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ON DETERRENCE,

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PREFACE

This paper assembles in a single publication recent articles* and commentaries¹ on principles of deterrence. The literature on this subject is distinctive both in its paucity and origin. Thus far, topical discussions of principles of deterrence have been limited to the pages of the *Air University Review*, the professional journal of the United States Air Force. In addition, the only contributors to the discussion have been military officers. This situation deviates from the pattern established with the inception of the nuclear age, in which U.S. civilian theorists initiated discussions of deterrence concepts and the military contributions to deterrence theory were negligible.

Why then has the discussion of this aspect of deterrence been surfaced by professional officers in a military journal? The impelling factor is likely the military practical orientation. The military ethos emphasizes implementation. This does not mean that practitioners of the military profession are less receptive than others to theoretical formulations--or necessarily less able to comprehend them--but that there is a compelling urge to move from the abstract to the concrete. Deterrence is a concept which must be expressed in physical realities of actions and (in the military instrument) force structures. In looking for guides to plan actions and develop forces, the military professional is led to consider the potential utility of principles of deterrence analogous to principles of war.

Interestingly, while deterrence has been the cornerstone of the United States' national security strategy since the mid-1950s, we're still not sure what deterrence is or how it works in the national security context. Thomas C. Schelling, in *The Strategy of Conflict*, commented more than 15 years ago that:

What is impressive is not how complicated the idea of deterrence has become and how carefully it has been refined and developed, but how slow the process has been, how unproductive

*The first two articles in this paper are reprinted (with permission) from the *Air University Review*.

¹The three commentaries that follow have been submitted to the *Air University Review* by Air Force officers assigned to the Rand Research Fellowship Program.

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ON DETERRENCE:
A BROADENED PERSPECTIVE*

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Those today who are responsible for military planning and strategy must deal with an increasingly complex world, one in which political, economic, and military power is far more diffused than in the Cold War period. In retrospect, the relative simplicity of the black-white world of the Cold War era stands in sharp contrast to that of today. Not only was it a simpler world for the planner and strategist but it was a time when strategy captured the imagination of much of the civilian academic world, resulting in a great outpouring of strategic thought and literature. More recently, however, strategic thought seems to have stagnated, the older strategists moving on to other interests and the younger generation apparently preoccupied with totally different problems. Within the military, concern with strategy and new strategic concepts has also languished, first out of preoccupation with the Vietnam war and more recently with the need to adjust military force levels and programs to fit the realities of budget constraints. In addition, there is a natural tendency to cling to past solutions and concepts.

The fashioning of military strategy today is a far more difficult and challenging task, given the impact of changes that have occurred in the domestic and international environments. The most significant of these is the change in U.S. force posture, relative to the Soviet Union, from one of superiority to one that is essentially equivalent. Strategy needs to be brought abreast of these changes. It is the principal purpose of this study to focus on this need, to highlight the spectrum of significant threats and postulate major features of a deterrent strategy for countering them. Finally, certain broad principles of deterrence are postulated as a background so that future planning can develop the kinds of essential capabilities needed for an effective deterrent posture across the spectrum of potential conflicts.

* *Foreign Affairs*, Vol. XXXI, No. 4, May-June 1975, pp. 2-17. See Appendix A for permission to reprint.

[†] See Appendix B for biographical sketch.

SPECTRUM DETERRENCE AND SUPPORTING STRATEGIES

For the foreseeable future in the international arena, U.S. national policy will continue to be pursued effectively, largely to the extent it can be supported by military power.

Basic national security policy for rendering that support will continue to be the deterrence of armed conflict. The focus of this policy will be on the Soviet Union and its allies as the primary threat to the security of the United States and its allies. At the minimum, then, the military power of the United States and its allies must balance that of the Soviet Union and its allies and have sufficient reserve and flexibility to deal with Nth country threats. Deterrence will remain as the fundamental objective and basic strategy of U.S. military forces. Given the increased domestic demands on tax resources, priority in defense spending must be on those military forces and programs designed for deterrence of the primary threat. Furthermore, to insure maintenance of a military balance, U.S. efforts must increasingly be aimed at sharing responsibility for deterrence below the nuclear threshold through programs that recognize, complement, and reinforce capabilities of U.S. allies. In short, with respect to its military force posture, the United States has entered an era of bipolar military balance, a balance that includes allied capabilities. Whether this U.S./allied balance can be translated into an effective combined instrument of deterrence against armed conflict or coercion by the Soviet Union and its allies rests in large measure upon devising military strategies relevant to deterrence across the spectrum of significant threats ranging from general nuclear war to localized conflict.

In an era of nuclear parity, deterrence cannot be founded solely upon a mutual assured-destruction capability. While this capability is an absolute prerequisite to a deterrent posture, alone it offers only two untenable options: nuclear holocaust or capitulation. To the extent that all-out nuclear war is made incredible, the threat of conflict tends to move down the spectrum, giving rise to the need for countervailing deterrent capabilities and strategies at lower levels of conflict. Moreover, the unpredictability in an uncertain world where nuclear weapons do exist makes a spectrum of deterrent capabilities and options an essential prerequisite to the pursuit of U.S. policy.

It is a relatively simple task for the strategist to define and describe the inherent military capabilities available to the United States and its allies. Similarly, given the quality of today's intelligence information, he can make reasonably accurate assessments of a potential enemy's inherent capabilities. The actual capabilities that can be derived from the inherent capabilities of these forces depend upon a combination of factors, one of the most important being the strategy and concepts governing their use.

Just as nuclear parity and the bipolar military balance made a broadened concept of deterrence imperative, it is likewise imperative that supporting military strategies and concepts be developed if inherent military capabilities are to provide the actual capabilities necessary for a spectrum of deterrence. Additionally, under the conditions of parity and balance, it is essential that military strategy be brought into a much closer relationship with policies and strategies for use of all other elements of national power. For the foreseeable future, there will not be a surplus of military power, and diplomacy and economics will play an increasingly important role in the deterrence process. Definitive development of the necessary strategies and concepts to support spectrum deterrence will require much study, thought, and analysis. A look at the range of significant threats, however, suggests major features of military strategy for coping with this spectrum.

*Concepts of Nuclear Deterrence and
Strategic Strategy*

The basic national security objective is to preserve the United States as a free nation. Because the threat of an all-out nuclear attack places the survival of the United States at risk, it is the highest priority for deterrence. An effective force to deter strategic nuclear attack is not only absolutely essential to the preservation of the United States, it is also a prerequisite capability in deterring conflicts at lower levels. An assured second-strike capability is at the heart of such a posture. It will remain the most clearly defined and easily understood requirement of deterrence. Alone, however, it is inadequate in meeting future nuclear deterrent needs of the United States.

The existence of U.S. and U.S.S.R. assured second-strike capabilities has made an all-out strike the least likely form of nuclear conflict. Such capabilities also provide strong incentives for both sides to avoid the use or threat of use of nuclear weapons. Even so, the U.S. strategic nuclear deterrent posture and strategy cannot be oriented solely on the assured destruction role. Strategic nuclear warfare could result from miscalculation, deliberate escalation, or evolution from some lower category of conflict and be limited in scope and intensity. In light of this, there is a need for options, concepts, and supporting strategies that do not lead to either extreme of high-intensity general nuclear war or capitulation. In short, given the extent of the threat posed by current Soviet nuclear capabilities and improvements efforts and Nth country proliferation, a more objective-oriented nuclear deterrent strategy is called for. Some of the more important features of this strategy may be described as follows:

- First of all, the all-out attack option is, of course, central to deterrence. Under an objective-oriented strategy, however, this option would be designed to place at risk those elements of an enemy's political, economic, and military structure essential to his ability to function as a postwar power. With respect to the Soviet Union, placing its power base at risk would very likely have greater deterrent value than placing some given level of population and industry at risk. That is, shifting the focus of general nuclear war strategy to affect the Soviet postwar power status could help mitigate any apparent advantages the Soviet Union might have or perceive itself to have in terms of its population densities, civil defense measures, and geography.

- Second, strategy for executing the general nuclear war option should not be so rigid as to rule out opportunities for negotiation and bargaining at the general nuclear war level. Hence, the flexibility to destroy critical economic, military, or political structures selectively is fundamental to a more objective-oriented strategy. Should the enemy take a gradual or piecemeal approach to general nuclear war, our responding selectively could provide a means to deny him any advantage he might seek below the all-out level and concurrently create conditions for negotiation and bargaining for conflict termination. At the same time, this

approach would be contributing to the objectives of the all-out attack option should it subsequently be deemed necessary to invoke it. Admittedly, ambiguity and uncertainty as to enemy intentions would abound in such an approach to general nuclear war. The important point is, however, that strategic thought, planning, and strategy be sufficiently flexible in the face of these ambiguities and uncertainties to exploit any opportunity to seek the best possible outcome for the United States.

- A third feature of an objective-oriented nuclear deterrent strategy would be to deal with the situation wherein the Soviet Union possesses forces, in addition to those adequate to sustain an assured destruction capability, that are also sufficient to mount nuclear attacks concurrently against other objectives. In this situation, the prospects for limited nuclear provocations, coercion, and strategic confrontation give rise to the need for countervailing U.S. force options and supporting strategies. Strategy, here, would be formed around highly discrete, limited nuclear options designed to deny the enemy limited objectives, to counter coercion, and to deter further escalation and intensification of nuclear conflict. To better support achievement of specific political objectives in this scenario, strategies must be especially sensitive to the need to minimize collateral damage and control escalation. To realize maximum deterrent value from this subset of the overall objective-oriented deterrent strategy, the capability to reach out and put at risk any target, and place in the world, at any specific time is needed. Moreover, the flexibility to employ the option of non-nuclear precision weapons in the face of a severe provocation or attempted coercion through threats to use nuclear weapons should be maintained. This kind of option could provide a means to demonstrate the political will, skill, and military capability that would be brought to bear at the nuclear level should the enemy attempt to follow through on a specific threat or provocation. In short, in a competition of wills, it could be the *straw that breaks the camel's back* for avoiding nuclear war.

- A fourth aspect of strategic nuclear deterrence that will be of increasing concern is Nth country nuclear threats, the most significant being the People's Republic of China. As these threats proliferate, the U.S. nuclear deterrent posture will need to have sufficient capability

and flexibility to deal with them while remaining predominantly oriented to the primary threat. In the event of nuclear war, a residual capability during the initial, trans-attack, and post-attack phases will be an important requirement in relation not only to the engaged enemy but also to Nth country forces. Thus, strategic reserves, withholds, and the ability to recover and reconstitute forces will become increasingly important in maintaining a future strategic nuclear deterrent posture.

A quest for viable arms control measures inherent in contemporary foreign policy will likely be an enduring feature of future U.S. relations with the Soviet Union. Arms control efforts will continue to impact on strategic policy and planning, particularly in terms of research, development, and weapon system procurement initiatives. These initiatives will increasingly be judged in relation not only to their qualitative merits but also to their bargaining value in securing meaningful arms control agreements. There is, however, a broader, more fundamental issue inherent in the attempts to stabilize the nuclear deterrent posture of the United States and the Soviet Union.

The central issue concerns whether or not a U.S. nuclear force posture sufficient for the tasks outlined in the foregoing discussion on strategy but numerically inferior to the Soviet Union is adequate to serve the international needs and responsibilities of the United States. It could be argued that forces in excess of these tasks represent unneeded "surplus security." This argument obscures the very real possibility that the Soviet Union could perceive political advantage accruing from its superior nuclear posture and attempt to exploit it in diplomatic dealings with nations other than the United States. Moreover, these nations might believe that such a nuclear posture does give the Soviet Union an advantage and thus be more amenable to Soviet political influence. Over the long term, this could prove to be very destabilizing. For the foreseeable future, then, the United States must prudently maintain two hedges against false detente: (1) strategic nuclear forces with the breadth and depth of capabilities that clearly foreclose any apparent political advantage in the Soviet nuclear posture; and (2) a stable of research and development (R&D) strategic options.

Theater, Regional, and Local Deterrence and Supporting Strategy

In the foregoing overview of strategic nuclear deterrence and supporting strategy, the basic thrust was to emphasize the need for a range of strategic nuclear capabilities that might better deter the use or threat of use of strategic nuclear weapons against the United States, its forward deployed forces, and its allies. While these capabilities are absolutely essential for the security of the United States, they are also the ultimate source of U.S. ability to pursue a range of national security objectives at the theater, regional, and local levels. That is, there is an implicit linkage between the U.S. strategic nuclear deterrent and those capabilities for deterring and defending against theater and subtheater threats. It serves more as a "shield" against the use or threatened use of strategic nuclear weapons than as an operative deterrent at the local level. At theater and regional levels, the advent of mutual nuclear vulnerabilities has given rise to the need for much greater reliance on conventional military capabilities as the operative deterrent against threats. These capabilities are necessary in order to maintain the nuclear threshold at the highest possible level while at the same time protecting those security interests where it is neither desirable nor credible to resort to a nuclear conflict. Furthermore, the capability to conduct military operations across the spectrum of possible conflict, particularly where nuclear-capable powers are involved, is fundamental to the concept of escalation control. Hence, the successful pursuit of U.S. national security objectives at the theater, regional, and local levels will depend more and more upon building and maintaining, in concert with allies, a spectrum of conventional deterrent capabilities. From these, appropriate response options can be fashioned that do not necessarily rely on early resort to the use or threatened use of nuclear weapons.

Failure to provide for high-confidence theater and subtheater conventional capabilities could invite nuclear blackmail, coercion, and piecemeal aggression out of fear of the consequences of a nuclear response. On the other hand, the maintenance of a strong initial conventional defense posture against theater, regional, and local threats is a

key index of the will and confidence of the United States and its allies to protect their vital interests in these areas.

In comparison with the U.S. strategic nuclear deterrent, the form and scope of a U.S. deterrent posture below the strategic nuclear level is less well understood and defined in the public's mind. This lack of understanding suggests the need for better articulation of the role of credible conventional forces as an essential element in the strategy of deterrence. That is, if U.S. national security interests and those of its allies are to be protected without resort to nuclear conflict, a spectrum of credible conventional capabilities for theater and subtheater use will be required.

Theater Defense. Deterrence of conflict at the theater level is perhaps the most complicated and demanding of the various deterrent tasks facing the United States. For the foreseeable future, Western Europe will remain the theater of most direct and important concern to the United States. The threat confronting the North Atlantic Alliance is real and formidable, both conventionally and in nuclear terms; but the threat is by no means beyond the capability of the Alliance to continue to deter or defend against successfully if necessary. Also for the foreseeable future, the strength of the NATO Alliance is the only rational basis on which the nations of Western Europe can continue to provide for their individual security and sovereignty. To persevere in this collective task in the face of growing economic constraints will necessitate increased military interdependency, cooperation, and national will among all member countries. Strong leadership will continue to be required, to balance and harmonize the interests of the Alliance as a whole. This leadership is fundamental to NATO effectiveness and must of necessity continue to be provided in large part by the United States.

Deterrence of conflict against Western Europe has been successful as a NATO objective due in the main to the credibility of NATO-committed and appropriately linked forces and the willingness of member nations to persist in this common defense effort. It is this shared perception of the need for a common defense effort that has given NATO its sound core. This core is reflected in the form of a credible integrated military command structure and in the in-being, coordinated, combat-ready forces

of the various member nations. Fundamental to the continued soundness of this core are the respective commitments of member nations to a high-confidence, conventional deterrent posture. As noted earlier, the advent of nuclear parity makes a conventional deterrent and defense in Europe much more important. This is not to suggest that the nuclear deterrent has lost utility. Rather, a capability to mount and sustain a strong initial conventional defense in NATO is an indispensable approach to controlling and limiting escalation. Not only is a conventional defense a more desirable precursor to any subsequent use of nuclear weapons, it also places the Alliance in a far more tenable and confident position to consult, negotiate, and bargain at the lowest possible level of conflict.

NATO's deterrent strategy is well developed and not at issue. The basic security issue affecting the Alliance concerns primarily the means of deterrence. Specifically, can NATO achieve a high-confidence conventional deterrent without incurring additional costs? This question has already been much studied and debated. The purpose here is not to recapitulate the data except to note the clear indication that a highly credible conventional deterrent posture is within NATO's grasp at little additional cost. Achieving this will involve some very hard choices aimed at optimizing the defense capabilities of individual member nations to better fit Alliance strategy. For example, rather than most of the member nations maintaining an array of limited capabilities, the objective would be to have individual members optimize whatever they could do best. Admittedly, individual national interests and political separateness will tend to constrain this approach, and persistent, dedicated leadership will be required to harmonize these interests with the higher security interests of the Alliance as a whole. In this regard, the Alliance core--the Council, Military Committee, and NATO commanders and staffs--must continue to play a crucial leadership role in advancing toward this goal. Through their efforts, there can emerge practical proposals to use available resources better for conventional defense, to correct command and control deficiencies, and to show the additional steps necessary to achieve a high-confidence conventional deterrent posture.

To generate and sustain momentum toward the goal of a credible conventional defense, NATO needs a more realistic assessment of Warsaw Pact capabilities and deficiencies. Such an assessment could help dispel certain ingrained perceptions of inevitable Warsaw Pact superiority in mounting and sustaining a conventional attack against NATO. If unchecked, these perceptions can, over the long term, undermine NATO's vitality.

For the foreseeable future, a strong U.S. presence in NATO will be required in the form of forward deployed forces. Future U.S. decisions may, however, reduce the size of its in-theater forces. Should these decisions be made, a close linkage and interface between CONUS-based forces and the NATO command structure would be a vital requirement. Establishing command arrangements that would link U.S.-based rapid reaction and central readiness forces in NATO would be advantageous in mitigating any adverse implications of a decision to redeploy certain U.S. forces from Europe. Moreover, should mutual and balanced force reduction (MBFR) bear fruit, NATO linkage to quick-reacting and sustaining follow-on forces in the United States would help offset Warsaw Pact reinforcement advantages. In this regard, the rapid responsiveness and mobility inherent in air power are key assets that can be exploited to help insure preservation of a high-confidence NATO conventional deterrent posture.

In the matter of theater deterrence and strategy relative to the Pacific, some important distinctions between that theater and Europe deserve comment. The Pacific is not a coherent theater in the same sense as Western Europe. Overt threats to U.S. security interests in the Pacific have been primarily along the Asian rimland, most notably Korea and Southeast Asia. Given the geography of the Pacific, our level of national interest in the area, the Sino-Soviet split, and the capability of Asian allies to deal with local threats, the need for U.S. general purpose deterrent forces in Pacific forward deployments is considerably more limited than in Western Europe. Provided that South Vietnam and South Korea can maintain a domestically viable governmental framework, a reduced U.S. military presence in the Far East should be an acceptable risk, at least in the short run. The potential danger to

be guarded against is that a reduced U.S. military presence might be interpreted as a reduced U.S. commitment to the security of non-Communist Asian countries. To offset this possibility, U.S. aid--specifically, tailored military support--will continue to be required, to allow U.S. allies to realize their full military potential. Not only will such action increase their own military capabilities, it will also enhance deterrence through increasing interdependence with the U.S. In sum, placing greater reliance upon allied military capabilities can compensate for a smaller U.S. force posture, provided there are appropriate security assistance and credible U.S. reinforcing and counter-intervention capabilities. In the future outlook, these tasks will probably fall most heavily upon air support forces that can provide the degree of responsiveness and technological advantages not normally within the ability of most indigenous forces.

Regional Defense. It is essential that sufficient and appropriate military capability be provided for regional stability and deterrence where U.S. interests are at stake. In the absence of such a capability, the United States would be subject to coercion. The proper objective for the U.S. in a strategy of regional deterrence is to encourage and assist its allies to provide for their own national security. If credibility of means is to be established, concerned nations will have to invest adequately in their own defense and generally rely on U.S. support only in the event a major power threatens intervention that places vital U.S. interests in jeopardy. U.S. military support in peacetime can be provided most appropriately through active security assistance programs with emphasis on foreign military sales. These efforts should be designed wherever possible to provide the affected country with relatively inexpensive and unsophisticated military capabilities suited for the most likely defensive problem. Not only would increased military capability gained by the host country through such efforts enhance deterrence but their increasing interdependency with the U.S. through military supply and support channels could also increase the deterrent effect.

The credibility of U.S. national and political will and the ability to display intent could be crucial in the deterrence or containment

of regional conflict. These active security assistance programs are a positive although indirect indication of commitment. When a more direct manifestation of U.S. intent to protect its security interest is required, forward deployed conventional forces are appropriate. Such an open display of military capabilities could reduce the initiative of regional conflict by conveying certainty of U.S. intent to honor its commitments, and the same forces could play a key role in countering aggression and deterring escalation should conflict erupt. For such forward deployed or "presence" forces to deter aggression effectively, they must possess sufficiently credible military capability.

Another ingredient in the establishment of credible military means for regional deterrence is the maintenance of combat-ready, rapidly deployable, centralized reserve forces in the U.S. to fulfill the "high" portion of the force mix. Responsive strategic mobility is essential for the expeditious deployment of these forces to potential problem areas and for the establishment of credibility of U.S. means and will to honor its regional commitments and security interests.

Insurgency. Insurgency is the lowest level of conflict in the spectrum of war, but, even so, deterrence of insurgencies can be vitally important to U.S. interests. If insurgency is not deterred or contained, it may lead to regional conflict and direct U.S. involvement. The early phase of the Vietnam war is a prime example of this. In addition, insurgency can lead to an eventual takeover of business interests, which can destabilize the economic picture in a particular region and have adverse impacts on the U.S. internal economy. Insurgency can also threaten the overall U.S. defense strategy if it occurs in an area involved in our first line of defense.

As a first step, insurgency operations are usually designed to achieve political goals through psychological means. Failing this, military forces are employed in unconventional ways. For these reasons, deterrence of insurgency is a most difficult task for conventional military forces. A more appropriate counter is the effective use of political and economic measures by the host government to satisfy grievances upon which the insurgency is often based.

When and where U.S. national security interests are threatened, diplomatic, political, psychological, economic, and military aid

assistance should be offered to reduce the effectiveness of the insurgent movement. Economic and military interdependence through strong security assistance programs can have a positive deterrent effect through the improvement of allied economic and military strength. These programs not only provide a credible means for allies to suppress insurgency but, by increasing U.S. involvement through resupply and training commitments to the host country, can have a corollary deterrent effect.

In summary, the maintenance of international stability will be a key concept in guiding U.S. strategy at the regional and local level. Military aid and sales, closely linked to a responsive U.S. logistic support base, will be the principal means for supporting this strategy. The primary U.S. military role will be less active and aimed at deterring major-power intervention where such intervention adversely impacts on important U.S. national security interests. All of which suggests that future strategy will come to be governed by a broad set of principles of deterrence.

PRINCIPLES OF DETERRENCE

The maturation of deterrence has established a foundation from which it should be possible to seek out and identify certain fundamental tenets underlying a strategy of deterrence. For example, experience in Korea, Berlin, Lebanon, Hungary, Czechoslovakia, Southeast Asia, the Middle East, and Cuba has greatly increased understanding of the dynamics of national power as an instrument of deterrence. In light of this experience and the avoidance of nuclear war, there is a sound basis for articulating a general set of principles to guide a successful strategy of deterrence. To explore a possible set of principles applicable to deterrence is the purpose here.

An appropriate departure in the development of a set of governing principles is a statement of the hierarchy of objectives underlying a strategy of deterrence. The uppermost objective is to deter conflict altogether while pursuing a range of national interests; or, failing that, to deter escalation while denying the enemy the objective he seeks; or, if necessary, to control and limit escalation at the lowest possible level of conflict. It is toward these objectives that principles of deterrence should be directed.

In a discussion of specific principles of deterrence, the relationship between traditional principles of war and the concept of deterrence deserves comment. Principles of war are still valid in a tactical sense at any level of conflict to the degree that, as a result of their application, the objectives of deterrence are not compromised. In short, the unconstrained application of the principles of war at a given level of conflict involving nuclear-capable powers could undermine deterrence of higher levels of conflict. Hence, the pursuit of deterrence requires identification of and adherence to a higher set of broad principles uniquely suited to a strategy that is aimed, in the first instance, at promoting the security of the United States and its allies by deterring war across the spectrum of conflict, and in the second instance at deterring, controlling, or limiting escalation should conflict occur.

In proposing a given list of principles applicable to deterrence, we recognize that this effort will be tentative at best. Valid principles must be derived from a wide range of collective knowledge representing the experiences, perceptions, studies, analyses, and evaluations of a number of individuals. Moreover, principles of deterrence will change over time and continue to evolve in response to changing military environments, concepts, and technology. This evolution must be a continuing process so that valid basic principles of deterrence can continue to be identified and brought to bear in the process. In light of this, it would appear to be an appropriate and worthwhile endeavor for the Air Force to develop and promulgate principles of deterrence for incorporation in future statements of its basic doctrine (i.e., Air Force Manual 1-1, *United States Air Force Basic Doctrine*). Should that effort be undertaken, the principles discussed here may be of use.

Credibility of Means

The foremost principle of deterrence is that the various elements of national power dedicated to the deterrent task be credible. Of these various elements, the credibility of military means is of paramount importance because the objectives of a strategy of deterrence are achievable only to the extent that they are supported by military power.

Moreover, other instruments of national power that are brought to bear in the deterrence process are effective largely to the degree that they are supported and reinforced by military means. Military means must be broadly capable and encompass a range of deterrent options appropriate to the spectrum of possible conflict. A capability to deter general nuclear war is a fundamental requirement. But nuclear means alone may lack utility as an operative deterrent to certain other forms of warfare adversely impacting on U.S. objectives. To be credible, then, there must be a variety of means, particularly military means, appropriate to the spectrum of U.S. national security interest and objectives. Otherwise the United States could be faced with the hard choice of sacrificing certain interests and objectives or escalating the crisis to a level where it has credible means. When viewed in this light, credibility of means across the spectrum of conflict is an important prerequisite for promoting stability in the deterrent equation. The maintenance of a stable deterrence is a complex and dynamic task in a nuclear world. It requires that credibility of means be continually assessed against technological advances of potential adversaries so that timely stabilizing adjustments can be made.

Credibility of Will

National power is the product of force and will. In a strategy of deterrence the willingness to use national power must be perceived as credible by an adversary. Credibility of will is established in the main through persistent use of appropriate instruments of national power to further national security. In this regard, the will of the United States has been clearly demonstrated over a considerable period of time by its actions in support and defense of its security interests and its allies.

A key aspect of national will is the strength of political will to make the critical decisions when important national interests are at stake. In a crisis affecting national security, political will is the operative subset of national will, and much depends upon the assessments and perceptions of national command authorities as to what needs to be done. To persevere, however, political will requires the backing of a strong national will. It is essential to a strategy of deterrence in

the nuclear age that credibility of will continue to be sustained over time. It is important that the variety of opinions, fissures, and cleavages inherent in and essential to the vitality of an open democratic society not be misconstrued by a potential adversary as the operative index for judging credibility of will. The more important index of credibility of will is the degree of support a nation provides to its military means.

Clarity of Intent

Under conditions of nuclear parity, clarity of intent is a key aspect of a successful deterrent strategy. The most important facet of intent is perception. For deterrence to be successful, opponents must perceive the level of each other's national interest in a given situation and accurately assess their credibility of means and will. In a situation adversely impacting on U.S. national security, the message transmitting U.S. national resolve should be obvious and clearly support stated intent. Only in this manner can a nation be assured that an adversary will correctly perceive its level of interest and interpret its probable actions. It is important for the U.S. to understand the Soviet psychological and ideological framework of interpretation, as the penalty for misreading a major political, economic, or military action could be severe.

Certainty of intent plays a key role across the spectrum of war. Its importance increases as the actual or threatened level of conflict rises. It is paramount that intent be clearly evident as the nuclear threshold is crossed. The reason for and actions pursuant to a given escalatory step should provide evidence of an intent not to let a situation expand uncontrollably. The options open to protagonists at any level of conflict should be visible to all concerned. Deception normally is an operative concept only in a tactical sense in the conduct of war.

Controllability

All elements of national power contributing to deterrence must be controllable by appropriate national command authority across the full

spectrum of conflict. A successful deterrence strategy depends upon the orchestrated use of the proper weight and mix of various elements of national power to achieve national security interests.

Military forces require the highest degree of controllability because of their destructive potential and the attendant risk of rapid escalation. During crisis situations, controllable military forces may be the only adequate means of signaling true national interest and intent to allies and adversaries alike. Should deterrence fail at a given level, the ability to deter unwanted escalation or to influence the outcome would depend heavily upon the controlled use of military force. At the same time, should it be in the national interest to escalate a conflict to achieve an important security objective, precise control of military forces would be essential. In the consideration of nuclear parity and nuclear proliferation, escalation control becomes a key principle in a strategy of deterrence.

Whereas controllability of military forces is fundamental to deterrence of conflict at all levels, it is vital during operations involving limited employment of nuclear weapons. To be usable during crisis situations requiring limited nuclear options, forces need to be completely controllable from conception of the idea and the making of the decision until weapon impact on the designated target and receipt of damage assessment.

CONCLUSION

The capability of the various elements of national power to contribute to the achievement of vital security interests depends largely on their flexibility. In particular, flexible military forces can provide a degree of insurance against the risks and uncertainty associated with accelerating technology that could adversely affect the nuclear balance. For a strategy of deterrence to be successful in such an environment, it must be served by a host of flexible capabilities and options involving all instruments of national power.

The probability of a declining defense purchasing power in the foreseeable future and the increasing cost of technology portend fewer military forces. Therefore, the need for broad applicability of a given

force posture is increasing. Moreover, a modern strategy of deterrence demands that military forces possess sufficient inherent flexibility to counter unforeseen capabilities or technological breakthroughs by an adversary. Finally, military forces must possess the adaptability to be employed passively in a static deterrent role, actively either in crisis-management or war-prevention situations involving allies, and finally in a war-fighting role as the ultimate instrument of national power.

Negotiation

The importance of negotiation as a means of preventing or settling armed conflict has been well established, and under conditions of nuclear parity, negotiation increases in significance. Historically, the results of armed conflict have often been moderated by negotiations between adversaries, either during armed confrontation or immediately thereafter. Vital national security interests can no longer be achieved with assurance through armed conflict, either among superpowers or through their surrogates, without the risk of escalation across the spectrum leading to nuclear war. Should bargaining fail in a given instance and armed conflict result, negotiation becomes even more critical, to offset the possibility of escalation to all-out nuclear proportions.

For a deterrence strategy to succeed, bargaining efforts and the application of the various elements of national power, especially the threat or use of military forces, must be finely orchestrated in a unified effort to achieve a given national security goal. Armed conflict at a given level should be planned and conducted to support negotiation efforts toward a solution while further escalation is being deterred. In the absence of a coordinated effort in support of negotiations by all appropriate levels of national power, substantial diseconomies in financial and human terms are probable; and, more important, vital national security interests may be needlessly placed at risk.

Unity of Effort

Coordinated planning and application of the various elements of national power toward achievement of a common security objective are

essential in a strategy of deterrence. Failing such an objective-oriented approach, inefficiencies are probable, and the possibility of failure increases. In a like manner, U.S. and allied combined efforts toward common security objectives should be closely coordinated to insure maximum effectiveness. It is essential that sufficient military strength be available to undergird the use of other instruments of national power. However, the military element should be subjugated to and closely coordinated with other elements so that objectives can be achieved at the lowest possible social, political, and economic costs.

From a military perspective, two of the most important purposes to be served through unity of effort relate to economy and intent. First, military capabilities of the various services must be planned and acquired to achieve the necessary deterrent posture without regard to current service roles and mission assignments. If this leads to one service dominating the overall force posture because it provides the best capability to deter and if necessary conduct war, then so be it. Second, unified politico-military actions can provide a positive means of conveying true intent in a given crisis situation. As an example, the successful outcome of the Cuban missile crisis was made possible through the unity of effort displayed by the various subelements of the military instrument in harmony with accompanying diplomatic actions.

Economy of Effort

The provision for national security should be at the lowest practical cost. To this end, the most cost-effective elements or combination of elements of national power should be developed and employed to achieve a given security objective. Active U.S. deterrent efforts at the lowest end of the conflict spectrum can often be effectively and efficiently pursued through the orchestrated use of diplomatic, psychological, and economic elements of power. As the threat or level of conflict rises, the military element increases in utility and expense to the point that strategic nuclear forces are essential, regardless of their cost.

Economy of effort is particularly important in the development and employment of military forces in that defense costs comprise 70 percent of "controllable" federal expenditures and are a logical target for

reductions in the face of severe economic constraints. There is a need, then, to insure that force planning is sound and reflects a thorough examination of all relevant alternatives, including active/reserve and U.S./allied force mixes for the essential mission areas. This planning should not be needlessly constrained by current roles and mission assignments. Failing such an approach, unwarranted redundancy and dis-economy will likely result.

Interdependency

As the industrialized countries of the western world become increasingly interdependent, national interests tend to converge and reinforce the need to pursue common security goals. The continuation of this process makes it logical and prudent for the U.S. to broaden and extend the strategy of deterrence to protect mutual national security interests. Successful alliances depend on mutual interests, objectives, and security arrangements, which, in turn, can be fostered through interdependent relationships. The very fact of this mutuality strengthens deterrence. Moreover, the deterrent effect tends to increase with rising interdependence.

NATO is the foremost example of the value of interdependency to deterrence. Interdependency there is essential; no West European nation alone could successfully provide for its own defense. As the member countries have grown increasingly interdependent, the credibility of *their combined means and will to deter war* needs to increase also. It is to the advantage of the United States to capitalize on this phenomenon by encouraging increased economic, political, social, and military cooperation among NATO nations in order to enhance the defensive posture of Western Europe.

Finally, interdependency among the various instruments of national power, including the separate services, is a key factor in a strategy of deterrence. Within this context, interdependency can provide important synergisms in the application of all the principles of deterrence in achieving our national security interests.

STRATEGIC THOUGHT
IN A PERIOD OF CHANGE

In concluding this examination of deterrence, we appropriately note the marked change in the environment out of which U.S. foreign and national security policies are fashioned today. In the two and one-half decades following World War II there was a broadly based domestic consensus supporting unquestioned U.S. military superiority for the roles of containment and deterrence. Now, however, that domestic political and economic foundation has eroded, based in the first instance on a more realistic perception of the nature of the Communist threat and in the second on a recognition that non-Communist nations should share more in the responsibility for deterrence. In the process, containment and deterrence have given way to the concept of stability and deterrence centered on a high order of interdependence of U.S. and allied political, economic, and military capabilities. This interdependence, occasioned by the decline in the relative power position of the United States, is perhaps the preeminent feature of the current environment impacting on military policy and strategy. As a result, the maintenance of deterrence has become a far more subtle and complex task than in the past and will require continuing in-depth study, thought, and analysis by the military.

In the past, doctrine, concepts, and strategy for deterrence were heavily influenced and shaped by strategic thought emanating from the civilian academic community and research institutes. At the same time, military thought, proceeding from a basis of unquestioned U.S. military superiority, was concerned largely with "war fighting" doctrine, concepts, and strategy. Now, however, there appears to be a dearth of strategic thought emerging from the civilian community. Within the military, the twin requirements of stability and deterrence have generated the need for a much broader perspective on the nature of deterrence as it relates to the total spectrum of conflict. It was in recognition of that need that this study on deterrence was undertaken.

PRINCIPLES OF DETERRENCE*

Colonel John M. Collins, USA (Ret)⁺

John L. Sullivan, bareknuckle champion of the world, used to boast, "I can whip any sonofabitch in the house," but he met his match in the back room of a Boston bar when a bookkeeper called his bluff.

"How did you beat him?" customers clamored.

"Simple," said the accountant. "I led with Pawn to Queen Four."

Every kind of competition, you see, has its own canons. Force cannot succeed if the rules call for fraud or finesse. That dichotomy causes great difficulty for U.S. decisionmakers, who pay lip service to Principles of War, but have failed to enumerate Principles of Deterrence, which are quite different.¹ The whole field of deterrent theory in fact has lain fallow since the early 1960s, when the last seminal studies on the subject appeared.²

Accordingly, this country still lacks any systematic way to shape schemes for nuclear deterrence, which has been our dominant national security objective for nearly 35 years. Precepts for preventing conventional conflicts and insurgencies have been similarly plagued since the 1960s, when it first became apparent that even limited strife with the Soviet Union, its clients, or other associates conceivably could skyrocket beyond U.S. control.

A checklist of principles therefore could serve a practical purpose, if consciously considered by senior U.S. strategists who prepare and implement concepts.

DETERRENT GOALS

Deterrence is a strategy for peace, not war, designed primarily to persuade opponents that aggression of any kind is the least attractive

* *Air University Review*, Vol. XXXI, No. 1, November-December 1979, pp. 17-26. See Appendix A for permission to reprint.

⁺ See Appendix B for biographical sketch.

of all alternatives.³

Preventive powers ideally should protect principal protagonists and partners across the entire spectrum of political, economic, technological, social, paramilitary, and military warfare, preferably before conflict occurs, but during its conduct if required to contain escalation and conclude hostilities on acceptable terms. (See Figure 1.)

<u>Time to Deter</u>	<u>Deterrant Target</u>
<i>Prewar</i>	Military conflict Strategic nuclear general limited Theater nuclear Conventional global regional Insurgency Nonmilitary conflict political warfare economic warfare technological warfare Blackmail military nonmilitary
<i>Intrawar</i>	Escalation Increased scope Increased intensity

Figure 1. Categories of conflict

Secondary applications seek to discourage friends and the unaffiliated from pursuing courses of action that would impact adversely on important programs or plans. Allies, for example, sometimes switch sides unless incentives to the contrary convince them otherwise. They also can start wars that run counter to the interests of consorts or expand conflicts that confederates try to confine. A fifth Arab-Israeli conflict, for example, could have far-reaching economic (or even military) consequences of a negative nature for the United States, if triggered by Tel Aviv.

CONFLICT CAUSE

Deterrant concepts and supporting postures must take constant cognizance of war-causing conditions. Combinations that counter one set successfully collapse when confronted with others. (See Figure 2.)⁴

Conditions to Deter	Cause of Deterrent Collapse
Preemptive war Preventive war	Deterrent becoming too strong
Enemy optimism Calculated risks	Deterrent too weak
Miscalculation Accidental war Catalytic war Irrational acts	Deterrent's strength irrelevant

Figure 2. Causes of conflict

Preemptive and preventive armed conflicts of traditional types can transpire because the deterring power is becoming too strong. Deterrees attack while present advantages still permit or to preclude a position that portends unacceptable peril. Combat can also occur when deterrent powers are too weak, if they inspire undue optimism on the part of opponents or encourage enemy inclinations to accept calculated risks.

Dangers double when some deterrent components are shaky and others simultaneously are impressively strong. The situation in Central Europe serves as one illustration.

Soviet tanks very likely will lose leverage in the early-to-mid-1980s, when NATO's precision-guided munitions are perfected and the next generation of antitank missiles solves technological problems that presently reduce effectiveness in forests, smoke, and fog. Moscow must decide whether to use its highly touted force preemptively, before being figuratively outflanked, or forfeit the politico-military benefits that massed armor now provides. Two corollary factors could encourage the Kremlin to make such a change: NATO's continued lack of any shield against ballistic missiles and king-sized loopholes in battlefield air defense.

Strength or weakness is almost inconsequential when it comes to scotching most enemy miscalculations, accidents, irrational acts, and catalytic collisions touched off intentionally by third countries. Such catastrophes can occur under any condition at any plateau in the conflict spectrum.

DETERRENT PROPERTIES

Deterrence induces powers to dissuade, not coerce or compel. Psychological pressure is its prime property; opposing intentions are its principal target. Rival capacities remain physically untouched.⁵

Three characteristics are clearly quintessential: threats of punishment or promises of reward, connected capabilities, and unqualified inclinations to carry through in the clutch.

Precisely what makes any deterrent ploy fare effectively or founder is difficult to prove, but one conclusion is certain: concepts that work well in particular circumstances will not work at all in others. (See Figure 3.)

Deed to be deterred	Primary Deterrent Properties*			
	Persuasive power	Capabilities	Intentions	Principal applicant
Armed external aggression <i>Strategic nuclear war</i> <i>Theater nuclear war</i> <i>Conventional war</i>	Punishment	Military	Fight	Imperiled power and/or partners
Insurgency	Reward	Nonmilitary	Counter causes of domestic discontent	Imperiled power
Unarmed external aggression <i>Political coercion</i> <i>Economic coercion</i> <i>Technological attack</i>	Dealer's Choice			Imperiled power and/or partners

*Deterrent properties usually consist of combinations. This summary stresses typical primary inputs.

Figure 3. Deterrent properties delineated.

Fear of punishment, not promise of reward, is most likely to keep foreign armed forces from riding roughshod. Military power is especially persuasive when coupled with clear intent to inflict frightful wounds if attackers leave no alternative. Partners can amplify the deterrent potential of directly imperiled principals.

Revolutions arising from dissatisfaction with domestic deficiencies demand a different approach to deterrence. Armed services and

police can stifle subversion for some unspecified period, particularly in closed societies, but positive steps to improve the people's life-style provide a better solution.⁶ Allies may advise, and perhaps help maintain, a military shield behind which political, economic, and social programs can prosper, but local leaders in the long run must sink or swim on their own.

Whether carrots, sticks, or some mixture would most likely discourage undesirable nonmilitary deeds depends on a complex skein of interrelationships between deterrer and deterree. Muscle and other manifestations of material might are by no means the only measure.

Take crippling embargoes as one case in point. Targeted parties might deter such aggression by threatening to seize stocks from tormentors, if they possessed sufficient military strength and the commodities concerned were nonperishable metals, like titanium. Counter-sanctions serve well as preventives when each side possesses supplies essential to the other and outside sources are insufficient or can be stopped.

Neither precondition would prevail, however, if Persian Gulf petroleum producers put pressure on the United States by turning off their taps. U.S. force could easily defeat indigenous defenders while seizing oil fields, but success would produce a Pyrrhic victory if saboteurs smashed facilities or set them on fire in the process. Promised punishment, in that perspective, would lose a lot of "pizzazz." So would economic sanctions, since the countries concerned need U.S. goods and services less than we need oil. Enticement probably would appear more attractive than intimidation for deterrent purposes, if such problems really arose.

PRINCIPLES OF DETERRENCE

Principles of War, as tools for tacticians and strategists, have been tested for 30 centuries.⁷ Principles of Deterrence proposed in these pages are predicated on unproven theories developed during the past 30 years.

Precepts in those two categories overlap in some instances and are opposites in others. (See Figure 4.) The Principle of Objective

(sometimes called Purpose) is implicitly shared but does not show on the deterrent side, since the preventive aim is self-evident. Neither do Unity of Command and Simplicity, which could be included on both lists.

Principles of Deterrence	Principles of War*
Preparedness	Objective
Nonprovocation	Offensive
Prudence	Mass
Publicity	Economy of Force
Credibility	Maneuver
Uncertainty	Unity of Command
Paradox	Security
Independence	Surprise
Change	Simplicity
	Flexibility

*U.S. Principles of War are shown for comparative purposes. The Navy and Air Force substitute Cooperation of Command for Unity of Command. Principles espoused by other countries differ substantially in some instances.

Note: Arrangement of the two lists is unrelated.

Figure 4. Principles of Deterrence Compared with Principles of War

All other Principles of Deterrence are different. The following sequence of presentation was selected to silhouette interdependence, not priorities: preparedness, nonprovocation, prudence, publicity, credibility, uncertainty, paradox, independence, change, and flexibility.

None of those norms are immutable, like Bernoullian numbers and Boyle's law of gases, where conditions and conclusions are solidly linked. Not every principle is appropriate for every occasion, and a few in fact conflict.

Still, Principles of Deterrence can serve as a capital checklist to assist sound judgment by architects and appraisers of national security concepts and plans. Users simply should recognize that no two requirements are quite alike and apply the list accordingly.

Principles of Program Success

Nothing encourages power grabbers or opportunists quite as conclusively as prospective opponents with their guards down. Perpetual preparedness is one price of peace.

Aggressors who choose the time, place, and initial character of conflict can tolerate low force levels and lax readiness standards until the time comes to strike. No such luxury is allowable in target countries that are open to sneak attacks. Long-range plans and programs, however impressive, provide a poor deterrent if they spurn incremental improvements in present posture while waiting for seven-league strides.⁸

U.S. strategists have been blind to the Principle of Preparedness for approximately 200 years. The country has escaped unscathed thus far, but its citizens have not. The "Battered Bastards of Bataan," for example, spilled their blood to buy time while we "pulled ourselves up by our bootstraps" early in World War II. Maimed veterans and tombstones in national cemeteries bear mute testimony to many other instances.

Minor lapses in preventive measures might be merely unfortunate even today, but major ones may prove fatal.

Principle of Nonprovocation

Preventive and preemptive wars are instigated deliberately because national decisionmakers believe that war now is preferable to war later. Differences deal mainly with degrees of premeditation. Preventive wars result from long-range planning. Preemptive wars are triggered on the spur of the moment, to attenuate the effects of imminent enemy attack.

The Principle of Nonprovocation, which promotes stability, dampens those proclivities, but deterrent strategists have much more latitude than is generally realized because not all pugnacious postures prompt enemy attacks. "Anticipatory retaliation," as a rule of thumb, rarely occurs unless chances of success exceed penalties for failure.

Preventive strikes against the Soviet Union were a popular subject for public contemplation by many of America's senior military men and civilian scholars during dark days in the 1950s, when Moscow was amassing assured destruction capabilities against the United States.⁹ The Soviets, however, sweat it out because the practical balance of nuclear power left them little to gain and everything to lose from preemption.

Insecure forces that must strike first or face ruin create truly desperate dangers that deterrence may fail. They tempt opponents to take a chance on preemption or compel possessors to beat foes to the draw if they believe their position is becoming too precarious.¹⁰

Principle of Prudence

Sound deterrence confronts foes with irrefutable indications that net gains will be less or net losses more than they could expect by refraining from some given move. Maximizing the enemy's expected costs, however, may not always be consistent with minimizing dangers on the friendly side if,¹¹ for any reason, preventive steps should fail.¹²

The Principle of Prudence, a close counterpart of the Principle of War called Security, introduces discretion into deterrent strategy.

Some theorists contend that deterrence and defense occasionally are incompatible. U.S. assured destruction concepts rely entirely on powers to pulverize aggressors with a second strike, not protect ourselves, on the premise that mutual vulnerability best preserves the peace by making survival impossible in a full-scale U.S./Soviet war.

Skeptics score conclusions of that sort for being oversimplistic. They subscribe to the assumption that no standoff is eternally certain.¹³ Deterrence and defense should consistently be seen as inseparable, since one disputant or another will always find a way to shift the strategic balance in his favor.

The Principle of Prudence is bound to neither brief. It simply states that any strategy which cleaves to deterrent concepts that exclude defense should be subject to close scrutiny.

Principle of Publicity

Neither fear of punishment nor promise of reward is possible if the deterring power keeps its capabilities a secret. That requirement is directly contrapuntal to the Principle of War called Surprise.

Deterrers must, therefore, make important decisions concerning *what* intentions and capabilities they should communicate to deterrees, and *how* they should seek to get the message through.¹⁴

Selecting proper courses from the smorgasbord of options is a complex process. Incentives can be conveyed directly or indirectly, verbally or nonverbally, officially or unofficially, formally or informally, explicitly or implicitly, publicly or privately, clearly or ambiguously. Terms can be general or specific. Representations can be relayed once or repeated.

Each choice has intrinsic strengths and weaknesses. Official pronouncements, deliberately prepared and delivered by top political dignitaries in some formal forum, for example, generally carry greater weight than off-the-cuff pronouncements at press conferences. Correspondence leaked at lower levels, without clear links to key leaders, leaves greater latitude for give and take, but the impact in turn will very likely be less pronounced. Public speeches that commit a country's prestige commonly provide a more potent deterrent than pledges made in private. Demonstrations are more convincing than dialogue.

The mission in each case is to fashion the best balance between deteree's belief and deterrer's flexibility.

Priority in Credibility

Prospects of reward or punishment serve deterrent purposes if the likelihood that they would be applied appears plausible. Credibility increases that prospect from possible to probable in the opinion of opponents, *provided* incentives are neither insufficient nor too intense.¹⁵

Persuasive powers, as a general rule, expand in direct proportion to pressures employed, until they reach some unspecified point beyond which potential brickbats or benefits begin to strain belief.

The United States, for example, once counted on threats of massive nuclear retaliation as a cure-all for low-level conflicts, but that simplistic strategy, calculated to get a "bigger bang for each buck," was bankrupt from the beginning. Opponents who specialized in psychological warfare, subversion, and insurgency scored consistently without tripping nuclear triggers. Our promised response was simply out of proportion to piecemeal provocations.

The dearth of homeland defense makes U.S. assured destruction capabilities a dubious deterrent today against any Soviet sin short of full-scale nuclear strikes on U.S. cities, despite contrary contentions by Defense Secretary Harold Brown.¹⁶ Historical precedents suggest that survival of the state surpasses all other priorities. Threats that risk suicide for anything less strain credibility. The Code of *Bushido*, which caused Japanese soldiers to cast themselves into the sea rather than surrender at Saipan, worked well at the lowest level. It became barren,

however, when one nuclear bomb burst over Hiroshima and another over Nagasaki, because national survival, not personal safety, was at issue.

Principle of Uncertainty

Uncertainty is the fallback position if credibility flags or fails. Deterrence then depends primarily on deterree doubts concerning all kinds of complications.¹⁷

Subjective and changeable states of mind called intentions are obvious sources of uncertainty. They make the input of opponents and interested third (fourth and fifth) parties perilous or impossible to predict. Unanswered questions about capabilities on either side can also give deterrees pause, particularly when imponderables could create critical gaps between expectations and performance. A successful Soviet first strike against U.S. "sitting duck" missiles in silos, for example, may soon be duck soup from a technical standpoint, but any decision to shoot would still be difficult because the Kremlin could never be sure its systems would work precisely as planned or that we would not launch on warning.

Bluster can sometimes cause opponents to back off, but it's risky business even for professionals. Habitual bluff as a substitute for solid abilities is a born loser; so is deterrence that bans bluff under any conditions. The best combination inspires and intensifies doubts on a selective basis.¹⁸

The "rationality of irrationality" comes into play when deterrent strategists consciously strive to strengthen uncertainty with promises of punishment or reward that would cost dearly if they had to implement them.¹⁹ Unequivocal commitments coupled with automatic responses are fairly common. Feigned lunacy can lend credibility to illogical concepts that leave national leaders little choice when the chips are down. A recent track record spotted with unpredictable acts makes madness even more plausible.

Fatal consequences, however, are the possible penalty for failure. Conflict is sure to occur if *both* sides press brinkmanship to its limits in attempts to drive hard bargains, believing the other will back down.²⁰

Principle of Balance

Peace, paradoxically, can occasionally be best assured by war, if drawing the line in one place forestalls evil elsewhere.

"Active" deterrence to prevent future wars or expansion of conflicts in progress often discourages overconfidence in foes and keeps friends from becoming disheartened. President Truman had that in mind when he chose to fight for Korea in 1950.²¹

President Johnson took a solid stand in Southeast Asia during the next decade, partly to prevent the so-called domino theory from taking an unpredictable toll. Failure to follow through effectively when the showdown came suggests that his fears were well-founded: the Soviet Union and its proxies still encourage, sponsor, and support subversive insurgencies around the world, with promise of success at a price they are willing to pay.

There is an additional paradox: the deterrent value of defending any objective may vary inversely with its intrinsic importance to the offended party. Determined response to aggression where low-level interests are involved often suggests to foes that further efforts would be unprofitable.²²

Payoffs are most impressive when active response shows opponents that they stand to lose by being belligerent, not just break even when compelled to stop. There is, however, a final paradox. The use of armed force or other coercive power may achieve future deterrent ends, *even if it fails*, provided steps taken inform foes that ill-gotten gains from aggression will incur excessive expense.

Principle of Independence

Collective security systems are centered on common interests. Allies and associates strengthen deterrence as long as so doing serves important purposes of the partners concerned. When shared incentives cease, so do coalitions. Affiliates, in fact, sometimes touch off troubles instead of constrain them. Consequently, no country should count on cooperation under all conditions.

Many NATO members preached patience and moderation when massive retaliation first surfaced as America's deterrent doctrine, fearing that

impulsive employment of nuclear weapons would lay waste to the lands they yearned to preserve. Those apprehensions turned inside out when Soviet abilities to strike U.S. territory startled the western world. French President Charles de Gaulle, anticipating that event, formulated the force de frappe in the 1950s precisely because he suspected that the United States would scarcely sacrifice its cities in a nuclear exchange to save NATO Europe from a Soviet assault.²³

Any deterrent plan or program that depends on cooperation by competitors probably is doomed to fail. That truth seems self-evident, but wooly-minded wishful thinking may replace pragmatism in the most enlightened societies.

The dogma of mutual assured destruction, for example, makes long-term common sense only if *both* sides subscribe to the concept, which is not the case. U.S. and Soviet vulnerabilities seem much less mutual than they did in the last decade. A gap of disputed proportions grows because Soviet leaders promote protection for their people and production base while U.S. leaders do not.

Principle of Change

Strategists who stamp deterrent plans "complete" and stash them on the shelf are asking for unpleasant surprises.

Approaches that produced success in the past should not be transferred from one time period to another without very precise appreciation for changes taking place in the interim. Concepts and supporting force postures are just as tough to transplant from place to place, unless the situation in one locale is pertinent to the others.

Take the case of tactical nuclear weapons, which were practical U.S. tools when first deployed in the 1950s. Assorted U.S. delivery systems were specifically designed for carefully controlled counterforce combat in congested Central Europe, where collateral damage and casualties are a crucial concern.

Their deterrent value, however, depends on abilities to use them effectively at acceptable costs. Massive retaliation could still clamp a lid on local escalation in the 1950s but would cripple our unprotected society if we "pulled the plug" today.

Credibility, therefore, declined dramatically as soon as U.S. big bombs and missiles became decoupled. NATO in the new environment has little to gain and much to lose if it has to unleash the theater nuclear genie. War would take place largely on its home territory. Soviet saturation attacks could be expected in the heat of battle. So could fall-out from surface bursts, against which the Warsaw Pact is better protected than Western Europe. Soviet strikes against ports, airfields, supply points, and command centers could be executed surgically with emerging missiles, like MIRVed SS-20s.

Talk about tactical nuclear options as a substitute for conventional strength thus is much less convincing than it was many years ago.

Principle of Flexibility

Preferred concepts and capabilities, however fruitful they seem, may prove fallible.²⁴ The Principle of Flexibility, therefore, fosters optional solutions to important problems and acts as a beacon to strategists bent on putting too many eggs in any deterrent basket.²⁵

Bear in mind that Tyrannosaurus rex, the most menacing monster the world has ever seen, was a victim of overspecialization. His only known survivors are found in museums.

STRATEGY, in some respects, is like research and development. Phase I in each case produces basic theories and concepts. Phase II, which applies those tools to practical problems, falls flat if Phase I fizzles.

Security specialists in the United States need easy access to fundamentals that could assist their search for faultless deterrence across the conflict spectrum. This compilation of principles, which provides nothing new except the package, seeks to simplify their quest.

Alexandria, Virginia

Notes

1. Six colonels in a study group formed by the Air Force Chief of Staff [compiled what is evidently] the only public list of deterrent principles. Their product was published in Colonel Robert E. Reed, "On Deterrence: A Broadened Perspective," *Air University Review*, May-June 1975, pp. 2-17.

Collaborators included Colonels Stuart W. Bowen, Robert W. Kennedy, William H. L. (Moon) Mullins, John L. Piotrowski, and Leonard J. Siegert.

2. Sources for this essay depend primarily on the works of writers who expounded deterrent concepts during the nascence of U.S. nuclear strategy, as most of the other footnotes will show.

3. Types of deterrence, tailored to achieve different purposes, are discussed by Herman Kahn in *On Thermonuclear War* (Princeton, New Jersey: Princeton University Press, 1960), pp. 285-87; *The Politics of the Uncertain* (New York: Horizon Press, 1962), pp. 111-16, 122-23, 158; and *On Escalation: Metaphors and Realities* (New York: Praeger, 1965), pp. 281-84.

4. Geoffrey Blainey, *The Causes of War* (New York: The Free Press, 1973), p. 278, probes problems of peace. See also *The Future of Conflict*, edited by John J. McIntyre (Washington: National Defense University Press, 1979), 186 pages.

5. Several studies summarize the essence of deterrence. See especially Y. Harkabi, *Nuclear War and Nuclear Peace, 1963* (Jerusalem: Israel Program for Scientific Translations, 1966), pp. 9-40, 124-33; Morton A. Kaplan, "The Calculus of Deterrence," *World Politics*, October 1958, pp. 20-44; William W. Kaufmann, "The Requirements of Deterrence," a chapter in *Military Policy and National Security*, edited by Kaufmann (Princeton, New Jersey: Princeton University Press, 1956), pp. 12-38; Glenn H. Snyder, *Deterrence and Defense: Toward a Theory of National Security* (Princeton, New Jersey: Princeton University Press, 1961), pp. 3-51.

6. Deterrent concepts open to counterinsurgents during the incubation stage of any insurrection are enumerated by David Galula in *Counterinsurgency Warfare: Theory and Practice* (New York: Praeger, 1964). See especially pp. 64-69.

7. Principles of War are presented in John M. Collins, *Grand Strategy: Principles and Practices* (Annapolis, Maryland: U.S. Naval Institute Press, 1973), pp. 22-28.

8. Henry A. Kissinger, *The Necessity for Choice* (New York: Doubleday and Company, Inc., 1962), p. 26.

9. Successive U.S. presidents professed a second-strike policy in the 1950s, but "Nuke the Russians before they nuke us" was a popular slogan among many admirals and generals. Astute civilians published serious studies of the subject. See, for example, Samuel P. Huntington, "To Choose Peace or War: Is There a Place for Preventive War in American Policy?" U.S. Naval Institute *Proceedings*, April 1957, pp. 359-69.

10. Thomas C. Schelling describes the "Dynamics of Mutual Alarm" in Chapter 6 of *Arms and Influence* (New Haven, Connecticut: Yale University Press, 1966), especially pp. 224-48.

11. Mathematical models of cost-gain ratios are displayed and discussed in Glenn H. Snyder, *Deterrence and Defense*, pp. 16-24.

12. U.S. Admiral J. C. Wylie, seeking to set the foundations for a general theory of strategy, started with four assumptions. The first was cited as follows: "Despite whatever efforts there may be to prevent it, there may be war." *Military Strategy* (New Brunswick, New Jersey: Rutgers University Press, 1967), pp. 78-79.

13. Herman Kahn forecast unfortunate consequences if any U.S. president "convinces the Soviets that he means what he says when he says that 'war is preposterous.' I suspect that many in the West are guilty of the worst kind of wishful thinking when, in discussing deterrence, they identify the unpleasant with the impossible." *On Thermonuclear War*, p. 286.

14. Y. Harkabi devotes Chapter 9 in *Nuclear War and Nuclear Peace* to "Communication of the Threat," pp. 124-31. His coverage concerns nuclear deterrence, but principles apply equally to other preventive concepts. Many examples are contained in Chapter 5, "Declaratory Policy and Force Demonstrations," of Snyder's *Deterrence and Defense*, pp. 239-58.

15. Harkabi summarizes the essence of credibility in *Nuclear War and Nuclear Peace*, pp. 28-35: "For a threat to deter it must be credible, but not every credible threat deters.... As the threat of punishment increases in severity or violence, its deterrent value will grow.... As the threat increases in severity, the feasibility of its implementation will decrease.... Thus, as the threat of violence increases, its credibility decreases."

16. Defense Secretary Harold Brown, testifying before the Senate Foreign Relations Committee, indirectly refuted recent statements by former Secretary of State Henry A. Kissinger, who told NATO allies they should not count unequivocally on a U.S. "nuclear umbrella." Brown declared that massive retaliation remains a realistic option, despite risks to U.S. territory, because defeat in Western Europe would directly threaten U.S. "vital interest." Robert G. Kaiser, "'Door Open' to Boost Defense Spending in '80s, Brown Says," *Washington Post*, September 20, 1979, p. A-2.

17. Herman Kahn christened uncertainty "the residual fear of war" in *Thinking about the Unthinkable*, p. 129. Kissinger expanded on that perspective in *Necessity for Choice*, pp. 53-58. "The threat that leaves something to chance" occupies a full chapter in Thomas Schelling's treatise on *The Strategy of Conflict* (Cambridge, Massachusetts: Harvard University Press, 1960), pp. 187-203.

18. John McDonald plumbed the business of bluffing in *Strategy in Poker, Business, and War* (New York: W. W. Norton & Company, Inc., 1950), pp. 28-34, 70-74.

19. Herman Kahn describes "the rationality of irrationality" in *On Thermonuclear War*, pp. 6-7, 24-27.

20. Bertrand Russell postulates that if one party were willing to run great risks and the other was not, the former would win every war of nerves. "We are, therefore, faced, quite inevitably, with the choice between brinkmanship and surrender." He explores that theme in *Common Sense and Nuclear Warfare* (New York: Simon and Schuster, 1959), pp. 30-31.

21. President Truman, for example, "let it be known that we considered the Korean situation vital as a symbol of strength and determination of the West. Firmness now would be the only way to deter new actions in other parts of the world." Harry S. Truman, *Years of Trial and Hope* (New York: Doubleday and Company, 1956), pp. 339-40.

22. Snyder discusses active deterrence in a section entitled "Strategic Value and Deterrent Value," *Deterrence and Defense*, pp. 33-40.

23. General Charles de Gaulle, *Discours et Messages*, Tome 2 (Paris: Plon), pp. 524-25.

24. "The player who plans for only one strategy runs a great risk simply because his opponent soon detects...and counters it. The requirement is for a spectrum of strategies that...by intent and design can be applied in unforeseen situations. Planning for uncertainty is not as dangerous as it might seem; there is, after all, some order" in human affairs. "Planning for certitude," however, "is the greatest of all... mistakes." J. C. Wylie, *Military Strategy*, p. 85.

25. U.S. strategists inexplicably exclude Flexibility from the Principles of War and pay fearsome penalties. Figure 4 shows Flexibility on that list as well as with Principles of Deterrence to indicate the desired overlap.

PRINCIPLES DON'T DETER, FIGHT BATTLES, OR WIN WARS^{*}

Lieutenant Colonel Michael B. Seaton, USAF[†]

If deterrence of nuclear war were the United States' dominant national security objective, as Colonel Collins asserts in the opening of his "Principles of Deterrence" in the November-December 1979 *Air University Review*,¹ then nuclear war avoidance for the U.S. could simply be a matter of surrender when a belligerent state such as the USSR credibly threatened nuclear attack. Instead, the dominant national security objective of the U.S. is preservation of our way of life and preservation of freedom of choice of life styles among other free people of the world.

We must not confuse national security objectives with the policies and strategies designed to achieve those objectives, lest pursuit of the policy become the objective. *Although it is not yet clear that we should codify a body of knowledge called Principles of Deterrence*, any such potential codification must have the *objective* as its first principle. The preventive aim of a national security strategy is not always *self-evident*, as suggested by Colonel Collins' own Principle of Change.

It may just be that Colonel Collins is attempting to create principles of deterrence out of erudite principles of war which, by their depth and diversity, defy codification. Bernard Brodie points out in his *War and Politics* that:

Although Clausewitz himself frequently speaks loosely of certain "principles" to be observed and followed--he could hardly do otherwise than seek to establish certain generalizations at least in his analytical works--*he specifically rejected the notion that there could be any well-defined body of particular rules or principles that universally dictates one form of behavior rather than another.* [Emphasis supplied.]

. . .

Clausewitz would have been appalled at [attempts to encapsulate centuries of experience and volumes of reflection into a few tersely worded and usually numbered principles

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[†] See Appendix B for biographical sketch.

of war] and not surprised at some of the terrible blunders that have been made in the name of those *principles*.²

Brodie, Collins, and the views of the "six man group" notwithstanding, we do feel a free exchange of views on national security strategy in general and military strategy in particular to be a worthwhile endeavor. "Fire Counter Fire" is an excellent forum for this exchange and we can begin with Colonel Collins' Conflict Cause.

Conflict Cause

Over-concern or, in Colonel Collins' words, "constant cognizance of war-causing conditions" may in fact lead political and military leaders away from the manipulable causes of war and particularly the manipulable causes of conflict at the lower end of the conflict spectrum. Herman Kahn's concern, for example, about the "deterrent becoming too strong" thereby inviting preventive or preemptive war seems an improbable proposition in the modern era.³ A preemptive nuclear strike, showing preference for a "fearful end rather than endless fear," hardly seems an operative construct in an era of mutual assured destruction and rational leadership.⁴ Saving the nation from fear by destroying it is both irrational and the limit of escalation. Perhaps Morgenthau was but half-right about the necessity for a balance of power due to the absence of a final arbiter with enforcement power. We must ask ourselves if nuclear mutual assured destruction just might be the modern Petronian construct. *Is the medium the message?* Nuclear proliferation may be evidence that modern states view possession of nuclear weapons as the ultimate guarantor of security. Might we have been wrong about nuclear proliferation? Might proliferation make conflict--any conflict--less likely out of fear of the consequences?

Deterrent Properties

With regard to Colonel Collins' properties of deterrence, we would do well to remember that *theories* do not persuade, dissuade, coerce, or compel. Whether individual or governmental, the calculations of risks, gains, and losses determine the persuasiveness of ideas. Deterrence is

a theory, "a theory of the skillful nonuse of military forces."⁵ Schelling in 1963, and Brodie ten years later, questioned whether the military services were intellectually prepared to exploit the *threat* of force. Military men are well prepared today to effectively employ military capabilities in combat to defeat the enemy on the battlefield. And, as Colonel (now Brigadier General) Robert H. Reed stated in 1975, supporting military strategies and concepts have been developed to exploit the inherent capabilities of aerospace forces across the spectrum of deterrence.⁶ However, *exploitation of threats made or implied are not the domain of military leadership.*

The political leadership bears responsibility for exploitation of whatever persuasive power accrues from extant or claimed military capabilities. Clausewitz would very likely have made just such a point were he a participant in today's deterrence debate. Perception by adversaries that we are *unqualified* in our inclination to carry through when the going gets tough is quintessential, as Colonel Collins asserts,⁷ for anything less invites testing, probing, exploitation--failure of deterrence. The absence of *unqualified* will coupled with political leadership retreat from exploitation of U.S. strengths is precisely the reason we find ourselves with an unraveling mess like Southwest Asia on our hands. It was not the *absence* of United States *capabilities to fight* in Southwest Asia that led to the present morass there, but rather the *Soviet political leadership's calculation of gains and losses* based on their perception of what the U.S. would do about it--not could do about it. Soviet leadership perception had been shaped by U.S. inactions following Angola, Ethiopia, Yemen, and even the murder of a U.S. ambassador in Afghanistan earlier. General William C. Westmoreland characterized the Soviet's Afghanistan calculus well: "The leaders evidently concluded that the political needs outweighed the military costs."⁸ This evidence of cold Soviet calculus should lead us to further examine Colonel Collins' Figure 3, "Deterrent properties delineated."

I would redraft Colonel Collins' Figure 3 as shown here. My differences are in italics.

Some brief descriptions of our differences may be useful. First, I do not believe that reward is a viable persuasive element in situations

potentially may never deter me from executing the invasion. If, however, you make it clear that you will forthrightly seek to deny me the goals I seek from the invasion, that introduces uncertainty into my ledger. Although an abstraction, the level of my uncertainty may just be proportional to my perception of your goal-denial capabilities and your willingness to use them. Although Colonel Collins does not differentiate armed external aggression below the level of conventional war but above the level of insurgency as a "Deed to be deterred," presumably such is the case.

Second, the "Primary Deterrent Properties"--persuasive capabilities--include military power employable throughout the conflict spectrum. A range of capabilities is required for effective deterrence. Both the muscle and the supporting options, strategies, and concepts are required for effective deterrence. We have always been long on military muscle but short on innovative and effective options, strategies, and concepts for deployment/employment of that muscle *which were perceived by U.S. political leaders as relevant to the various crises at hand*. Colonel Reed argued in 1975 that "military strategy [needed to] be brought into a much closer relationship with policies and strategies for use of all other elements of national power."⁹ The Rapid Deployment Force is one such concept; many others are needed. For example, we need a near real time options development system to supplement the Joint Operations Planning System within the JCS and the unified and specified commands capable of tailoring military options in crises to National Command Authority specifications. Such a capability would provide a giant stride toward Colonel Reed's objective. Another concept might be to put terminally guided *conventional* warheads on selected intercontinental ballistic boosters. Yet another might be the exploitation of mechanisms for non-lethal interference with enemy military command, control, or diplomatic communications.

Third, a deterrent property missing from Colonel Collins' Figure 3, under "Intentions," is the intention to not only fight, but to *win*. Conventional, nonmilitary, academic wisdom has rejected the notion of winning, and one has to ponder just how far this idea has receded even from the military consciousness. *In deterrence, as in war, there is no substitute*

for victory, and declaring that one's intentions lie in victory will enhance deterrence!

Finally, our redraft would add actions causing detente failure as "Deeds to be deterred." Only in this regime do rewards or the promise of rewards seem viable persuasive constructs. An adaptation of Schelling's *compellence* may provide an operative framework for the idea that rewards, as positive motivators of behavior, can be continuously applied until the other side acts to break off the reasons or incentives for reward.

President Carter's actions to deal with the Soviet Afghanistan invasion apparently follow such an adaptation despite administration spokesmen using terms like *punitive* to describe U.S. retaliatory actions. Deputy Secretary of State Warren M. Christopher recently characterized President Carter's initiatives as designed to show the Soviets that their intervention carries "considerable costs to them and that similar aggression in the future will bring 'very severe' penalties."¹⁰ Secretary Christopher also said that former President Johnson's administration made a mistake in not taking long-term punitive action against the Soviets for their invasion of Czechoslovakia in 1968. One of the lessons coming out of that crisis, Secretary Christopher said, is "that the response needs to be determined and of considerable duration."¹¹

Indeed. The Soviets *knew* their interventions in Angola, Ethiopia, South Yemen, and Afghanistan would carry costs. Having concluded their profits exceeded the costs, they took action. In my judgment, the dominant factor in the Soviet calculus was their perception that the U.S. would elect to opt out. Did the Soviets miscalculate?

At this juncture, the only way the United States could deny the Soviets their goals in Afghanistan would be for the U.S. to order *or sponsor* its own intervention for the purpose of direct combat with Soviet troops. Such action might be untenable for the U.S.--at least the Soviets are probably counting on the U.S. to figure it that way. President Carter's deadline of 20 February 1980 for withdrawal of all foreign troops from Afghanistan is, at this writing, still a month away, but Soviet troops will still be there when this appears in print unless the U.S. and its allies are willing to raise the ante well above that already announced.

But what of the longer term? If former President Johnson should have taken determined and long-duration action 12 years ago, are deterrent principles suddenly now apparent that were not foreseen a decade ago? I don't think so. I think Colonel Collins is correct in asserting that none of the principle norms are immutable, for vital national interests are not black and white, but various--often indistinguishable--shades of gray. It is the job of the Executive Branch to illuminate the gradations for the purpose of designing actions to preserve, protect, and defend the vital national interests of the United States. Such illumination is fundamental and must precede policy, strategy, and tactics designed to achieve the objectives. President Carter, in his State of the Union address, illuminated the fact that Afghanistan was peripheral but the Persian Gulf vital to U.S. interests. It should surprise no one therefore that the Soviet troops will remain in Afghanistan.

In reflection, I have talked little here about principles of deterrence per se, but rather focused on deterrent properties and theory. Perhaps this means that the dialog is the most important thing Colonel Collins has sparked. Clausewitz would surely agree.

Strategy *is* a bit like research and development, but doesn't R&D begin with a requirement?

Santa Monica, California

Notes

1. Colonel John M. Collins, (USA, Ret), "Principles of Deterrence," *Air University Review*, vol. XXXI, No. 1, November-December 1979, pp. 17-26.

2. Bernard Brodie, *War and Politics*, MacMillan Publishing Co., New York, N.Y., 1973, p. 446. Also treated in *Strategy in the Missile Age*, Princeton University Press, 1959, pp. 21-33. To further quote Brodie is illuminating--up to a point:

In short, the catalog of principles (of war) must be recognized for what it is, which is a device intended to circumvent the need for months or years of study or rumination on a very difficult subject, presented mostly in the form of military and political history and the "lessons" that may be justly derived therefrom. [p. 448]

One begins to wonder, however, about the wisdom of quoting Brodie, for, in the next sentence, he states:

However, it has to be added that in the training of the modern officer, such study and rumination are not allowed for, either at the staff college level or the war college. It takes too much time, and it also takes analytical and reflective qualities of mind that are not commonly found either among student officers or among their instructors.

Mr. Brodie surely cannot have so summarily dismissed the possibility that many officers undertake analytical and reflective thinking on their own initiative as a vital part of their professional development--to wit, the "Fire Counter Fire" column of the *Air University Review*.

3. Herman Kahn, *On Thermonuclear War*, Princeton University Press, Princeton, N.J., 1960, p. 157.

4. Ibid.

5. Thomas C. Schelling, *The Strategy of Conflict*, Harvard University Press, Cambridge, Massachusetts, 1963, p. 9.

6. Colonel Robert H. Reed, (USAF), "On Deterrence," *Air University Review*, Vol. XXVI, No. 4, May-June 1975, p. 10.

7. Collins, op. cit., p. 20.

8. George C. Wilson (Staff Writer), "Westmoreland Says Soviets Have Made a Costly Mistake," telephone interview with General William C. Westmoreland, U.S. Army, Ret., *The Washington Post*, 7 January 1980.

9. Reed, op. cit., p. 5.

10. Morton Mintz, "Sanctions against Soviets Seen of Long Duration," Report on CBS-TV 'Face-the-Nation' Program, 6 January 1980, *The Washington Post*, 7 January 1980, p. 12.

11. Ibid.

DETERRENCE THEORY AND DETERRENCE PRINCIPLES^{*}

Lieutenant Colonel Phillip D. Gardner, USAF[†]

The practical military value of a list of basic principles is evident in the story of a naval captain renowned for brilliant tactical maneuvers who never issued an order without first consulting a carefully safeguarded slip of paper. Upon the captain's demise an aspiring lieutenant prized open the ship's safe, with trembling hands unfolded the paper, and read: "right is starboard, left is port."

Is it feasible, as Colonel John M. Collins, USA (Ret), undertakes in the November-December 1979 *Air University Review*,¹ to formulate--predicated on deterrence theories--a practical checklist of principles which could be consulted by U.S. strategists? Certainly Collins presents an interesting and insightful list of precepts, but he does not offer a means for determining its value as a practical guide to action. How can the principles be substantiated? One possible method is to verify the underlying theories and then show by logic tests that the principles are consistent with them. This approach invariably yields an edifying result: failure. It fails because no one has yet validated the theories. This is an interesting deficiency, and one worth exploring for what it reveals about the character and limitations of deterrence theories and principles.

It will be useful to begin the exploration by reviewing the writings on principles of deterrence and tying them to a body of theory. The literature on principles consists of the article by Collins and one in the May-June 1975 *Air University Review* by Colonel (now Brigadier General) Robert H. Reed, USAF.² Both authors discuss major deterrence concepts and categories of conflict, refer to principles of war, and offer lists of principles of deterrence (Figure 1). (Suppress for now the urge to debate the relative merits of the lists; evaluation will be more meaningful after examining the theory.) From the authors' comments and

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[†] See Appendix B for biographical sketch.

references, it is evident that they view their lists as predicated on theories which surfaced during the 1955-1965 avalanche of innovative strategic thought by analysts such as Bernard Brodie, Herman Kahn, Thomas Schelling, Glenn Snyder, and Albert Wohlstetter.³ The primary objectives of these theorists were to evaluate the impact of nuclear weapons on military affairs and to develop methodologies for analyzing the manipulation of threat as an instrument to forestall aggression.

Reed	Collins
Credibility of means	Preparedness
Credibility of will	Nonprovocation
Clarity of intent	Prudence (consider need for defenses)
Controllability	Publicity
Flexibility	Credibility
Negotiation	Uncertainty (technique to use when credibility is low)
Unity of effort	Paradox (may have to fight for peace)
Economy of effort	Independence (from allies and competitor cooperation)
Interdependency (alliances)	Change
	Flexibility

Figure 1. Principles of Deterrence

1955-1965 Deterrence Theories

This body of theory forms a coherent intellectual framework which aligns and clarifies relationships among major concepts about the utility and role of power in international politics. The theory is elegant in its structural simplicity, yet sophisticated enough to accommodate powerful analytical models, games, psychological analyses, and econometric logic. However, despite its attractiveness and promise, the theory does have significant limitations in logic which affect its applications. The limitations divide into two categories, one extrinsic--events

the theory explicitly excludes--and the other intrinsic to the logical construct of the theory.

The Extrinsic--What the Theory Does Not Explain: Accidents, miscalculations, and irrational acts are considered outside the explanatory bonds of the theory. This creates two categories of problems: (1) validity--is the event intentional, and therefore explained by the theory; and (2) definition--what constitutes a miscalculation, and what is irrational.

Problems in the first category revolve about the question of deciding whether the event is actual, or is a ploy to gain an advantage. Problems in the second category arise from information inequalities and interpretive differences. To illustrate the potential for miscalculation, consider Collins' expectation that Soviet tanks will become vulnerable to precision-guided munitions in the early-to-mid-1980s. He argues that the impending vulnerability is an incentive to the Soviets to employ their tanks before armor loses its effectiveness.⁴ However, the early promise of antitank weaponry is now being questioned in light of changes in tank design and potential Soviet countering tactics and options. Western analysts are reexamining the cost effectiveness of antitank missiles and precision-guided missiles, and at least one weapons designer feels that "in the armor-antiarmor area the edge may be with the Soviet Union...."⁵ Given the ambiguity of the situation, it is possible that either NATO or the Warsaw Pact could miscalculate. Or both: which could result in the Soviets deciding their tanks will be vulnerable so should be exploited now, and NATO deciding that antitank weapons are ineffective so should not be deployed in large numbers. The other problem in this category is irrationality: how is it to be defined? Here another illustration will help to specify the problem. Japanese war games and assessments prior to World War Two showed that the United States was stronger and would win a war. Knowing this, the Japanese attacked. Joseph C. Grew, the U.S. Ambassador to Japan, commented, "National sanity would dictate against such an event, but Japanese sanity cannot be measured by our own standards of logic."⁶ Were the Japanese irrational? Not at all. Japan was getting weaker while the United States was building up, so the Japanese calculated that their position in the future would only get worse

and decided they would lose less by fighting sooner. The point here is that rationality has a cultural component. Even when faced with identical data, actors can arrive at differing conclusions.

Before moving on to consider limitations intrinsic to deterrence theory, it is worth observing that the universe of events outside the theory's explanatory boundaries grows larger the more it is examined. In short, deterrence theory and rules of English grammar are apparently distinctive in having more exceptions than applications.

The Intrinsic--What the Theory Thinks It Explains. Deterrence theory explains rational actor gain-loss calculations on the manipulation of threat. But it explores the subject within a very narrow construct. The theory's applicability is constrained by its heavy deductive content.⁷ Deductive reasoning is a useful way to generate propositions and explore the ramifications of concepts, but deductions are limited by the initial premises and assumptions. Moreover, the fundamental assumptions cannot be verified by the logic used to build the theory. In a rigorous logical sense, within the confines of the theory one cannot know or prove why deterrence succeeds. This doesn't mean that the theory is invalid; it simply says that in its present state much of it is unverifiable. This is a partial explanation of why, as Collins observes, the theory has lain fallow since the seminal studies.⁸ It couldn't be germinated.⁹

What's the rest of the explanation? In large part, the theory never satisfactorily resolved the question that inspired the 1955-1965 studies: finding a meaningful way to relate nuclear weapons to attainment of national objectives.

Taps Still To Be Filled--What's the Purpose of Nuclear Weapons?

One major postulate of nuclear deterrence theory is that there can be no meaningful outcome of a nuclear war:

Because of the destruction wrought by nuclear weapons, war can no longer be considered, as in the famous dictum of Clausewitz, to be the continuation of policy by other means. Nuclear weapons have made nuclear war absurd.¹⁰

The Soviets, of course, don't agree. As expressed in a November 1975

issue of *Communist of the Armed Forces*, the Soviet formulation is that:

The premise of Marxism-Leninism on war as a continuation of policy by military means remains true in an atmosphere of fundamental changes in military matters. The attempt of certain bourgeois ideologists to prove that nuclear missile weapons leave war outside the framework of policy and that nuclear war moves beyond the control of policy, ceases to be an instrument of policy and does not constitute its continuation is theoretically incorrect and politically reactionary.¹¹

Aside from any other considerations, the contrasting views mark a profound divergence in strategic concepts which render questionable the long-term efficacy of a policy of mutual assured destruction or any other form of security through mutual vulnerability.¹²

The formula that nuclear war cannot have a victor has two major effects on the body of deterrence theory: (1) it divorces deterrence from war-fighting; and (2) it elevates deterrence from a strategy (means) to an objective (end). The first effect is evident in Collins' definition that "Deterrence is a strategy for peace, not war..."¹³ If this is true, the strategy vanishes just at the moment when guidance is most needed. Obviously, deterrence can and should play an intra-war role in the form of escalation control. There is a need for a body of concepts to describe that role, and further to specify the transfer of deterrence value down the hierarchy of conflict from one level to the next. Reed recognizes this need to transfer from passive to active deterrence in a discussion of the relation of principles of deterrence to principles of war.¹⁴ The second effect--elevating deterrence to an objective--erects a conceptual shield between the task of deterrence and the purpose of deterrence. There is a need for a theoretical construct that bridges the gap between deterrence and defense, and does so in a fashion that correlates the short-term military balance with the more fundamental political and economic considerations of relations among nations.* Emphasis on the present military balance can blind nations to, as Reed puts it, the broader perspective. One good example of this phenomenon is the October 1973 Arab-

* For an innovative and significant work which addresses the needs described above and advances a comprehensive rationale to relate nuclear weapons and U.S. national objectives, see Carl H. Builder, *A Conceptual Framework for a National Strategy on Nuclear Weapons*, The Rand Corporation, R-2598-AF, forthcoming.

Israeli (Ramadan/Yom Kippur) War. Since the military balance favored Israel, the Israelis were surprised when the Arabs attacked. The war, comments one analyst, "did not make sense from Israel's perspective."¹⁵ Consideration of the political background--the broader perspective--might have helped the Israelis to perceive that Sadat's credibility was ebbing and he literally would lose more by not fighting than by suffering another military defeat.

One final requirement for the necessary new concepts: they should be verifiable. And there is a growing body of work that shows how this can be done.

The Third Wave of Deterrence Theorists: Empirical Verifiers

In a valuable review of trends in deterrence theories, Robert Jervis identifies three waves of theorists.¹⁶ The first wave appeared immediately after World War Two and served as a basis for the 1955-1965 second wave. Deterrence writings of the third wave are primarily empirical studies. The major contributors to date are Alexander George, Patrick Morgan, and Richard Smoke.¹⁷ The primary tool of the third wave theorist is the case study, although other methods of analysis are also being used.¹⁸

Since the third wave is in part a riptide from the second, nearly as much emphasis is placed on delineating the limitations of deterrence concepts as on specifying their utility. Another attribute of third wave studies is that they cross what Colin S. Gray terms the "nuclear divide" in strategic analysis and attempt to place nuclear deterrence in the framework of a more general body of phenomena.¹⁹

The third wave is discovering some interesting attributes of deterrence practices, and has the potential to develop into a meaningful, coherent body of studies. Empirical verification is a tedious process, so it is unlikely that findings will be published at the rate concepts were generated by the second wave analysts.

Back to Principles

In the meantime, what about the principles of deterrence: what are they, and how are they to be used?

In order to more clearly show what the principles are, Reed's and Collins' lists are merged in Figure 2 to form a single list which can be compared to statements of the principles of war. For the sake of brevity, Reed's principles of Interdependency and Economy of Effort are withheld from the combined list. Although these qualities are relevant to deterrence, they do not appear to be as essential as the other principles. Collins' principles of Uncertainty and Paradox are similarly withheld because quite frankly it is difficult to know what to make of principles with those titles. One additional recommended principle is added to the list: the Objective.

Reed		Collins		Combined List
Credibility of means	} → →	Preparedness	} → →	Credibility
Credibility of will				
Clarity of intent	→ →	Publicity	→ →	Clarity
Controllability	} → →	Independence	→ →	Controllability
Unity of effort				
Negotiation				
Flexibility	→ →	Flexibility	} → →	Flexibility
	Change			
		Nonprovocation	→ →	Nonprovocation
		Prudence	→ →	Prudence
		Uncertainty	←	
		Paradox	←	
Interdependency	←			
Economy-of-effort	←			
			→	Objective

Figure 2. Combined list of principles of deterrence

Obviously Reed and Collins hold that principles of deterrence are analogous to principles of war (Figure 3). And in fact they are, both in character and in application. All of the principles are prescriptive rather than predictive or descriptive, which arouses a suspicion that they are more deeply rooted in experience than in theory.

Collins	AFM 1-1 ²⁰
Objective	Objective
Offensive	Offensive
Mass	Mass
Economy of Force	Economy of Force
Maneuver	Surprise
Unity of Command	Security
Security	Unity of Effort
Surprise	Maneuver
Simplicity	Simplicity
Flexibility	Timing and Tempo
	Defensive

Figure 3. Principles of war

Experience--a quarter-century of experience in battle--led Carl von Clausewitz in the early 1800s to reject the rigid abstract formulas which then constituted the central thinking on warfare. Clausewitz then undertook to formulate a general theory of war. Although he never finished the task to his satisfaction, he did offer some interesting and instructive comments on the application of the theory and any principles derived from it. Clausewitz distinguished between theory as a guide to self-instruction and as a guide to action. Theory educates the mind, he wrote, but should not accompany the military leader "to the field of battle."²¹ It is imperative to honor this distinction because of the danger that faulty theoretical precepts will distort perceptions of events. If the theory is good, argued Clausewitz, it will illuminate reality:

If principles and rules develop from the observation that theory institutes, if the truth crystallizes into these forms, then theory will not oppose this natural law of the mind. It will rather, if the arch ends in such a keystone, bring it out more prominently, but it does so only to satisfy the philosophical law of thought.... For even these principles and rules serve more to determine in the reflective mind the general outlines of its accustomed movements than as signposts pointing the way to execution.²²

As for principles of war, so too for principles of deterrence. If theory

is not to dominate reality, the principles must serve only as aids to analysis and not as checklists for action.

In summary, successful action embodies certain principles even though the practitioner may not be conscious of them.²³ If the core of principles of deterrence can be specified, they can help to orient a strategist's thinking toward the requirements of success. But they cannot be understood in vacuum; their meaning is a function of the intellectual constructs from which they were derived. The principles offered by Reed and Collins are a distillation of practical experience, observation, and contemplation. The strategist who would apply their principles must operate from the same intellectual base, and that base can only be made explicit and useful in the form of verifiable theory.

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Notes

1. Collins, "Principles of Deterrence," *Air University Review*, Vol. XXXI, No. 1, November-December 1979, pp. 17-26.

2. Reed, "On Deterrence: A Broadened Perspective," *Air University Review*, Vol. XXVI, No. 4, May-June 1975, pp. 2-17. At the time he wrote the article, Reed was a member of the "Six Man Group" of Colonels (Reed, Stuart W. Brown, Robert W. Kennedy, William H. L. Mullins, John L. Piotrowski, and Leonard J. Siegert) who collaborated at Air University on studies for the Air Force Chief of Staff.

3. Major works by these analysts during the mid-1950s to mid-1960s include the following: Brodie, *Strategy in the Missile Age* (Princeton, New Jersey: Princeton University Press, 1959); Kahn, *On Thermonuclear War* (Princeton, New Jersey: Princeton University Press, 1960), *Thinking About the Unthinkable* (New York: Horizon Press, 1962), and *On Escalation: Metaphors and Scenarios* (New York: Praeger, 1965); Schelling, *The Strategy of Conflict* (Cambridge, Massachusetts: Harvard University Press, 1962), with Morton H. Halperin, *Strategy and Arms Control* (New York: Twentieth Century Fund, 1961), *Arms and Influence* (New Haven: Yale University Press, 1966); Singer, *Deterrence and Defense: Toward a Theory of National Security* (Princeton, New Jersey: Princeton University Press, 1961); and Wohlstetter, "The Delicate Balance of Terror," *Foreign Affairs*, Vol. XXXVII, No. 2, January 1959, pp. 211-234.

4. Collins op. cit., p. 19.

5. Ori Even-Tov, "Review of John M. Collins' American and Soviet Military Trends Since the Cuban Missile Crisis," *Obis*, Vol. 22, No. 3, Fall 1978, p. 752. For additional discussion of the limitations of

antitank weaponry, see Robert Kennedy's "Precision ATGMs and NATO Defense," *Obis*, Vol. 23, No. 4, Winter 1979, pp. 897-927, and Seymour J. Deitchman's *New Technology and Military Power: General Purpose Military Forces for the 1980s and Beyond* (Boulder, Colorado: Westview Press, 1979), pp. 76-82. An assessment of the potential impact of precision-guided weapons on theater warfare was made by James Digby in "Precision-Guided Weapons: Lowering the Risks with Aimed Shots and Aimed Tactics," in *Beyond Nuclear Deterrence*, ed. by John J. Holst and Uwe Nerlich (New York: Crane, Russak and Company, 1977), pp. 155-176.

6. Roberta Wohlstetter, *Pearl Harbor: Warning and Decision* (Stanford, California: Stanford University Press, 1962), p. 354.

7. Of the works cited by Collins as summarizing "the essence of deterrence," all are axiomatic and deductive. Even Kaplan's "The Calculus of Deterrence" consists of analysis within the bounds of game theory. Collins, op. cit., fn. 5, pp. 25-26.

8. Collins, op. cit., p. 17.

9. The need for verification was apparent to the theorists, all of whom clearly stated key assumptions and pointed out that game theory generally assumes perfect communication and complete information on gains and losses, that econometric logic was being applied to abstract models, and that it is yet to be shown that the world is populated by rational actors.

10. Y. Harkabi, *Nuclear War and Nuclear Peace* (Jerusalem: Israel Program for Scientific Translations, 1966), p. 4.

11. Quoted in Paul H. Nitze, "Deterring our Deterrent," *Foreign Policy*, Vol. 25, Winter 1976, p. 197.

12. The Soviet view of deterrence differs markedly from the U.S. concept. The United States relies on a strategy of deterrence through the threat of retaliation, while the Soviet concept is deterrence through denial--preventing the opponent from achieving his objective by rendering him unable to do so. Most analysts of Soviet military writings find no evidence of a willingness to accept a condition of mutual deterrence. For a solitary but significant contrary view, see Raymond L. Garthoff, "Mutual Deterrence and Strategic Arms Limitation in Soviet Policy," *International Security*, Vol. 3, No. 1, Summer 1978, pp. 112-147. Also read Donald G. Brennan's rebuttal in "Commentary," *International Security*, Vol. 3, No. 3, Winter 1978/1979, pp. 193-198.

13. Collins, op. cit., p. 17.

14. Reed, op. cit., p. 12.

15. Michael J. Handel, "The Yom Kippur War and the Inevitability of Surprise," *International Studies Quarterly*, Vol. 21, No. 3, September 1977, p. 491.

16. Jervis, "Deterrence Theory Revisited," *World Politics*, Vol. 31, No. 2, January 1979, pp. 289-324.

17. Major third wave works include George and Smoke, *Deterrence in American Foreign Policy: Theory and Practice* (New York: Columbia University Press, 1974); Morgan, *Deterrence* (Beverly Hills, California: Sage, 1977); and Smoke, *War* (Cambridge, Massachusetts: Harvard University Press, 1978).

18. An interesting approach to analysis of case studies was used by Raul Naroll, Vern L. Bullough, and Frada Naroll in *Military Deterrence in History* (Albany, New York: State University of New York Press, 1974). The authors sampled decades extending back 2500 years and found no correlation between military strength and avoidance of war. For a different approach--which illustrates the potentialities and limitations of rigorous analysis of logical relationships--read Bruce Russett, "The Calculus of Deterrence," *Journal of Conflict Resolution*, Vol. VII, June 1963, pp. 97-109, and Clinton F. Fink, "More Calculations About Deterrence," *Journal of Conflict Resolution*, Vol. IX, No. 1, March 1965, pp. 54-65.

19. Gray, "Across the Nuclear Divide--Strategic Studies, Past and Present," *International Security*, Vol. 2, No. 1, Summer 1977, pp. 24-46.

20. *Functions and Basic Doctrine of the United States Air Force* (Washington, D.C.: Government Printing Office, February 1979), pp. 5-1 through 5-8.

21. Clausewitz, *War, Politics, and Power*, trans. and ed. by Edward M. Collins, Colonel, USAF (Chicago: Henry Regnery Co., 1962), p. 158.

22. Ibid.

23. As Leon Trotsky remarked in a 1921 pamphlet on military studies in the Red Army:

...A donkey in pilfering oats from a torn sack (the opponent's least defended point) and at the same time in turning its rump vigilantly away from the side from which danger may threaten, acts on the basis of the eternal principles of military science. Meanwhile, it is unquestionable that this donkey munching oats has never read Clausewitz.

From "Military Doctrine or Pseudo-Military Doctrinairism" in *Military Writings* by Leon Trotsky (New York: Merit Publishers, 1969), p. 38.

WHY PRINCIPLES OF DETERRENCE?^{*}

Lieutenant Colonel Richard E. Porter, USAF[†]

I wholeheartedly support Colonel Collins' search for a "systematic way to shape schemes for nuclear deterrence." I have strong reservations, however, that his effort will contribute much or achieve the results he seeks. I base this speculation on a personal conviction that a decision-maker or planner must first rely on an intellectual framework or structure to tie separate events together before he can properly judge and analyze them. It is this framework, not a set of "principles," which permits the formulation of consistent and appropriate actions. "Principles," like scientific laws, cannot tie such a structure together, but only reflect the structure itself.

This assertion puts me in the uncomfortable position of discussing the article Colonel Collins should have written rather than the one he wrote. For this, however, Collins is partly to blame. He proceeded to recommend *Principles of Deterrence* without first establishing their prospective suitability and utility.

Borrowing the *Principles of War* concept and applying it to deterrence may well have merit, but the reader deserves at least some evidence that such "principles" have proved useful to those who have planned and executed military strategy. While the author and editor assume such is the case, it is not self-evident to me. The rationale for *Principles of Deterrence* should be stated and supported. If the *Principles of War* cannot justify such a rationale, which I doubt they can, then the reader at least deserves to know where the difficulties lie and what obstacles have to be hurdled.

In my own reading of military history, I have found little evidence that the *Principles of War* were ever more than prescriptive slogans--more useful to those who critique action than to those who must take it. When such principles have showed promise, it is because they followed an

^{*}Submitted for publication in the "Fire Counter Fire" section of *Air University Review* in January 1980.

[†]See Appendix B for biographical sketch.

intellectual framework rather than preceded it. This is the case, at least, with Jomini and Clausewitz who offer a few very general "principles," but only as part of an overall theory.

The Soviets recognize *Principles of War* in this fashion--as part of a defined strategy and intellectual framework. Accordingly, their "principles" are prioritized and integrated into their overall strategic objectives. Planners and decisionmakers are provided not only with "principles" to consider, but also with guidance as to which "principles" are most important. Such an ordering can only come from a previously established structure; it cannot be determined independently.

If the formulation of an intellectual framework must be the first task, how do we proceed? Do we explore the unknown ground by wandering through it, or do we stand at a single point and sweep the horizon? The literature is filled with possible approaches. While there may be no single "correct" approach, some offer more promise than others. Choosing the "best" approach is not only the first step, but also the most important one--where you begin will very much determine where you finish.

While Collins' intent was to suggest *Principles of Deterrence* not methods for structuring a theory, his article does suggest two basic approaches to the problem. In the first, we arbitrarily define which elements belong in the theory and then seek the relationships which tie them together. In the second, we focus first on the relationships themselves and use this as a basis for determining which elements should be included and which should not.

Collins' approach to deterrence is open-ended and reflects the first approach. He defines deterrence as "a strategy for peace" and includes in it every type of confrontation--"political, economic, technological, social, paramilitary, and military...." Such an encompassing approach makes it extremely difficult to tie things together. Is the invasion of South Korea a proper example of "active deterrence," as he suggests, or is it a demonstration of another policy called containment? How do we tie the invasion of South Korea to the North Vietnamese conquests in Southeast Asia? Do the Soviet actions in Angola correlate in any way with their actions in Ethiopia or Afghanistan? These questions are relevant because they suggest that Collins' open-ended approach to deterrence may well raise many more issues--with or without an acceptable body of "principles"--than it resolves.

Of the two approaches, the second appears to offer the most promise. In this approach, we drive a stake deep into the ground and explore methodically outward. We begin with a clearly defined premise and diligently focus on the relationships which tie various elements together. Each new candidate is carefully tracked back to the original premise and tested before becoming part of the whole. While the beginning is narrowly defined, the eventual coverage may be extensive--how extensive depends on how many elements logically integrate into the expanding structure. This technique is demonstrated by Newtonian physics which, despite its broad applications, is anchored to a few fundamental premises on the nature of gravitational forces.

To demonstrate how the two approaches can lead to very different conclusions, we can arbitrarily select a specific premise and compare its interpretation of a major historical event to that suggested by Collins' approach. For example, we could postulate that deterrence is inexorably anchored to the super power relationship which emerged between the United States and the Soviet Union immediately after World War II. At this time, the Soviets enjoyed an overriding superiority in conventional military forces which the United States sought to counter with its recognized superiority in nuclear weapons. Deterrence theory subsequently progresses from this premise--the United States seeking political leverage from its strategic advantage to counter the Soviets' conventional advantage.

Without developing this construct any further, the Soviet takeover of Afghanistan offers an interesting comparison. If one applies Collins' "strategy for peace" approach, deterrence is still at work in the form of economic and political sanctions promised by the United States and her allies. Such sanctions are non-military forms of punishment designed to dissuade the Soviets from any similar actions in the future. The narrow approach postulated above, however, suggests that deterrence is not necessarily at work. The proposed sanctions do not qualify as deterrence measures. They are not actions which correlate to the use of strategic power to counter conventional power. The Soviet takeover in this case not only demonstrates a failure of deterrence, but also questions the future validity of deterrence itself. After all, the original premise held that U.S. strategic superiority would counter Soviet conventional superiority.

The validity of either interpretation is academic and not central to this discussion. What is important is that both views produce not only very different judgments as to what happened, but also end up asking very different questions. Collins' approach asks, How do we make deterrence work better? The other approach asks, Where do we go from here?

If both approaches share any common ground, it is that power relationships have shifted in the world. If *rattling nuclear sabers* proved somewhat useful in the past, there is little indication that this will be so in the future. Strategic superiority has always been elusive and is even more so today. The use of military force to support political goals is becoming increasingly more complex.

Although I don't share Colonel Collins' confidence that *Principles of Deterrence*, even in the context of a capital checklist, offer much promise, I share his assertion that deterrence theory urgently requires a new look--or better yet, a reassessment. Such a reassessment, however, should be based on carefully defined premises and reflect current realities rather than past strengths.

While I strayed far from the type of response Colonel Collins must have expected, I did so in the interest of expanding the debate. His article, in fact, was the major stimulus for the ideas presented here. In this sense, I am indebted to him. Our differences, however, are fundamental. Until convinced otherwise, I shall hold fast to the conviction that "principles" are not to be discovered in the world, but are in the intellectual interpretation of it.

Santa Monica, California

Appendix A

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Appendix B

BIOGRAPHICAL SKETCHES OF AUTHORS

Colonel Robert H. Reed,^{*} USAF (M.P.A., George Washington University), is a member of the USAF Six Man Group formed by the Chief of Staff, USAF, to study and advise on matters pertaining to the development and employment of USAF forces. His previous assignment was to the Air Staff as Chief, Doctrine Development Branch.

Other members of the Six Man Group, who assisted in writing the article, include Colonel Stuart W. Bowen (USMA; M.S., University of Arizona), formerly Assistant DCS/Development Plans, Hq AFSC; Colonel Robert W. Kennedy (M.S.E.E., AFIT; M.B.A., Auburn University), whose last assignment was to the Air Staff as Assistant Chief, Aeronautical Systems Division; Colonel William H. L. Mullins (USMA; M.B.A., University of Arizona), who was Deputy Commander, Operations, 4th Tactical Fighter Wing; Colonel John L. Piotrowski (P.M.D., Harvard University), who was Commander, 40th Tactical Group, USAFE; and Colonel Leonard J. Siegert (B.S., Hampton Institute), who came to the Six Man Group from an assignment as Special Assistant for Emergency Plans, Office of the Military Assistant, The White House.

Colonel John M. Collins, USA (Ret) (M.A., Clark University), is Senior Specialist in National Defense, Library of Congress, Washington, D.C. With more than 20 years in strategic and tactical planning, he prepared contingency plans for Europe, the Middle East, and Southeast Asia. He was a member of the faculty at the National War College (1967-72). He is author of *Grand Strategy: Principles and Practices* (1973) and *American and Soviet Military Trends: Since the Cuban Missile Crisis* (1978). Colonel Collins is a graduate of the Army Command and General Staff College, Armed Forces Staff College, Industrial College of the Armed Forces, and National War College.

Lieutenant Colonel Michael B. Seaton, USAF (B.A., Kansas State University; M.A., Troy State University), is Senior Rand Research Fellow at The Rand Corporation. Colonel Seaton has served most of his career in the Strategic Air Command. He flew 127 B-52D combat missions in Southeast Asia, and also served with the 307th Strategic Wing, Utapao Airfield, Thailand, as a B-52 target study officer. His career also includes a tour of duty on the Air University Faculty with the Squadron Officer School. His assignment to the Rand Research Fellowship Program came while he was Deputy Director of the SIOP Simulation and Analysis Directorate, Operations Plans, Headquarters, SAC. Colonel Seaton is a graduate of the Air War College.

^{*} On 1 May 1979, Colonel Reed was promoted to Brigadier General and is now stationed at Davis-Monthan Air Force Base in Arizona.

Lieutenant Colonel Phillip D. Gardner, USAF (B.S., USAFA; M.A., University of Texas at Austin) is the 1979-80 Air Force Intelligence Rand Fellow at The Rand Corporation. He has served in strategic and tactical reconnaissance units in the United States and Southeast Asia; in NATO duties at Kindsbach, Germany; and at Hq USAF as a staff officer in the Directorate of Doctrine, Concepts and Objectives, and as head of the intelligence briefing branch. Colonel Gardner is a graduate in residence of the Squadron Officer School (with distinction) and the Armed Forces Staff College, and through correspondence of the Air Command and Staff College and the Industrial College of the Armed Forces (with honor).

Lieutenant Colonel Richard E. Porter, USAF (M.S., Air Force Academy; A.M., Duke University), is currently assigned to The Rand Corporation as a Research Fellow. Colonel Porter's flying background encompasses both fixed and rotary wing aircraft; he has served operational tours in the Strategic Air Command, Military Airlift Command, and Tactical Air Command. Colonel Porter has also served as an Assistant Professor of History at the Air Force Academy where he taught military history and revolutionary warfare. Prior to his assignment to Rand, he attended Armed Forces Staff College and was Chief, Wing Evaluations Office of the 1st Special Operations Wing, Hurlburt Field, Florida.

