spent several years reducing the mountain stronghold of Masada during the Jewish revolt from 70–73 AD. As Edward Luttwak observes, "The entire three-year operation, and the very insignificance of its objective, must have made an ominous impression on all those in the East who might otherwise have been tempted to contemplate revolt: the lesson of Masada was that the Romans would pursue rebellion even to the mountain tops in remote deserts to destroy its last vestiges, regardless of cost."[49]

In June 1940, after France had succumbed to a six-week onslaught by Germany, Britain's Prime Minister, Winston Churchill, ultimately ordered British naval commanders to attack French naval forces at Mers-el-Kabir in Algeria to ensure that they would not fall into German hands.[50] Not only did the attack prevent the transfer of military capabilities that would significantly augment Germany's military strength, it also served to demonstrate Britain's resolve. As Churchill later noted, "The elimination of the French Navy as an important factor almost at a single stroke by violent action produced a profound impression in every country.... It was made plain that the British War Cabinet feared nothing and would stop at nothing."[51] Indeed, judging by the impression

[49] Edward N. Luttwak, *The Grand Strategy of the Roman Empire* (Baltimore, MD: Johns Hopkins University Press, 1976), p. 4.
[50] Arthur Herman, *To Rule the Waves* (New York: Harper Collins, 2004), p. 530.
[51] Winston S. Churchill, *Their Finest Hour* (New York: Houghton Mifflin Co, 1949), p. 205.

it made on Mussolini's son-in-law, Count Galeazzo Ciano, the British strike achieved precisely this effect. Ciano wrote in his diary that the attack demonstrated "the fighting spirit of His Majesty's fleet is still quite alive, and still has the aggressive ruthlessness of the captains and pirates of the seventeenth century."[52]

More recently, these considerations can be found in the emphasis on preventive war against rogue regimes in the aftermath of the 9/11 attacks. Although a host of factors likely influenced the decisions to overthrow both the Taliban and Saddam Hussein, one notable reason—particularly in the case of Iraq—was the expectation that a successful regime change operation would serve as an ominous lesson to those who might challenge the United States, especially by developing, using, or transferring WMD. According to Ron Suskind, "The primary impetus for invading Iraq…was to make an example of Hussein, to create a demonstration model to guide the behavior of anyone with the temerity to acquire destructive weapons or, in any way, flout the authority of the United States."[53]

Were the United States to develop a track record of dealing forcefully and effectively with rivals that sought to develop or otherwise acquire proscribed capabilities (e.g., by conducting preventive strikes, waging preventive wars, or responding massively when dissuasion had failed), this could dissuade future competitors from fielding threatening capabilities by increasing the anticipated economic and security costs associated with such endeavors. Even if a rival employed extensive (and expensive) cover, camouflage, concealment, denial, and deception (C3D2) techniques, it could not wholly eliminate the possibility that its program would eventually be discovered. There would be a risk, therefore, of inviting a US preventive strike or providing the justification for a preventive war to block the development of the proscribed capability, or even to unseat the regime in power. If foreign leaders view the probable military cost as sufficiently high (e.g., destruction of expensive research installations, key defenses, fielded forces, and security infrastructure critical to regime survival), they may be unwilling to hazard the development of a proscribed capability, even if the risk of detection is relatively low.

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[52] Cited in John Lukas, *The Duel* (New York: Ticknor and Fields, 1990), p. 162.

[53] Ron Suskind, *The One Percent Doctrine: Deep Inside America's Pursuit of its Enemies Since 9/11* (New York: Simon and Schuster, 2006), p. 123.

Although preventive war may indeed be necessary in some cases, it may not be the most useful or reliable method of dissuasion, particularly for the United States at the present time. In general, a case can be made that preventive war actually encourages other actors to develop proscribed capabilities by increasing their level of insecurity and thus their incentive to acquire a deterrent to potential attacks. In fact, some have argued that both North Korea and Iran actually accelerated their existing nuclear weapons programs in the aftermath of the US invasion of Iraq in 2003, although whether or not this is the case remains uncertain.[54]

Even if preventive war can contribute to dissuasion, however, the effectiveness of this instrument relies on several factors, none of which currently appear to be areas of strength for the United States. Because other states are likely to develop the most threatening capabilities (e.g., WMD) in secret, they must have some fear that their efforts will be discovered in order to be dissuaded by the prospect of a preventive strike. Unfortunately, the US Intelligence Community's track record in detecting an adversary's development of proscribed capabilities has been generally unimpressive in recent years. For example, US intelligence greatly underestimated the state of Iraq's nuclear weapons program prior to the First Gulf War, and greatly overestimated it prior to the Second.

A target must also believe that the United States is *willing* to initiate preventive strikes/wars to derail its development of threatening capabilities and able to do so effectively. Following the 9/11 attacks, the American public proved quite willing to sanction preventive war. This was demonstrated in Operation Iraqi Freedom, which the Bush Administration embarked upon despite significant international political opposition. Yet events such as the US withdrawal from Somalia in 1993 after 18 American soldiers were killed and 84 wounded during a 17-hour urban battle in Mogadishu still raise questions about the US government's willingness to use force. Moreover, given mounting American casualties during the stability and reconstruction phase of ongoing US operations in Afghanistan and Iraq, as well as the financial cost of rebuilding these countries' dilapidated infrastructures, the

[54] For example, writing several months after the war began, Joseph Cirincione argued that the United States "may yet try to use the Iraq treatment as an object lesson to induce states like North Korea and Iran to change their behavior. But the early signs are that these regimes have drawn an opposite conclusion." Joseph Cirincione, "From Victory to Success: Can Preventive War Cure Proliferation?" *Foreign Policy*, No. 137 (July/August 2003), p. 68.

political willingness of the United States to wage additional preventive wars, especially anytime soon, is doubtful. In addition, while the US military's ability to bring about regime change at relatively little cost in terms of collateral damage and friendly casualties has been repeatedly demonstrated over the past two decades—beginning with the removal from power of Manuel Noriega in Panama in 1989, the forced abdication of Serbian President Slobodan Milosevic in 2000, the overthrow of the Taliban regime in Afghanistan in 2001, and the destruction of the Ba'athist regime of Saddam Hussein in 2003—the costly and protracted insurgencies that have emerged in the aftermath of the recent conflicts in Afghanistan and Iraq also raise questions about its ability to use force successfully.

Escalate the Military Competition

Actually using force against some states in order to dissuade others is of course one way to increase a target's perceived military costs. Another method, which also has high attendant risks but is still worthy of consideration under some circumstances, is to escalate the military competition through arms racing. If a target were to develop or field threatening military capabilities, and if the United States, in response, was able to deploy new capabilities of its own that shifted the overall military balance and decreased the target's ability to prevail in a conflict, this could have the effect of dissuading that target from continuing on a course of action viewed as dangerous by the United States.

For example, in 1976 the Soviet Union began to deploy its SS-20 intermediate-range ballistic missiles (IRBMs), which was a mobile system that was eventually armed with three multiple independently targeted reentry vehicle (MIRV) warheads. Compared to the SS-4 and SS-5 missiles it replaced, the SS-20 was far more survivable, had significantly increased range, and better accuracy. Although the Soviets apparently viewed the deployment simply as an effort to modernize increasingly obsolete forces, the United States viewed the deployment as a significant challenge to the credibility of its extended deterrence commitment to Western Europe. In response, it made plans to deploy its own Pershing II IRBMs and ground-launched cruise missiles (GLCMs) in Europe.[55]

[55] On the decision-making behind both the US and Soviet decisions to deploy these capabilities, see Raymond L. Garthoff, *Détente and Confrontation: American-Soviet Relations from Nixon to Reagan*, Revised Edition (Washington, DC: Brookings, 1994), chapter 25.

If the Soviet deployment of SS-20s was seen by the United States as a challenge, the US response was viewed by the Soviet Union as a true threat: the high accuracy and short flight time of the Pershing II IRBM in particular was considered a serious threat to Soviet command-and-control facilities, and may have even raised fears of a U.S. first-strike capability.[56] The Soviets quickly attempted to neutralize the US deployment through negotiations as well as a series of unilateral gestures, including a halt in the deployment of its SS-20s in Europe in 1982 and a reduction in the number of SS-20s facing Europe several years later.[57] On the whole, these gestures had little overall effect on Soviet capabilities (since the Soviet deployment had begun years earlier, whereas the American deployment had yet to begin or had only just gotten underway when these gestures were made) and were largely ignored or dismissed as propaganda. In late 1987, however, the Soviets truly displayed their willingness to make sacrifices in order to negate the new military capabilities of the United States. The INF Treaty, signed that year, eliminated both sides' shorter and longer intermediate-range missiles, and provided for extensive monitoring and verification measures. More importantly, the Soviets made a disproportionately large concession and committed to destroy 1846 missiles to only 846 for the United States.[58] As Gorbachev would later write in his memoirs, "By signing the INF treaty, we (the Soviet Union) had literally removed a pistol held to our head."[59]

Diminish the Target's Perception of Anticipated Benefits

In addition to increasing the projected costs involved in developing or expanding threatening capabilities, an effective dissuasion strategy should also seek to reduce the benefits that the target believes would flow from such actions. This side of the cost-versus-benefit equation can be influenced by, among other things, holding adversarial capabilities at risk, directly decreasing the anticipated military effectiveness

[56] Garthoff, *Détente and Confrontation*, pp. 970–971; and Michael MccGwire, *Military Objectives in Soviet Foreign Policy* (Washington DC: Brookings, 1987), p. 260.
[57] Raymond L. Garthoff, *The Great Transition: American-Soviet Relations and the End of the Cold War* (Washington, DC: Brookings, 1994), pp. 72, 229.
[58] Garthoff, *The Great Transition*, pp. 312–327.
[59] Mikhail Gorbachev, *Memoirs* (New York: Doubleday, 1996), p. 444.

of the targeted capability, and by threatening to change the character of the competition (i.e., rendering the targeted capability operationally irrelevant).

Convince the Target that the Capability it Seeks is Not Survivable

Develop and Field Capabilities Necessary to Destroy all Relevant Classes of Targets

Prospective adversaries may decide to forego developing or expanding a capability if they believe that it would ultimately not be survivable, and thus not employable for its intended purpose. The goal is to make rival decision-makers question the wisdom of expending resources on capabilities that could be easily neutralized in the event of future hostilities. The vulnerability of critical enabling systems might be conveyed through diplomatic channels, highlighted in military field exercises and wargames, or demonstrated in ongoing US military operations in other theaters.

This raises the question: What lessons about military system vulnerability have prospective adversaries gleaned from US military operations since the Cold War's end? One could speculate, for instance, that their confidence in the survivability of surface ships, tactical aircraft, and mechanized ground forces has been badly shaken. For example, during Operation Desert Storm in 1991, 143 out of the 178 vessels in the Iraqi navy were damaged or destroyed, most of them within the first weeks of the war.[60] Since then, no adversary has attempted to engage the US Navy with its surface combatants.[61] In addition, Coalition air forces shot down 33 fixed-wing Iraqi aircraft, 14 of them in the first week of the war, while losing at most one aircraft to air-to-air fire.[62] Scores of Iraqi aircraft were also destroyed on the ground. Similarly, in Operation Allied Force in 1999, Serbia discontinued air operations after six aircraft were shot down and roughly another 100 destroyed on the

[60] See Thomas Keaney and Eliot Cohen, *Gulf War Air Power Survey—Summary Report* (Washington, DC: GPO, 1993), pp. 99–101.
[61] Al Qaeda did, however, use a small powerboat to target the USS *Cole* while in the port of Aden.
[62] Keaney and Cohen, *Gulf War Air Power Survey—Summary Report*, pp. 13, 58.

ground in the opening phase of the campaign.[63] Since then, no enemy fighters have risen to challenge American air superiority; before the start of Operation Iraqi Freedom in 2003, the presumed ineffectiveness of the Iraqi Air Force led Saddam Hussein to order that Iraqi aircraft be hidden rather than used to challenge Coalition forces.[64]

The survivability of mechanized ground forces, including heavily armored vehicles, has also been significantly reduced by increasingly sophisticated US intelligence, surveillance, and reconnaissance (ISR) systems combined with an ever-expanding array of precision-guided munitions (PGMs). The "tank plinking" capability of US forces, first demonstrated in the First Gulf War, has improved dramatically over the past decade. Within the first two weeks of the Second Gulf War, two reinforced Iraqi divisions defending Baghdad were reduced to substantially less than 50 percent of their original combat strength by precision air power.[65] The Medina Division, located southwest of Baghdad, was reportedly reduced to less than 20 percent strength.[66] Of the 800-plus tanks that the Republican Guard fielded at the start of the war, "all but a couple of dozen" were destroyed by air strikes or abandoned in place by the third week of the war.[67]

In short, given the US military's enormous preponderance in traditional military capabilities, it is easy to see why both existing and potential rivals, including major powers at what the Pentagon calls

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[63] DoD, *Kosovo/Operation Allied Force After-Action Report to Congress* (Washington, DC: DoD, January 2000), p. 69.

[64] Kevin M. Woods, et al., *Iraqi Perspectives Project: A View of Operation Iraqi Freedom from Saddam's Senior Leadership* (Washington, DC: Joint Center for Operational Analysis and Lessons Learned, Joint Forces Command, 2006), p. 40.

[65] Most of this destruction took place over the course of four days. General Richard Myers, DoD News Briefing, April 1, 2003. See also: Bradley Graham, "U.S. Air Attacks Turn More Aggressive," *Washington Post*, April 2, 2003, p. 24; and John Diamond and Dave Moniz, "Air Campaign Shifts Aim to Guard," *USA Today*, April 2, 2003, p. 4.

[66] Rick Atkinson, Peter Baker, and Thomas E. Ricks, "Confused Start, Swift Conclusion," *Washington Post*, April 13, 2003, p. 1.

[67] General Richard Myers, DoD News Briefing, April 7, 2003. Reflecting on the use of precision air power to rapidly destroy Iraqi tanks, armored personnel carriers, tracked vehicles and enemy positions, Colonel Michael Longoria, commander of the Air Force's 484th Air Expeditionary Wing, commented: "when you can destroy over three divisions worth of heavy armor in a period of about a week and reduce each of these Iraqi divisions down to even 15, 20 percent of their strength, it's going to have an effect." Stephen Hedges, "Air War Credited in Baghdad's Fall," *Chicago Tribune*, April 22, 2003.

"strategic crossroads," have refrained from directly challenging the United States in these particular areas.

Demonstrate Capabilities

Demonstrations of military capability in peacetime can also exert a dissuasive effect. For instance, future US field exercises and wargames could be intentionally scripted to demonstrate, as vividly as possible, the supposed vulnerability of worrisome capabilities that prospective adversaries are believed to be interested in developing or expanding. If necessary, these events could intentionally exaggerate the effectiveness of US capabilities.[68] To help dissuade states from developing chemical and biological weapons, for example, the US military might conduct a series of well-publicized "successful" demonstrations of earth-penetrator munitions armed with specially designed warheads for neutralizing chemical and biological agents. Similarly, exercises showcasing new US

[68] Examples of one country's exaggerated view of the threat posed by a rival's military are numerous in history. Take the case of the 1950s "bomber gap." During the 1954 May Day parade in Moscow, the Soviets unveiled their first long-range bomber, the M-4 Bison. The following year, in July 1955, at the Red Air Force Day review, twice as many Bisons were observed as were seen in a review earlier that year. But this was a hoax designed to mask the Soviet Air Force's weakness. The ten Bisons that initially flew by the reviewing stand took a wide turn beyond visual range and were joined by eight others, whereupon together they made a second pass. The effect was to create the impression that the Red Air Force had a much larger bomber force than actually existed. Talk of a "bomber gap" between the Soviets and the Americans soon developed, and US Air Force intelligence reported that the Soviets would have between 600–700 bombers by decade's end. Fortunately, President Eisenhower discounted the intelligence estimates and refused to believe in the "bomber gap." However, the intelligence estimates on which the erroneous gap was based were leaked to the press. In the end, the Congress increased the Air Force budget by nearly $1 billion to address the problem, and Eisenhower was forced to buy more B-52 bombers than he felt were necessary. This example raises several interesting issues related to dissuasion. First, it seems the Soviets may have been trying to deter any American thoughts of preventive war by building up the image of a formidable Red Air Force bomber arm. However, far from dissuading the United States from competing, the result produced a major buildup in the US strategic bomber fleet. John Newhouse, *War and Peace in the Nuclear Age* (New York: Vintage Books, 1990), pp. 110–11; and McGeorge Bundy, *Danger and Survival* (New York: Random House, 1988), pp. 337–39. Thus the key question is: How can an exaggeration of US capabilities best be used to one's advantage for the purposes of dissuasion? Any answer will rely on intelligence that provides a keen understanding of the way in which the intended target (or targets) calculates cost and advantage, what it fears, and a range of other factors.

capabilities for hunting down and destroying mobile, time-critical targets (e.g., mobile surface-to-air missile (SAM) systems and transporter-erector-launcher (TEL) vehicles for ballistic and cruise missiles) might reduce their attractiveness to rivals who might otherwise consider them an effective means of challenging US power-projection capabilities.

Diminish the Target's Perception of the Capability's Operational Effectiveness

The decision whether or not to develop or expand a given military capability is strongly shaped by the target's assessment of its future effectiveness. Capabilities that are useful and likely to remain so over time are, of course, much more attractive than ones whose utility is expected to wane. A potentially useful instrument of dissuasion, therefore, is to reduce the target's confidence in the effectiveness of that capability.

Field Active and Passive Defenses

Active and passive defenses can reduce a target's estimation of the benefits that would likely flow from developing or expanding an offensive system. The attractiveness of any given offensive system very much rises and falls based upon how the target perceives the effectiveness (and affordability) of defensive counters to that system. Moreover, as long as the threat to deploy a defensive system is credible, it may not be necessary to actually field it on a large-scale in order to have the desired dissuasive effect.

For example, several prospective US adversaries are currently investing substantial resources into the development of ballistic and cruise missiles. They are motivated in part by the fact that missiles are difficult to defend against, especially if they incorporate low-observable design features, decoys, and other penetration aids. If the United States managed to develop and test effective ballistic and cruise missile defense systems that could not be easily countered or saturated, then the attractiveness of missiles to opponents would likely plummet. Thus, for example, if the United States vigorously pursues the development of directed-energy systems, which have the potential to yield a quantum leap in antimissile defense effectiveness, it could lead prospective rivals to shy away from emphasizing missile forces in their military arsenals.

Of course, if the United States tests a directed-energy enabled system successfully, or deploys such a system, the dissuasion effect would likely be far greater.

Similarly, prospective military adversaries currently have strong incentives to develop systems to degrade or deny the US military's exploitation of satellites for precision navigation, targeting, and timing; long-haul communications; and wide-area surveillance. China, for example, has R&D efforts underway on a wide-range of space-denial capabilities, including high-power jammers, high-energy lasers (HELs) capable of "dazzling" some US reconnaissance satellites, and three different classes of lethal ASAT systems (i.e., direct-ascent weapons, HELs, and co-orbital "micro-satellites"). With the potential to contest the US military's unfettered exploitation of space, the perceived military effectiveness of space-denial capabilities is likely to be quite high—especially since US satellites are currently undefended, and thus vulnerable to attack. The United States could, however, decrease the value of space-denial weapons by conveying an intention to invest in defensive counters that threaten to reduce their effectiveness. Potential US investments might include, for example, micro-/mini-satellite constellations comprising small, cross-linked satellites that are individually less susceptible to attack and relatively easy to replace; jam-proof laser uplinks and downlinks; enhanced, on-orbit satellite maneuvering capability to complicate an adversary's tracking and targeting challenge; and terrestrial substitutes for space-based capabilities.

Change the Character of the Competition

Another way to discourage a rival from developing or expanding a new capability is to threaten to change the character of the military competition. By increasing a rival's uncertainty as to how the United States might compete in the future, the risk grows that it will develop a capability that has only marginal utility. Confronted with this prospect, a rival is likely to anticipate fewer benefits from the development of a particular military capability. Of course, all other factors being equal, the lower a rival's anticipated benefits from a course of action, the greater the chances that it can be dissuaded.

Develop New Capabilities that Render Target's Systems Obsolete

One way to change the character of the competition is by introducing revolutionary new capabilities. An important historical example of this method of dissuasion is Britain's development of the *HMS Dreadnought* in 1905. When Admiral John "Jackie" Fisher assumed his post as First Sea Lord that year, Britain still possessed the largest, best-equipped and most technically advanced warship-building industry in the world. This meant that Britain could build warships of cutting-edge design, and build them faster and in greater numbers than her rivals. As noted above, this enabled the Admiralty to pursue a strategy of the second-move advantage during the 19th century. Fisher sought to exploit this ability as well, but in a *different way and under new circumstances*, to maintain the Royal Navy's dominance in the maritime competition. His approach has been referred to as "plunging." Plunging differed from the second-move advantage in that it embraced a willingness to move first to *shape* the maritime competition and to set its pace (and, if possible, its direction) rather than react to rival initiatives.[69]

Dreadnought was Fisher's test case. He wanted to build the ship in half the time it typically took to construct a battleship, and ultimately did; the keel plates for the *Dreadnought* were laid on October 2, 1905, and she was launched on February 10, 1906.[70] The new battleship was in a class all its own, and immediately "made all other battleships obsolete with its strength, speed and fire-power."[71] While earlier battleships steamed at a maximum of 18 knots, the *Dreadnought*—which incorporated new turbine engines in lieu of the then-standard reciprocating engines—steamed at 21 knots and sustained high speeds over much longer distances than her counterparts.[72] Her all-big gun armament—she boasted ten 12-inch guns to her nearest competitor's four—also gave her a long-range striking capability equal to two or three other battleships.[73]

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[69] Holger H. Herwig, "The German Reaction to the Dreadnought Revolution," *The International History Review*, XIII, 2, May 1991, p. 282.
[70] Padfield, *Battleship*, p. 189.
[71] Kennedy, *The Rise and Fall of British Naval Mastery*, p. 218.
[72] Charles H. Fairbanks, Jr., "Choosing Among Technologies in the Anglo-German Naval Arms Competition, 1895–1915," in William B. Cogar, ed., *Naval History: The Seventh Symposium of the U.S. Naval Academy* (Wilmington, Scholarly Resources, 1988), p. 127; and Ronald H. Spector, *At War At Sea* (New York: Viking, 2001), p. 27.
[73] Herman, *To Rule the Waves*, p. 483.

So advanced was *Dreadnought* that her name became a generic term for modern battleships, while the ships she rendered obsolete became known as "pre-dreadnoughts."

Fisher's coup realized two advantages. First, it gave the Royal Navy a near-term monopoly in this revolutionary new capital ship.[74] Second, it disrupted the shipbuilding efforts of Britain's principal rival, the Germans, imposing on them significant costs by delaying their fielding of new capabilities and diverting resources from that effort as well.[75]

More importantly, for Fisher, seizing the "first-move advantage" to disrupt the naval plans of Britain's rivals was not intended to be a one-time affair, but rather an ongoing practice as long as technology continued to progress at a rate that would supply him with ever-new options. As one study notes, "Fisher wanted to see the Royal Navy take and hold the technological lead over all rivals, and to use that comparative advantage, together with Britain's financial and shipbuilding superiority, as a weapon by deliberately rendering rival fleets obsolescent whenever it

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[74] At the time, some argued that Fisher was encouraging competition with his *Dreadnough*t rather than dissuading it. The ship was so revolutionary, they argued, that it obsolesced all existing battleships, in which Britain had a substantial numerical superiority. By essentially restarting the battleship competition at zero, the argument went, it became easier for other navies to enter the competition, producing the opposite effect of dissuasion. In reality, however, other navies were already beginning to move toward battleships with Dreadnought-like qualities. As Fisher realized he could not overwhelm the competition in terms of his scale of effort, he tried to shape the competition by drawing upon his advantages in technology, industrial base, and the capacity to compete based on time.

[75] Specifically, a supplementary navy bill was about to be submitted to the Reichstag in November 1905 when the *Dreadnought*—which was superior not only to Germany's newest battleship, the Deutschland, but also to its planned successors—tossed the German naval program into utter disarray. Moreover, the Kiel Canal, which provided the Imperial German Navy with a critical shortcut between the North Sea and the Baltic Sea, was too small for ships the size of the Dreadnought. If Germany wanted to match the *Dreadnought*, the canal would have to be enlarged. This would require years of effort and enormous expense. Consequently, as news of the *Dreadnought*'s planned size, speed, and armament reached Fisher's German counterpart, Admiral Alfred von Tripitz, "something close to panic ensued." Massie, *Dreadnought: Britain, Germany and the Coming of the Great War* (New York: Random House, 1991), p. 485; and Herwig, "The German Reaction to the Dreadnought Revolution," pp. 277, 279–80. Although these costs were an unintended benefit of the Dreadnought's development rather than a deliberate goal on the part of Fisher, they did inform his subsequent thinking on naval strategy.

suited."[76] By launching ships that were substantially superior in quality to anything then afloat, Fisher believed that the Admiralty could compel other navies to reconsider their own ship-building plans. Moreover, if the Admiralty's plans were not revealed until the last possible moment, the disarray produced among Britain's rivals could enable the Admiralty to slow its own naval construction program for a year and perhaps longer, providing economies to the naval estimates.

Fisher would eventually summarize his thinking to Winston Churchill, who assumed the position of First Lord of the Admiralty in 1911, shortly after Fisher retired from the Navy. The "whole secret" of successful naval administration, Fisher concluded, "is 'plunging'—it stupefies foreign Admiralties."

> ...[P]ut off to the very last hour the ship (big or little) that you mean to build (or perhaps not build her at all!). You see all your rival's plans fully developed, their vessels started beyond recall, and then in each individual answer to each such rival vessel you PLUNGE with a design 50 per cent. better! knowing that your rapid shipbuilding and command of money will enable you to have your vessel fit to fight as soon if not sooner than the rival vessel.[77]

Despite Fisher's efforts, the German naval challenge persisted. Nevertheless, plunging still remains a valuable tool for dissuasion, for two reasons. First, by confronting the target with new and potentially revolutionary military options, plunging decreases the anticipated benefits of any capability it is likely to field, and therefore increases the possibility that it will abandon its attempts to develop threatening capabilities. Second, and as the *Dreadnought* example shows, even if the target is not dissuaded through direct means, plunging ensures that it will incur significantly higher costs, as it is continually forced to upgrade or replace existing capabilities in order to remain in the military competition.

A key lesson here for the United States is that a vigorous and diversified R&D program can make an important contribution to

[76] Nicholas A. Lambert, "Transformation and Technology in the Fisher Era: The Impact of the Communications Revolution," *Journal of Strategic Studies*, Vol. 27, No. 2, June 2004, p. 280.
[77] Cited in Lambert, *Sir John Fisher's Naval Revolution*, p. 246.

dissuasion. By creating a broad portfolio of capability options from which the United States can pick and choose to develop new capabilities, R&D initiatives complicate the defense planning of prospective competitors. This is especially true of science and technology projects that push the bounds of the technological state-of-the art and periodically lead to a discontinuous change in military capabilities. Through its R&D program, the United States could "steal a march" on existing and potential rivals, experimenting with and fielding new capabilities well ahead of them. Moreover, by developing a strong reputation for technological innovation and by continually fielding new and advanced military capabilities, the United States could dissuade competitors simply by instilling in them the feeling that "no matter what path we go down, we'll be checked."[78]

Develop New Operational and Organizational Concepts That Decrease Relevance of Target's Capabilities

The United States can also dissuade potential opponents through the development of new operational concepts. Again, an example helps to illustrate the point. Today, the diffusion of anti-access and area-denial capabilities (e.g., land-attack missiles, anti-ship cruise missiles, integrated air defenses, ASAT systems, sea mines, and submarines) is of growing concern to the US military because of its heavy reliance upon non-stealthy platforms, as well as in-theater ports, airfields, and littoral operating areas for projecting power. If the US military signals its intention (or, better still, its ability) to adopt a novel operational concept for extended-range power projection that relies more heavily upon stealthy platforms and obviates the need to operate from fixed forward bases, A2/AD capabilities would likely lose much of their prospective value. As a result, investment in them would become less attractive. Or, if the United States were able to convince its rivals that it had mastered the ability to exploit information networks in such a way as to enable US forces to operate effectively while highly dispersed, it could also reduce

[78] There is, however, a tradeoff that must be considered. Specifically, although the US should want to reveal major breakthroughs in areas such as missile defense and computer network or satellite protection, all of which could dissuade competitors from developing threatening capabilities, it should be more circumspect in signaling new developments in areas with great *offensive* potential (e.g., space-denial capabilities, RF weapons, and low-yield nuclear designs) so as to deny competitors the opportunity to develop countermeasures or offsets, and to avoid promoting and legitimizing foreign R&D programs in those areas.

the attractiveness of A2/AD capabilities. To be credible, however, this prospective conceptual shift would have to be accompanied by developing and fielding the capabilities necessary for implementing it.

Conclusion: The United States and Dissuasion

This chapter has provided an overview of the wide range of instruments and methods that can be used to dissuade both opponents and allies from developing, expanding or transferring military capabilities that would be threatening from the US perspective. Although dissuasion is unlikely to be an easy task, the United States does appear to be well placed to employ many of the instruments described above, due to the following advantages:

Scale (i.e., the magnitude of its defense spending and the size of its standing air, ground, and naval forces);

Technical diversity (i.e., the capacity to produce a greater range of capabilities than its competitors);

Alliances (i.e., the United States has most of the world's advanced industrial states as allies, effectively precluding efforts by rivals to form coalitions that might challenge US advantages in scale and diversity);

Trust (i.e., the United States is thus far a widely trusted keeper of the global commons), which acts to minimize competition);[79] and

Performance (i.e., the US military has, for over a decade now, decisively defeated all enemies attempting to challenge its dominance in traditional areas of military competition).

[79] Great Britain also had a similar reputation during its period of dominance. The Royal Navy took it upon itself to maintain free trade and access to the oceans, to police the slave trade, to combat pirates, and to map the world's oceans.

III. Making Dissuasion Work

As noted in the preceding chapters, the concept of dissuasion is closely related to the concept of deterrence, in that both involve efforts to shape the behavior of a target. Like deterrence, dissuasion also runs the risk of failure, and may even yield negative results. Not only might attempts to dissuade an ally or an opponent prove unsuccessful, as the target continues its efforts to develop or acquire proscribed capabilities, dissuasion may be counterproductive, driving the target to adopt policies or pursue capabilities that actually increase the danger it poses.[80] Ultimately, the success of either deterrence or dissuasion depends on the target responding in the desired manner. The possibility always exists, however, that it will not be so accommodating.

This observation serves as a reminder that the successful use of dissuasion depends on more than just an appreciation of the various tools and techniques that might be adopted to influence a target; it also requires a well-developed understanding of the chief impediments to success, as well as a corresponding effort to avoid those pitfalls. Although a comprehensive treatment of these issues is beyond the scope of this report, the remainder of this chapter briefly describes several potential obstacles to the successful crafting and implementation of dissuasion strategies and suggests two important remedies that would aid the Defense Department in future efforts to do so.

[80] A classic example of this is the "security dilemma," where the actions taken by one state to enhance its security are viewed as threatening by others, leading them to take offsetting actions, which then results in increased tensions and a decrease in overall security. See Robert Jervis, "Cooperation under the Security Dilemma," *World Politics*, Vol. 30, No.2, January 1978, pp. 167–214.

Impediments To A Successful Dissuasion Strategy

The Universal Rationality Trap

When crafting dissuasion strategies, it is imperative to avoid what might be called the "universal rationality trap." Like deterrence, dissuasion assumes that if the anticipated costs significantly outweigh the benefits, a rational decision-maker will refrain from undertaking a particular course of action. Yet all actors do not view the world in the same way; nor, consequently, do they share the same model of rationality. What might appear "irrational" from the perspective of American observers could be entirely logical when the target's culture, religious beliefs, political concerns, personal jealousies, life experiences, and other psychological factors (e.g., the degree of stress to which the target is exposed) are taken into consideration.

Similarly, the decision-making processes within government bureaucracies and other institutions are often not value maximizing owing to a range of factors, including deeply engrained bureaucratic biases, institutional rivalries (e.g., political-military tensions), "strategic culture" and other influences.[81] Consider, for example, the institutional dynamics that can affect a target's cost-benefit calculation and complicate efforts at dissuasion. In the course of developing a major new capability, certain decision points are crossed. The target state's leadership must, at some point (or points), decide whether to proceed with the effort, modify it (e.g., scale it back, alter the capability's characteristics, etc.), or cancel it altogether. If the decision is made to proceed—for example, from a weapon concept to full-scale development—it often becomes much more difficult to alter that decision down the road, even if the capability is perceived to decline in relative value. This is because of the "program momentum" that such decisions produce. Senior decision-makers, who were public advocates for the program during its early stages, become reluctant to admit later they were mistaken. Moreover, resources previously committed to the project cannot easily be recovered, if at all. These "sunk costs" make it more difficult to change course.

[81] For more on non-rational decision-making and the influence of organizational factors, see A.W. Marshall, "Bureaucratic Behavior and the Strategic Arms Competition," Southern California Arms Control and Foreign Policy Seminar, October 1971; and Graham T. Allison, *The Essence of Decision* (Boston: Little, Brown and Company, 1971).

Stakeholders in the program (e.g., the communities where the weapon will be built; the firms that will do the work; major suppliers of components) will fight to preserve it (along with their narrow interests).

Admittedly, knowledge of how the target of a dissuasion strategy calculates costs and benefits will always be imperfect. Indeed, in some cases the target's decision-makers may not even be able to explain convincingly to each other how they happened to decide upon a particular course of action. Thus US decision-makers will never be able to discern with total confidence whether a particular dissuasion strategy will achieve its desired effect. Nevertheless, a dissuasion strategy must, to the greatest extent possible, be informed by an understanding of how the target perceives the world and evaluates alternative courses of action. Moreover, an effective dissuasion strategy should exploit these factors—pushing with them, not against them—to shape the target's decision-making.

Choosing the Right Tools: Dissuasion's Overt and Covert Elements

As the previous chapter described in detail, there are a number of ways to influence a target's cost-benefit calculus in order to dissuade it from acquiring, expanding or transferring a threatening capability. Depending on who the target is and what the circumstances are, however, some of these methods may be ineffective, counterproductive, or even politically unacceptable. Assessing which tools can and should be used in a given situation is therefore central to developing a successful dissuasion strategy. Toward this end, one important consideration is whether dissuasion should be pursued overtly or covertly.

For deterrence to succeed, a threat must be clearly communicated to a target such that the target understands the threat, believes it to be credible (i.e., that it will be carried out under the circumstances stated), and also believes that, in light of this threat, the anticipated costs of employing its military forces exceed the anticipated benefits. For those practicing deterrence, it does no good to conceal their military capabilities, or to fail to make clear to the target of their efforts that these capabilities will be used if the target employs military force. Yet this is not always the case with dissuasion. Whereas some dissuasion strategy initiatives are best pursued in the light of day so that the target (or

targets) and others can readily discern them, others are best pursued covertly, such that a target cannot easily discern a direct link between US actions and their intent. This is especially useful when an acknowledged link would serve to increase the target's resolve to pursue the course of action that is the object of US dissuasion efforts.

Like deterrent threats, many important dissuasion tools are carried out overtly, and in fact depend on publicity in order to succeed. Examples include diplomatic efforts such as arms control treaties, public diplomacy and the formation of alliances, as well as economic instruments such as sanctions and embargoes, all of which are conducted "in the open." The same holds for most military instruments. For example, the US Navy today, like the Royal Navy of the 19th century, seeks to advertise its overwhelming size and strength so as to create in the minds of prospective rivals a belief that attempting to challenge America's maritime supremacy is to undertake a fool's errand.

Alternatively, sometimes an overt strategy can backfire. For example, were the United States to pursue a public strategy whose openly declared objective is to dissuade the European Union from fielding its Galileo constellation of global positioning satellites, it could very well have the effect of encouraging the effort, as it is likely the EU consortium would react strongly—out of a sense of pride and a need to affirm its independence and status—to any overt attempt by the United States to influence such an important decision. Similarly, if the United States were to overtly support Iranian resistance groups in an effort to imposts costs on Tehran, those groups might seem less genuine in the eyes of sympathetic Iranians, who might then withhold their support. Or suppose the United States trumpeted its efforts to render the next generation of air defense systems impotent by developing a new generation of advanced stealth aircraft. This might not only discourage countries from spending (and wasting) large sums of money on new air defense systems, it could also encourage them to abandon air defenses in favor of fielding far more worrisome military capabilities, such as extended-range ballistic missiles to strike the air bases from which the advanced US strike aircraft would operate.[82]

At times, therefore, a dissuasion strategy might depend on the target not being aware it is being targeted at all. One example of a covert tool that can be used for dissuasion involves the Defense Department's

[82] This last example also points to the importance of second-order effects, which are discussed in greater detail below.

"black" or special-access R&D programs. Here it is essential that the target of dissuasion efforts remain unaware—at least in any specific sense—of the capabilities being developed. If this can be achieved, and if the United States maintains its strong reputation for fielding novel and effective capabilities from the black world, rivals are forced to confront a much more uncertain planning environment—one that requires them to account for a significantly broader set of US military capabilities.[83] If the target of this dissuasion technique decides to cover its bets against all these potential capabilities, its individual efforts will be diluted, and it will likely expend fewer resources on those capabilities that the United States wants to dissuade.

Second-Order Effects

Even if the "right" tools are selected and a target is successfully dissuaded from pursuing a particular capability, an important issue still remains: How will the target employ the resources liberated by an effective dissuasion strategy, and what new competitive path will it pursue? There is an old saying, "Be careful what you ask for, you might just get it." For those contemplating dissuasion strategies, it is worth considering what course of action a rival might pursue once dissuaded from entering a particular area of the military competition. Put another way, one must consider the second-order effects of a dissuasion strategy that achieves its first-order goal.

For example, although France abandoned challenging Great Britain symmetrically for maritime domination after the mid-19th century due to the latter's economic strength and technologically advanced shipbuilding industry, the second-order effect was to encourage France to adopt asymmetric strategies, in particular the development of a *guerre de course* fleet and the exploration of novel forms of warfare, such as the naval operations espoused by its *Jeune Ecole*.[84] To take a more recent

[83] There is, however, a tension between keeping R&D initiatives secret (so as to maintain surprise) versus the need for adversaries to know about them for dissuasion purposes. Programs that are completely "black" obviously have negligible immediate dissuasive value.

[84] The *Jeune Ecole* (Young School) was the brainchild of Admiral Hyacinthe-Laurent-Theophile Aube, who became France's Minister of Marine in 1886. Aube was the leader of a school of naval thought that was radically different from the rest of the world's major navies at that time. Aube's vision comprised several main elements. Among them were his emphasis on "ruthless commerce-destroying on the high seas" against France's naval rival, Great Britain, and

example, consider the case of Iran. During the latter years of the Shah's reign, the windfall in petrodollars following the 1973 oil shock was spent on efforts to build the Iranian armed forces in the mold of western militaries. Large sums were spent on late-model F-14 fighter planes, Chieftain tanks, and Hawk air defense missile systems. Yet subsequent developments—in particular the arms embargo imposed by the United States after the fall of the Shah and the heavy costs sustained during the Iran-Iraq War—raised the barriers to Iran's acquisition of conventional military capabilities, which likely dissuaded Tehran from emphasizing them in its defense investments over the past two decades. The second-order effects, however, have been quite pernicious. Iran has increased support for irregular forces (i.e., terrorist groups) both at home and abroad; pursued the development of weapons of mass destruction, including perhaps nuclear weapons; and invested heavily in its nascent anti-access/area-denial network, which comprises IRBMs, an advanced integrated air defense system (IADS) network, anti-ship cruise missiles, and diesel-electric attack submarines. As one study of Iran's military doctrine notes:

> ...Iran's concept of war appears to be to avoid a conventional military conflict, especially with the United States, and to rely on irregular warfare and the implicit threat of weapons of mass destruction and terrorism to deter or inhibit an opponent. If war occurs, Iran seeks to reduce its costs by maximizing its passive defenses and taking advantage of its strategic depth and manpower mobilization capabilities while trying to increase the costs to its opponent through attrition and unconventional warfare, including terrorism against an opponent's interests anywhere in the world.[85]

Thus while Iran has deemphasized more traditional forms of military power (though whether or not this is the result of a formal US dissuasion strategy is unclear), the alternative course pursued by Tehran

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the use of dispersed naval forces that, when concentrated, would provide momentary superiority over the Royal Navy. Finally, Aube advocated the use of torpedo boats armed with guns, torpedoes or rams, as circumstances required, to defeat battle ships-of-the-line. Theodore Ropp, *The Development of a Modern Navy*, Stephen S. Roberts, ed. (Annapolis, MD: Naval Institute Press, 1987), pp. 155–61.

[85] Steven R. Ward, "The Continuing Evolution of Iran's Military Doctrine," *The Middle East Journal*, Vol. 59, No. 4, Autumn 2005, p. 567.

has arguably produced a far more dangerous situation for the United States than if Iran had focused on more traditional military capabilities and doctrines.

The point here is not simply that dissuasion strategies can produce unintended and unwelcome consequences, although it is a point well worth remembering. Rather, it is to emphasize the importance of careful planning when it comes to crafting dissuasion strategies, so that the second-order consequences might be identified and steps taken to minimize the prospects for negative outcomes, and to mitigate them if they occur.

Improving the Prospects for Dissuasion

The Importance of Intelligence

Perhaps the most important prerequisite for a successful dissuasion strategy is good intelligence, not just on the United States' existing and prospective rivals, but also on its allies and partners as well. Without good intelligence, it is impossible for decision-makers to determine who should be dissuaded, from what, and by what means.

Assessing the Target's Intentions and Internal Dynamics

As noted above, the successful use of dissuasion strategies requires the best possible understanding of how prospective targets view the world and the military competition; how they calculate benefits, risks, and costs; what other factors shape their thinking, either at the individual or collective level; and how certain events (especially predictable events) may significantly alter their calculations. The US Government must make intelligence collection, research and analysis in this area a higher priority. Key research questions include the following:

Which individuals are critical to the decision-making process in foreign states, how do they interact with each other, and what factors most influence their thinking?

How do government institutions and bureaucracies in different states make decisions? What dynamics most strongly affect the decision-making process? What factors determine which issues get on the agenda and which ones get excluded?

What is the rhythm of a competitor's decision making? How can the United States insure that its efforts to dissuade a rival are felt *before* that rival reaches a critical decision point, after which it may prove far more difficult to overturn or alter?

To what extent do biological, cultural, or other factors limit the range of options considered during the decision-making process? Put another way, are there some things a state will or will not do *regardless* of the cost-benefit tradeoff?

Assessing the Target's Capabilities

How can you dissuade what you don't know about? There is no doubt that the United States' rivals are pursuing black programs of their own, many of which may be difficult for the United States to detect. The development of advanced biological weapons, RF weapons, and novel information warfare capabilities, for example, would not only be threatening, but would also be very easy for competitors to conceal. Good intelligence is therefore critical—the earlier a rival's efforts to develop a proscribed capability are detected, the more likely it is that it will abandon those efforts under pressure. Moreover, by reinvigorating its human intelligence and clandestine service activities, the United States' could use its improved ability to detect covert programs to make foreign leaders less confident in their ability to hide proscribed programs.

Institutionalizing Dissuasion

If dissuasion is to truly become one of the pillars of US defense strategy—along with deterring and defeating aggression, defending the homeland, and reassuring allies and partners—then it must become the object of focused and sustained attention, analysis, and advocacy. Moreover, if dissuasion is to be undertaken successfully, it will depend in large part on the dedicated efforts of both analysts and senior decision-makers to ensure that the necessary intelligence is acquired and utilized appropriately; that dissuasion strategies are continuously assessed to determine whether they are having their intended effects; and to make

certain that attempts to dissuade are properly integrated with, and do not come at the expense of, parallel efforts to deter, defeat, defend and reassure. Given these considerations, it is important that dissuasion be institutionalized within the Defense Department.

Ultimately, the development and implementation of dissuasion strategies should be the province of the secretary of defense, a small number of senior defense decision-makers, and a small analytic staff, for three main reasons. First, as noted above, some aspects of a US dissuasion strategy will need to remain covert. Thus the fewer people who are aware of these efforts, the better. The second reason is the military services' relative lack of strategic expertise. Reflecting this, over the past half century, most of the thinking on deterrence and ally reassurance has been dominated by the civilian strategic studies community. Third, since the traditional pillars of US defense strategy are likely to receive the most emphasis when making investment and policy decisions, the defense secretary will be in the best position to make sure that the implementation of dissuasion strategies is not crowded out.

The defense secretary will, however, require advice and analytic support in the formulation, implementation, and assessment of dissuasion strategies. Toward this end, a Senior Dissuasion Strategy Group (SDSG) might be established, comprising the most senior Defense leaders, to include the secretary of defense, deputy secretary of defense, the undersecretaries for policy, intelligence and acquisition, and the chairman and vice chairman of the Joint Chiefs of Staff. This body would review the work of a Dissuasion Strategy Working Group, or DSWG, with the Director, Office of Net Assessment, serving as its chair (as well as an *ex officio* member of the SDSG).

Thus the SDSG would serve as the governing body on dissuasion policy, strategy, program and resource issues. It would also provide guidance to the DSWG, which would respond to this guidance, and which would also be empowered to undertake assessments of potentially attractive dissuasion efforts. The DSWG would also be tasked with identifying the dissuasion efforts (ongoing or potential) of rivals, and identifying US counter-strategies.

IV. Areas for Further Study

This assessment of dissuasion strategy is far from comprehensive. Issues surrounding the application of dissuasion strategies to specific states, rogue states, non-state actors (e.g., trans-national terrorist organizations), and American friends and allies, are not given detailed treatment. Several additional questions meriting additional research and analysis include the following:

How are other countries dissuading America from investing in promising capability areas? How might those dissuasion strategies be countered?

How might the United States dissuade groups that are "ripe for radicalism" from adopting terrorist tactics?

What dissuasion strategies might the United States develop for major powers to encourage them to pursue less threatening paths in developing their military capabilities?

What forms of dissuasion should the United States pursue with respect to key allies?

What specific initiatives might be pursued in restructuring US intelligence capabilities to better support the development of dissuasion strategies? What taskings should be given to the Intelligence Community to enable it to support the development and implementation of dissuasion strategies?

How might the secretary of defense most profitably employ the two small groups outlined in this report for the purpose of crafting and executing effective dissuasion strategies?

How can a given dissuasion strategy's success or failure be determined? What might be useful measures of effectiveness (MOEs)?

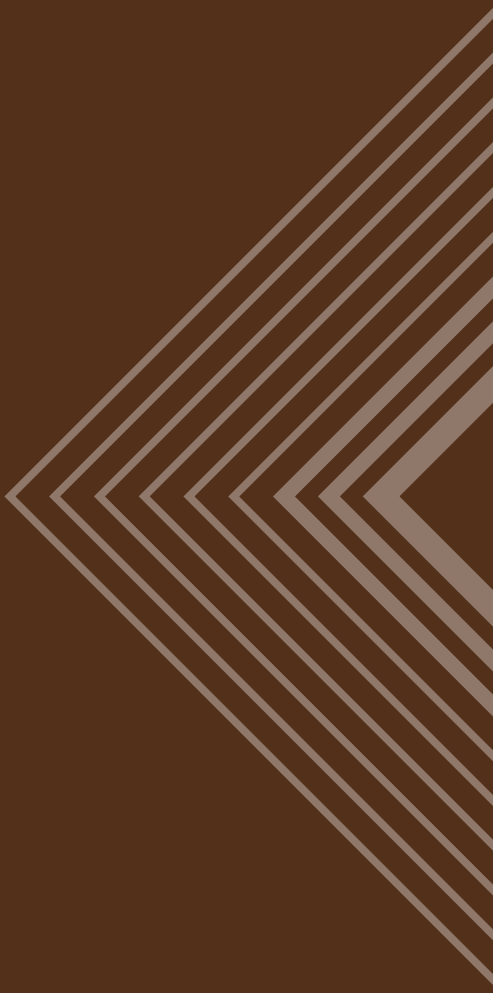
Assuming the first-order objective of dissuasion is achieved, how might adversaries seek to continue the competition if they do not yield entirely? What second-order effects might be stimulated by effective US dissuasion strategies?

How does dissuasion interrelate with defense and deterrence? How might synergies be exploited and tensions mitigated?

How might the United States best exploit the tools of dissuasion described in this report?

If dissuasion is important, then one issue worthy of consideration is *persuasion*—how do we persuade (rather than coerce) adversaries to do something they did not intend to do?

What role might gaming play in developing dissuasion strategies and putting them into practice?



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