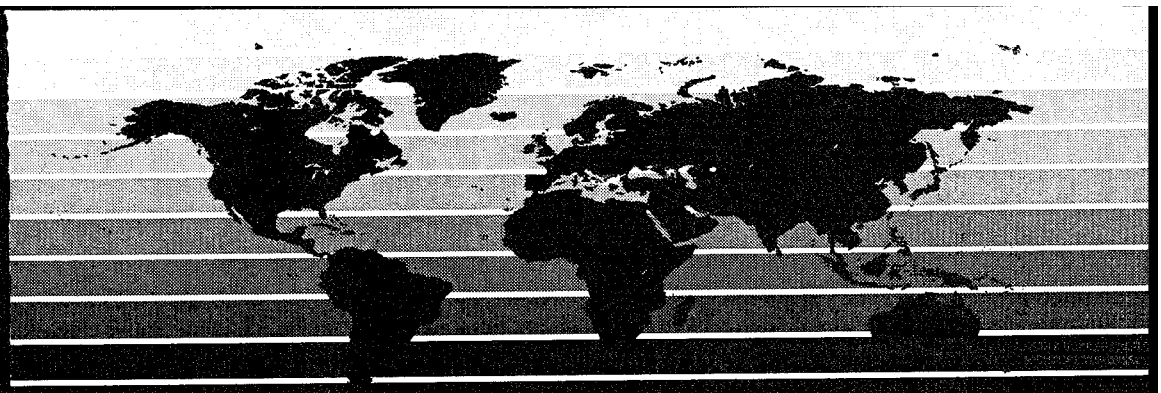

Strategic Studies Institute SSI

THE PRINCIPLES OF WAR IN THE 21st CENTURY: Strategic Considerations

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Comments pertaining to this report are invited and should be forwarded to: Director, Strategic Studies Institute, U.S. Army War College, Carlisle Barracks, PA 17013-5050. Comments may also be conveyed directly to the authors at the same address, or by telephone: commercial (717) 245-4140, or DSN 242-4140.

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FOREWORD

For nearly two centuries, the principles of war have guided practitioners of the military art. During the last 55 years the principles of war have been a key element of U.S. Army doctrine, and recently they have been incorporated into other Service and Joint doctrines. The turn of the 21st century and the dawn of what some herald as the "Information Age," however, may call into question whether principles originally derived in the 19th century and based on the experience of "Industrial Age" armed forces still hold. Moreover, despite their long existence, the applicability of the principles of war at the strategic level of warfare has not been the subject of detailed analysis or assessment.

The purpose of this study, therefore, is to stimulate a debate on the importance of the principles of war at the strategic level of warfare and on their continued relevancy in the Information Age. To this end, the study proposes a revised set of the nine principles of war that may be applied at the strategic level of warfare and are believed to conform to the conditions and demands of the 21st century.

This study represents a first examination of a complex and relatively unexplored field of study. Many may differ with the ideas presented or quarrel with a particular phrase or choice of words. Additionally, each of the principles undoubtedly merits a more detailed investigation than present length constraints allow. We encourage readers, therefore, to take up the debate and contribute to an exchange of views on this important subject.

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PRINCIPLES OF WAR AT THE STRATEGIC LEVEL

Objective: Identify and pursue a clearly defined and attainable goal whose achievement best furthers the national interest(s).

Initiative: Seize, retain, and exploit the initiative.

Unity of Effort: For every objective coordinate all activities to achieve unity of effort.

Focus: Concentrate the elements of national power at the place and time which best furthers pursuit of the primary national objective.

Economy of Effort: Allocate minimum essential resources to subordinate priorities.

Orchestration: Orchestrate the application of resources at the times, places, and in ways which best further the accomplishment of the objective.

Clarity: Prepare clear strategies that do not exceed the abilities of the organizations that will implement them.

Surprise: Accrue disproportionate advantage through action for which an adversary is not prepared.

Security: Minimize the vulnerability of strategic plans, activities, relationships, and systems to manipulation and interference by opponents.

BIOGRAPHICAL SKETCHS OF THE AUTHORS

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THE PRINCIPLES OF WAR IN THE 21st CENTURY: STRATEGIC CONSIDERATIONS

INTRODUCTION

Throughout history, military practitioners, philosophers, and historians have struggled to comprehend the complexities of warfare.[1] Most of these efforts produced long, complicated treatises that did not lend themselves to rapid or easy understanding.[2] This, in turn, spurred efforts to condense the "lessons" of war into a short list of aphorisms that practitioners of the military art could use to guide the conduct of warfare.[3]

The culmination of these labors, from the perspective of the U.S. Armed Forces, may be found in what are called the principles of war.[4] (See Appendix A.) Currently contained in Joint and Service doctrines, "the principles of war guide warfighting at the strategic, operational, and tactical levels. They are the enduring bedrock of US military doctrine."[5]

But, how solid is that foundation? While the principles have been thoroughly scrutinized at the tactical and operational levels of warfare, the study of their applicability at the strategic level has been less exhaustive.[6] Moreover, the principles of war were derived predominantly from the study of Napoleonic and "Industrial Age" warfare.[7] Whether or how these principles apply at the strategic level of war under the conditions of rapid technological change that many are calling the "Information Age" and its military offspring, the Revolution in Military Affairs (RMA), is an open-ended question.[8]

Because war at the strategic level is an intellectual process[9] and the development and implementation of strategy is a creative activity, some form of intellectual framework is required to shape the strategist's thought processes. The principles of war provide such a structure. At the same time, because theory and creativity have limits, they offer a guide to

understanding those restrictions. A good strategist–possessed of a comprehensive understanding of the principles–will be able, therefore, to expand creatively upon them, and will also be able to determine if one or more of them can or must be disregarded.[10] Finally, a thorough grasp of the intent behind each principle allows the crafting of strategies that reflect the best possible balance among the principles for a particular strategic challenge.[11]

Once thoroughly understood, the principles of war also may be used as a decisionmaking aid during formulation, planning, and execution of strategy. They can be used to assess current strategic plans, or as an analytic tool to shape new strategies and plans as they are developed. Further, they can be used to examine past strategic activities to derive insights from success or failure, and to extract the pertinent "lessons" that can be applied to future endeavors.

It is, of course, always easier to use the principles in retrospect to critique plans and activities than to incorporate them when creating strategies—but those who can do the latter will be hailed as geniuses by future historians. In fact, the principles of war are important exactly because, short of war, it is difficult to identify potential "Napoleons" in our midst. A proper focus on the linkages and tensions among the principles can avoid the stultifying, dogmatic, pro forma use of "checklists" which inevitably creates vulnerabilities to be exploited by a more imaginative opponent. At the same time, innovative application of the principles in simulations and war games can provide a useful education for future generals and strategists, who may be called upon to practice their craft with little or no notice. They are aids, too, in the life-long development of patterns of thought found in the true strategist.

Finally, given the growing complexities of the 21st century, there may be a greater, not lesser, need for a unifying set of principles that can assist strategists in the pursuit of their craft.

THE PRINCIPLES OF WAR IN THE 21st CENTURY

Before examining the principles of war, a few preliminary points are in order. This study focuses on the strategic level of war, specifically national security strategy and national military strategy.[12] Because strategy formulation and execution is a continuous process, the report addresses the principles of "war" as they apply in peace, crisis, and war. The term "Information Age" is used because of its popularity, and as short-hand for the anticipated conditions of the 21st century. This is done with the full understanding that it insufficiently describes the technological and geo-political changes that will characterize that environment. The term "strategist" applies to civil and military authorities charged with determining policy and developing the strategic plans to achieve national objectives. Finally, while the focus of the study is at the national level, international and multinational conditions obviously intrude on national level decisionmaking, thereby complicating significantly the strategist's task.

With the exception of the principle of war **objective**, which is clearly paramount, there is no attempt to establish a priority among the principles. They–especially at the strategic level–should not be viewed individually, but as a collective whole, each inextricably linked with the others. Without an understanding of the connections that bind the principles together, as well as the tensions and contradictions that stress them, much of the utility inherent in the principles would be lost. Worse, strategic failure could result from an undue focus on one or a few of the principles, when full appreciation of the whole would yield success.

The discussion that follows concentrates on the eventual effects of each principle, and not on the methods by which the principle might be implemented. This is an important distinction because, all too frequently, strategists fixate on methods of application at the expense of the desired effect. But even though accelerating technological change will introduce new methods of application at a rapid rate, the principles of war–remaining focused on the desired effects–should not vary in a significant degree. They can, thereby, continue to act as

guideposts for strategists. Remaining focused on the intended result, therefore, will assume greater importance in the Information Age.

As the study examines each principle of war, it will first address the applicability of the principle at the national security and national military strategy level. It will then offer insights into the relevancy of the principle in the Information Age.

Lastly, our recommendations for revising the principles of war are not radical. They represent more incremental change, updating, and focusing than wholesale change. This is probably because the principles, as they exist, have been so carefully honed over time that they reflect "truth" as accurately as possible.

In order to revalidate continually the principles of war, though, it is necessary occasionally to consider truly radical alternatives, even if only to reject them after thoughtful consideration. Two radical alternatives immediately come to mind. One might be called the "maximalist" approach, which posits that war has become so complex that no single set of principles can apply to all of war's variations. The time tested principles work for conventional combined arms warfare, but a totally different set of principles would be required for guerrilla warfare, information warfare, or other forms. At the other extreme, the "minimalist" approach suggests that the existing principles of war can be further distilled. Appendix B contains a discussion of these approaches.

Objective.

Identify and pursue a clearly defined and attainable goal whose achievement best furthers the national interest(s).

The principle of objective is *primus inter pares* of the principles of war, and particularly so at the strategic level. Strategy tends to be long term in its development, its execution, and its effects. Early and accurate selection of an appropriate overarching goal is the critical keystone for creating and executing successful strategy. Thus, with adequate focus on

the appropriate goal, much can be accomplished with little; but absent a specific, clear, attainable, and unifying goal, little may be accomplished despite great exertion.

Unfortunately, at the strategic level, more worthwhile ends will exist than means are available to achieve them. Hence, the phrase "whose achievement best furthers the national interest(s)" reminds strategists that objectives will vary in difficulty of achievement and contribution to national interests. Thus, the principle of objective emphasizes an absolutely essential action: selection of the most appropriate overall goal from among the many alternatives.

This selection is not as simple as one might think. Strategic activities always involve every element (political, economic, diplomatic, psychological, and military) of national power.[13] Each element has different strengths and weaknesses that come to bear depending upon the objective being pursued. Furthermore, practitioners within a particular element of power tend to advocate objectives more suitable for action within their realm.[14] Because of the long-term nature of strategy, full information is rarely available at the outset to help identify possible objectives or to assist in their selection. And, because strategic level issues usually involve allies or coalition partners, identifying objectives that satisfy all parties is a difficult and complicated task.

Information Age conditions, particularly accelerating advances in command and control systems, seemingly offer the ability to accomplish multiple actions simultaneously. This may cause some strategists to conclude that clear focus on a single goal is no longer appropriate, or even desirable. But, in reality, the ability to control numerous concurrent operations does not detract from the requirement to ensure that each individual action contributes to an overarching objective; instead it reinforces the importance of a clear objective.

Finally, strategists must subject each potential objective, and the ways to achieve it, to rigorous analyses that assess the costs, risks, and likelihood of success. Only after completing such analyses can the strategist recommend objective(s) to policymakers "which best further the national

interest" from the numerous contenders.[15] But strategists must keep in mind that this is only a first step in a continuous, dynamic process that must accommodate changes in the conditions under which the objective was initially formulated. Indeed, the final objective frequently will not be any single one of the initially proposed objectives, but rather a new goal that has evolved over the course of time to accommodate changing conditions.

Advances in information technology will likely complicate, rather than simplify, identifying and selecting objectives. On the one hand, more individuals and groups (at national, multinational, and transnational levels) will have greater access to relevant information, thereby involving more actors in the strategy formulation and decisionmaking processes. This could lead to more constituent groups competing to define the national interests more in line with their political outlook. On the other hand, the deluge of data and the ability to establish direct communications links with key actors may result in a proliferation of "stovepipes" that limits access to the decisionmaking process. In either case, selecting a suitable and effective objective may become increasingly difficult, perhaps exponentially so. But it will be no less important, and strategic processes and new, "flatter" organizations will have to be devised to accommodate these requirements.

The potential for increased difficulty in selecting objectives in the Information Age in no way reduces the importance of defining suitable objectives. Having more actors with more information, each more capable of influencing the decisionmaking process, runs the risk of diffusing efforts, weakening consensus, or providing an opponent with an opportunity to exploit the situation. Additionally, the Information Age may make it more difficult to keep objectives hidden from potential adversaries. Selecting an appropriate objective at the outset, while applying proper safeguards, can reduce these dangers.

Initiative (vice Offensive).

Seize, retain, and exploit the initiative.

The change in the name of the principle and omission of the word "offensive" from the brief definition are intentional. As indicated earlier, strategy is a long-term process that frequently requires considerable time between the initiation of cause and the culmination of effect. Policymakers and strategists, therefore, may have to resort to offensive or defensive phases of a strategy, or a combination of offensive and defensive actions, to attain the desired national objective. Therefore, the intense focus on offensive actions at the tactical and operational levels of warfare may not be always appropriate at the strategic level.[16]

Because of the time gap between strategic cause and effect, the successful strategist must mold the strategic environment from the outset and seize the initiative, thereby forcing others to react. Simply put, policymakers or strategists who passively wait for an opponent to act can make no strategic decisions of their own, and eventually will be at the mercy of their adversary. Thus, seizing, retaining, and exploiting the initiative allows one to set the strategic agenda, to shape the strategic environment in directions of one's choosing, and to force an opponent constantly to react to changing conditions that concomitantly inhibit his ability to regain the initiative.

Moreover, maintaining initiative provides a number of advantages beyond the ability to force an opponent to conform to one's purpose and tempo. Controlling the pace of events permits a closer connection of ends, ways, and means. This, in turn, promotes more effective and more efficient implementation of policy. It provides increased freedom of action in formulating and adapting strategy to the evolving context.

A brief example demonstrates the benefits of seizing and retaining the initiative, as well as the potential consequences of failing to do so. In 1990, Iraq invaded Kuwait, upset the fragile strategic balance in the region, and threatened not only world oil supplies, but also the long-held U.S. aim of peace and stability in the Middle East. After the Iraqi occupation of Kuwait, however, the United States seized the strategic initiative by

building an unexpected coalition that included Arab countries to support Operations Desert Shield and Desert Storm (defensive and offensive missions, respectively).

When Saddam attempted to recapture the strategic initiative by attacking Israel with SCUD missiles (thereby hoping an Israeli reaction would destroy the U.S.-led coalition), the United States used extensive diplomatic efforts and the shipment of Patriot missile batteries to Israel to restrain Tel Aviv from any action that might serve Iraq's purpose. In doing so, the United States retained the initiative, and then by continuing Operation Desert Storm and executing Desert Saber, achieved the objective of ejecting Iraqi forces from Kuwait. Perhaps more importantly for the long term, the United States used the success of the coalition and Israel's demonstrated restraint in the face of Iraqi provocation to further the entire Middle East peace process.

Some may argue that in the foreseeable future, relative advantages in information acquisition and transfer capabilities will determine who is able to seize and retain the initiative. These capabilities, however, represent only an important first step. More important is the ability to assess that information and then make the decisions necessary to turn information into appropriate action. Even if those same advances in information technology permit faster and more comprehensive intelligence operations, an advantage will still accrue to the party who can originate action which sets the parameters for future action(s) by all concerned parties.[17]

To accomplish these tasks will require strategists to distinguish between the internal and external components of initiative. The internal is based on ensuring that one's own decisionmaking processes are the most efficient and effective possible. The external is based on understanding the expectations and decisionmaking capacities of an opponent, as well as allies and coalition partners who also will greatly influence the ability to seize and maintain the initiative. These two elements must be pursued concurrently to produce the maximum strategic benefit.

Unity of Effort (vice Unity of Command).

For every objective coordinate all activities to achieve unity of effort.

Because strategic endeavors involve applying all elements of national power (political, economic, diplomatic, psychological, and military), they must be blended to achieve success. Selection of a unifying objective, however, is not enough. Precluding interference or cross-purposes in pursuit of an objective is vital, especially if one desires to gain maximum benefit from efforts expended. Failure to accomplish such integration will likely result in failure to achieve the objective–at least at a reasonable cost.

Historically, militaries–as hierarchial organizations–have sought unity of effort via unity of "command." While this is achievable at the tactical and operational levels of warfare, it may not be possible at the strategic level, where efforts much broader than those associated with "command" apply.

The number and variety of actors at the strategic level also mitigate against unity of command. Within the U.S. Government, for example, the ability to "command" is tenuous, at best. Constitutional checks and balances are designed to preclude domination by either the Legislative or Executive Branches. Few would argue that the Executive Branch is capable of imposing "command" on the disparate and fiercely independent elements of the Federal bureaucracy. Even the interagency process, the Executive Branch's tool for unifying government efforts, depends upon coordination, not command.[18] At the international level, sovereign states are frequently loath to relinquish their forces to the command of "foreigners," although the NATO experience somewhat belies this trend.[19] Increasing cooperation with nongovernmental and private organizations, which are also unwilling to fall under military control, may frequently moot the point of "command." Thus, at the strategic level, policymakers and strategists must instead rely on unity of effort.

The importance of unity of effort will not diminish in the anticipated environment of the 21st century. To the contrary, it will require more attention at the strategic level because of the increased likelihood of multilateral actions, Information Age technologies that will facilitate increased interaction between governments and organizations, and increased global interdependence that will make it more difficult for a coalition to act in unison without straining important relations with nations outside the coalition. As distinctions among peace, crisis, and war continue to blur, the ability to build and sustain allied or coalition unity may become increasingly difficult, requiring greater levels of sophistication at the strategic level than may have been practiced in the past.

Reliance on a power projection strategy without a substantial forward deployment of forces also will complicate the ability to create and sustain unity of effort. In the past, a significant presence stationed overseas facilitated multilateral operations abroad. The opportunities for combined training and exercises in the future, however, will diminish. If, as the *National Security Strategy* and the *National Military Strategy* posit,[20] coalitions become the rule rather than the exception, and U.S. forward presence declines overall, compensating measures must be taken if the United States expects to be able to build and sustain unity within multilateral efforts in fast-breaking crises.[21] Conversely, a dramatically reduced overseas U.S. presence may drive the United States to increasing reliance on unilateral operations where unity of command is easier to achieve.

The fact that countries and societies will adapt unevenly to the Information Age will further confound establishing and maintaining unity of effort. The United States and some others will rapidly assimilate Information Age technologies and become what Alvin and Heidi Toffler have described as "third wave" societies.[22] Other countries will become or remain industrialized at the "second wave" level, acquiring some Information Age technologies, but remaining unable to enter the Information Age in wholesale fashion. Still others will stay

"first wave" agrarian societies. The United States might be involved in coalitions that include information, industrialized, and agrarian based nations.

Building and sustaining coalition unity of effort under such conditions will be challenging. Information Age states may be best suited for providing information, intelligence, and command and control support to the strategic effort. Industrial and agrarian states may be relegated to the role of providing the bulk of the actual fighting forces, thus likely bearing a disproportionate share of the casualties. Such a division of labor could lead to cracks or fissures within a coalition should Industrial and Agrarian Age states be unwilling to abide by what they perceive to be an inequitable division of risk.[23] Alternatively, Information Age states may be compelled to provide Industrial Age forces to ensure unity of effort within a coalition.

A number of additional factors will mitigate against the ability to establish unity of effort. The long temporal focus of strategy usually will make it difficult to build consensus on objectives and the ways to achieve them, and to sustain them over time. The openness of the American political system and increased congressional and public influence on the strategic process may compound this problem. The decentralized and fluid nature of the post-Cold War security system, particularly the absence of a large and clearly defined enemy, will further complicate consensus-building. Finally, strategic action always requires interagency, and usually international, cooperation among perceived equals, so "coordination" rather than hierarchial direction is the operative word. Nonetheless, whether by direction or persuasion, policymakers and strategists must continually strive for unity of effort.

Focus (vice Mass).

Concentrate the elements of national power at the place and time which best furthers pursuit of the primary national objective.

Commanders at the tactical and operational levels of war, usually intent on destroying an opponent's armed forces or their will to fight, strive to "mass the effects of overwhelming combat power at the decisive place and time."[24] At the strategic level, with an intent to produce an end state consistent with national interests, the requirement is to focus effectively the total power of the state in all its dimensions. Even if a single unifying goal has been identified (i.e., Objective), the number and diversity of actors at the strategic level may tend to beget dispersion of effort. The principle of **focus,** therefore, emphasizes that strategists must synchronize actions that may be separated in time, space, and function to achieve concentrated effects, avoiding piecemeal, or–worse–conflicting, political, diplomatic, economic, psychological, or military efforts.

Equally important, focus emphasizes that it matters *where* and *when* to act; strategists must identify the place and time at which the focused commitment of national power will provide the greatest benefit for the primary national objective vis-a-vis potential or actual competitors. Such identification is a particularly challenging task at the strategic level, not only because of the span of time to be considered, but also because the proper site and occasion are functions of a dynamic international and national situation. The applicable national power of identifiable competitors and the condition and predilection of other regional or global actors also factor into the calculus.

In the Information Age, the challenge of focusing national power may become both more difficult and easier. The ability effectively to utilize diplomatic and political power will be both facilitated and disrupted by public display of events. Immediate on-the-scene news reporting will always "be present," describing and interpreting events as they happen, and thus government representatives may feel immediate pressure to "do something."[25] Hence, the speed of traditional diplomatic activities will likely need to increase. At the same time, government controlled information systems–or the news media–may now be employed irrespective of national boundaries to send signals to national leaders or directly to

their citizens. Of course, these same information capabilities affect national political processes; thus, the interaction between diplomatic and political actions will have to be carefully orchestrated.

The economic element of power will be more broadly distributed as information technologies contribute to an ever more integrated global economy. Consequently, strategists will have to be even more aware of potential "collateral damage" or "domino" effects of economic actions, and of their potential diplomatic or political repercussions. At the same time, greater economic situational awareness and increased vulnerability to electronic disruption may make economic attack a more precise and effective instrument than traditional tariff wars, trade embargoes or military blockades have been in the past.

Military activities in the Information Age may be executed more rapidly, with fewer resources accomplishing greater tasks, separated in both space and time. This apparent dexterity of military activities, however, may lead to over-reliance upon military power, or at least to inadequate consideration of its limitations and insufficient integration with other elements.

Finally, the likely socio-cultural changes that are inevitable as a result of transformation to the Information Age, and their implications for the psychological element of power, as well as for its interrelationship with the other elements, have yet to be adequately examined.

Just as today, the crux of the issue will be the continuing need to ensure that the effect of the whole of national power is greater than the sum of its parts. To do this will require visualization of the consequences within, and between, each element of power; judgment in choosing among simultaneous and sequential activities by each element, as well as how to combine elements; and development of appropriate coordinating mechanisms. As a consequence, focus may be the most difficult of all the principles to satisfy.

At the same time, information technology will assume greater importance in focusing national power. Publics will have greater access to growing amounts of information.

Governments will have to ensure that publics are exposed to accurate details, and that they are able to counter an opponent's disinformation or propaganda campaign, if they are to create and sustain an internal political consensus that focuses all efforts on achieving national objectives.

Economy of Effort (vice Economy of Force).

Allocate minimum essential resources to subordinate priorities.

At the tactical and operational levels, the relative imbalance between required missions and scarce resources has required military practitioners to "allocate minimum essential combat power to secondary efforts." But, as argued earlier, the application of national power implies much more than simply the employment of force, and, particularly at the national and military strategic levels, employing the national elements of power must be viewed within the context of the total power of the state. Therefore, **economy of effort** may be a more appropriate principle of war at the strategic level.

Economy of effort has at least three major elements. First, the number of national objectives will always exceed the resources available to achieve them. Thus, if strategists are to focus on the truly important objectives, they will have to establish priorities and apply available resources accordingly. To focus on primary efforts, therefore, economies must be taken between and within other elements of national power or between regions to permit resources to be marshalled to achieve the overriding national objectives. This will continue to require strategists to delineate a priority of objectives, ensuring that lower order undertakings receive only what is necessary to contain them. The strategist then must conduct a risk assessment that establishes a logical basis for resource allocation in accordance with the established priority and the risks inherent in pursuing a particular strategic option.

Second, economy is concerned with effectiveness, and should not be confused with providing the least amount of resources. Given the oftentimes considerable time lapses between strategic cause and effect, the continually changing

international security environment, and the number of independent actors involved, it is impossible for the strategist to calculate resource requirements with a high degree of certainty. Moreover, despite the emergence of increasingly sophisticated technologies, Clausewitz's admonitions about the fog and friction of war will still apply.[26] Indeed, the frugal husbanding of resources may produce false economies that contribute to defeat rather than attainment of national objectives. True economy of effort, therefore, may consist of applying overwhelming weight against central objectives to assure swift and sure success.

Third, economy is not necessarily synonymous with efficiency. While strategists and practitioners strive to make most efficient use of resources, policy formulation and execution do not conform to the "bottom line" approach of business and industry. Extended time lines and changing circumstances at the strategic level once again preclude the accuracy needed to maximize efficiency. Moreover, the consequences of miscalculating the razor's edge of resource allocation are significantly higher when national interests and objectives are involved; thus a degree of inefficiency may be necessary to ensure the effective execution of strategy.

At the strategic level, economy of effort involves establishing a balance among all elements of national or coalition power, as well as allocating resources in accordance with established priorities. In assessing competing demands, national interests and objectives must determine the priorities for allocating resources. Unfortunately, interests and risks are rarely clear cut, and establishing such priorities is a formidable task.

Orchestration (vice Maneuver).

Orchestrate the application of resources at the times, places, and in ways which best further the accomplishment of the objective.

The principle of orchestration emphasizes the *dynamic* nature of the strategic art (the skillful formulation, coordination, and application of ends, ways, and means to promote and

defend the national interests);[27] hence the deliberate use of the term "orchestrate." "Resources" is used, rather than forces or efforts, to encompass the broadest scope for strategic means (which may include, for example, all elements of national power, forces, materials, processes, communications, ideas, information, and beliefs). "Times, places, and ways" reminds strategists that there will be more than one option available to employ the resources at hand, and that the choice and sequencing of activities may make a significant difference in strategic outcomes.

Because strategy applies in peace, crisis, and war, planning is the strategist's principal domain. Planning for orchestration begins with the straightforward–but extremely difficult–requirement to balance implementing concepts and available resources to achieve national goals. In doing so, strategists must identify and assess the most appropriate concept options–to include the best places, times, and sequencing of application; and judge how best to apportion the vast (but not unlimited) resources available. And, it is important to remember, strategists do not have the luxury of concentrating on one or two issues at a time. They may face literally dozens of distinct, but interrelated, issues that affect national interests and demand simultaneous attention.

In orchestrating planning efforts, strategists must develop concepts that permit not only dynamic, but also flexible execution. Thus, plans must include branches and sequels that permit agile responses to changes in the strategic environment or the actions of an opponent. In short, just as a conductor does not merely place sheet music in front of each musician and, having told the orchestra to play, docilely await the finale, the strategist must devise plans that can adjust to changes in location, tempo, scale, or type of activities during execution.

While orchestration is dynamic in nature, it does not always require motion. Indeed, with proper forethought it may not be necessary–or even desirable–to shift resources during execution, just as the symphony conductor sets the stage for the performance through his choice of music, the proper selection of musicians, and the appropriate positioning of the

available talent before the audience arrives. Indeed, developing a scheme of strategic orchestration before the onset of a crisis may obviate the need for execution.

Finally, some caveats on orchestration. The key to successful orchestration is ensuring that the application of resources contributes to focus that furthers progress toward the desired strategic end. Granted, orchestrating planning and execution must take into account the actual and potential actions of other competitors, but this consideration should not be the strategist's overriding concern. Strategists who over-focus on their adversaries run the risk of surrendering the initiative and becoming simply reactive. Instead, while remaining fully cognizant of an opponent's capabilities, strategists must orchestrate events, concepts, and resources to retain the strategic initiative and to shape conditions to help achieve their desired strategic objectives.

In a similar vein, strategists must understand that placing an opponent at a disadvantage is not sufficient in and of itself. In some instances it may, in fact, be *undesirable* to place another actor at a disadvantage–his immediate response may be extremely hostile.[28] Instead, it may be preferable to orchestrate events in a manner that allows an opponent a supposed advantage, either to guide him in a more desirable direction or to deter less desirable options by encouraging his application of resources in the area of one's known advantage. Or, it may be necessary to offer an opponent a short-term advantage to gain a long-term benefit.

Strategic orchestration has the potential to be significantly different in the 21st century. The many changes associated with the revolution in information technologies will make additional types of resources available, will offer new places (cyberspace) to orchestrate, and provide additional ways to employ resources.[29] This will increase the difficulties for the strategist by providing many more individual pieces and possible combinations to orchestrate. Concomitantly, the time required to apply certain types of resources, to alter their mode of employment, to switch resources, or to apply them at

different places may be significantly reduced. This will increase the ability to orchestrate events at the strategic level, but it will also complicate the orchestration of such efforts.

Advanced command and control systems built around increasingly powerful information systems technologies will be more capable of managing complex plans. Possession of such systems, combined with the requisite education and training to employ them to their full potential, may make it possible to maintain a "complexity differential" vis-a-vis strategic actors not possessing similar systems.[30]

Finally, as previously noted in the discussion of "objective," strategists and policymakers must expect that information technologies will increase the transparency of strategic actions. Thus, a key component of any strategic orchestration plan will be those actions taken to gain and maintain the support of other government agencies, the public, other nations, supranational organizations, and multinational partners. Their support, in turn, becomes another strategic resource for which the times, places, and manners of application must be orchestrated to further the accomplishment of the desired strategic objective.

Clarity (vice Simplicity).

Prepare clear strategies that do not exceed the abilities of the organizations that will implement them.

Strategy is a complex endeavor requiring synchronized activity of multiple and diverse organizations. Such synchronization is possible only if all organizations involved fully understand the objectives and basic procedures for attaining them. Clarity is thus a principle where more is always better.

The principle of clarity addresses the relationship between leaders, planners, subordinates, and associated organizations. It is achieved through the ability of subordinates and associated organizations effectively to ensure unity of effort. Strategic leaders must understand the capabilities and the limitations of their subordinates and partners, and structure

their guidance and plans accordingly. Strategic leaders must also clearly articulate to subordinates their strategic vision or intent. Finally, clarity is focused internally: it helps strategists augment their effectiveness and efficiency rather than directly eroding the effectiveness and efficiency of opponents.

Clarity does not mean that plans should be short or even that they should always contain the fewest possible components, but only that they can be communicated with maximum understanding. Nor does clarity necessarily mean simple. The abilities of the organizations that will implement strategies largely determine how complex a strategy can be without losing clarity. Well-trained, experienced subordinate staffs, units, and partners operating within the same institutional culture as strategic planners and leaders can tolerate higher levels of complexity and greater degrees of friction without losing synchronization than can less-trained, less-experienced, or more diverse subordinate units and partners.

This conclusion suggests a corollary to the principle of clarity: the more diverse a strategic coalition (whether multinational or multiagency), the more important clarity becomes and the harder it is to attain. In the realm of military strategy, for instance, a large degree of ingrained understanding may exist between strategic leaders and their subordinate and associated units. In grand strategy or multinational strategy, where diversity of institutions and national cultures will be the norm and where obfuscation may be a key element in building consensus within a complex coalition, understanding may be less deep. The pursuit of clarity, therefore, will demand greater attention.

In the 21st century, the rapid pace of decision and action will further increase the importance of clarity. Since there will be less time to correct misunderstandings and misperceptions in the midst of execution, strategic plans must be clear from the outset. To some extent, improved communications technology, such as realistic simulations, teleconferencing, and the use of "virtual staffs," will increase the tolerance for complexity. But considerable effort still will be required.

While classified or controlled strategic plans should be as clear as possible, the public versions of strategies, which will be seen by supporting publics, as well as potential opponents, require a different type of clarity. In fact, analysts have long argued that deliberate ambiguity in the public version of a strategy augments deterrence by not allowing an opponent to know precisely what sort of actions will provoke a response. As a negative example, Secretary of State Dean Acheson, by excluding South Korea from the U.S. "defense perimeter" in the Far East during a January 12, 1950 speech, is often accused of inadvertently providing a go-ahead for North Korean aggression.[31] This suggests that clarity within a strategic coalition may be a *linear* good where more is always better; but clarity in public strategies must be balanced with deliberate ambiguity according to the situation.[32]

Surprise.

Accrue disproportionate advantage through action for which an adversary is not prepared.

The proposed definition makes the principle more encompassing and more applicable at the strategic level. It recognizes that, at the strategic level, the principle of surprise bears on actions that may not involve striking the enemy. This expanded definition also accommodates all the elements of national power, not simply the military element.

A word of caution is appropriate at this juncture. Surprise, in and of itself, is devoid of quality–it is neither good nor bad. Surprise can only be useful if the actor gains tangible benefit from its application. While this point may seem obvious, it may help practitioners at the strategic level focus on the potential costs, as well as benefits of pursuing surprise.

For the United States, surprise at the strategic level is perhaps the most dichotomous principle of war. The openness of the U.S. system of government that features unclassified national security and military strategies, as well as intensively reported public debates on virtually all aspects of national defense, leaves it poorly postured for acts of strategic surprise. Additionally, the United States cannot embrace strategic

surprise without infusing a certain amount of unpredictability in its foreign policy which may provide short-term advantages that are outweighed by long-term adverse consequences.[33]

Several additional aspects of the principle of surprise may warrant particular attention. In the future, more, and more complete, information will be available (and faster) to assist strategists and policymakers in their planning and decisionmaking. The time required to distill the mounds of data into usable intelligence may also be compressed. Conversely, the political processes involved in decisionmaking at the strategic level will likely remain cumbersome for democratic governments. And, because of the increased accessibility of information–to decisionmakers and the public–the process may be more complex, and slower than many anticipate. This may limit improvements in strategic agility that currently appear possible in the Information Age. Strategists and decisionmakers may be little able to affect this situation, but they must take the phenomenon into account and devise procedures and processes that will expedite human decisionmaking and keep it on par with the capabilities of electronic decisionmaking aids.

The ability to gather, sort, process, and understand information will be unevenly distributed among nations in the early 21st century. Initially, at least, the United States should enjoy a distinct advantage, especially at the tactical and operational level. But, at the strategic level, the ability to accurately gauge the intentions of potential adversaries will remain a challenge. In sum, advances in technology may offer a better "picture" of the physical attributes and activities of an opponent, but it will not necessarily grant access into an opponent's mind, thought processes, and intent.[34]

An increased number and variety of employment options can contribute to strategic surprise. During the Cold War, potential U.S. adversaries could predict fairly reliably the manner in which the United States would mount a military response. It was apparent within our doctrine, force structure, and training. If, however, U.S. armed forces organize around information (vice weapon) systems and military organizations become less hierarchical and more decentralized, greater variations of methods are possible, hence enhancing

uncertainty about potential U.S. responses. When coupled with Information Age organizations, such as adaptive joint force packages, fitted with substantially enhanced information and intelligence capabilities, and armed with weapon systems designed to leverage available technology, strategic surprise (i.e., the differential between action and effective reaction) may be possible.

Information Age technologies also hold considerable potential to improve the capacity for strategic deception. Not only will technologically advanced militaries be able to identify, define, and exploit an adversary's indications and warnings networks, they may be able to influence an adversary's perceptions. They must be careful, however, not to deceive other elements of government or friends and allies, thereby hindering achievement of national objectives. Indeed, a country may find that any significant deception on the "information superhighway" may have consequences impossible to predict beforehand and, therefore, may find such deception unpalatable.

Moreover, nations must remember that the "information highway" is a network–not a road–that runs in many directions, making all states susceptible to electronic penetration and deception measures. The demonstrated permeability of even the most "secure" information systems,[35] and the ever increasing number of countries with access to multi-spectral imagery may constrain our ability to "hide" our intent, thus making strategic surprise more difficult.

Security.

Minimize the vulnerability of strategic plans, activities, relationships, and systems to manipulation and interference by opponents.

Strategy pits two (or more) parties, each attempting to use power to gain advantage over the other. The more opponents know of your intentions and capabilities, the easier they can counter or thwart them. Therefore, denying an opponent insight into your intentions, plans, and capabilities remains a key

principle of war for strategists. Paradoxically, however, a deterrence strategy requires that an opponent have clear insights into intentions and capabilities.

At the strategic level, security has an internal dimension that deals with relationships among strategists, their subordinates, and their partners, and an external dimension that deals with opponents or enemies. The internal dimension of security includes the protection of plans and intentions–what is usually known as operational security or OPSEC–but also entails counterintelligence, counterdeception, C^3I redundancy, and defensive information warfare.[36] The external dimension includes intelligence gathering and analysis, deception, and offensive information warfare. The precise value of each dimension will vary according to the nature of the opponent.

Several factors complicate security at the strategic level. For instance, security has joint and interagency and often multinational dimensions. This necessarily requires that more organizations have access to vital information; but the more information is dispersed, the more difficult it is to protect. Moreover, because many individuals and organizations need access to key information, compartmentalization and control of vital information have to be balanced against clear and complete communications.

A further obstacle arises because strategic plans and intentions must be part public and part private or secret. Security entails protection of the classified portion and limiting any vulnerability that may arise from the public dimension. Such protection may be defensive, using classification or deliberate vagueness, or offensive, through deception.

Security at the strategic level also is complicated by the fact that it is not always clear against whom to secure. Strategy entails a spectrum of actors ranging from a full and committed ally to an outright enemy. The difficulty lies not at the poles of the spectrum–appropriate behavior is obvious when dealing with allies or enemies. Problems occur in the ambiguous middle region, with actors whose ultimate intentions are not clear.

In the 21st century, intelligence collection and analysis capabilities of strategic actors will increase, as will their ability to protect their own intentions and capabilities. This means that the precise techniques for assuring security will change, but the centrality of the concept will not. One of the biggest challenges for strategic leaders in the 21st century will be cyber security–protecting computers and the links between them. Technology has the potential to facilitate security, but commanders must be careful to avoid over-reliance on it, for, as numerous examples clearly indicate, no security system is completely effective.[37]

CONCLUSIONS

As yet, nothing known or predicted about the Information Age provides conclusive evidence that the development of strategy in the 21st century will be remarkably different than in the past. Clearly, however, strategy will remain a creative activity. Future strategists, like their predecessors, therefore must avoid a "cookie cutter" mentality as they create, develop, and execute strategic plans. But that fact does not diminish the utility of having principles to assist in the creative process. Creativity, without bounds, can be a risky enterprise.[38] Free-wheeling creativity may be acceptable for the fine arts, but even painters, sculptors, and choreographers employ basic theories and disciplined thought regarding their art forms to guide their creative processes. So, too, must strategists, for the costs of strategic failure can be catastrophic. The fundamental theory behind the principles of war is valid at the strategic level, and will remain so in the 21st century. No better guide for the development of national security or military strategy exists.

Thus, the principles of war retain considerable utility for modern strategists as they delve into the questions of the 21st century. As adapted here for use at the strategic level of warfare and for future conditions, the principles of war can continue to act as a guide–not a prescription–for strategists, helping them navigate through the complex labyrinth of strategy formulation and execution in the 21st century.

ENDNOTES

1. For example, Sun Tzu, *The Art of War* (ca. 500 B.C.); Thucydides, *History of the Peloponnesian War* (ca. 400 B.C.); Vegetius, *The Military Institutions of the Romans* (390); Niccolai Machiavelli, *The Art of War* (ca. 1510); Marshall de Saxe, *My Reveries Upon the Art of War* (1757); Frederick the Great, *The Instruction of Frederick the Great for His Generals* (1747); Napoleon, *Napoleon's Maxims*, (1827); Carl von Clausewitz, *On War* (1832); A.T. Mahan, *The Influence of Sea Power Upon History, 1660-1783*; Guilio Douhet, *Command of the Air* (1921); Bernard Brodie, *Strategy in the Missile Age* (1959); Martin Van Creveld, *The Transformation of War* (1991).

2. Clausewitz's *On War* immediately leaps to mind.

3. See, e.g., *The Military Maxims of Napoleon* in T.R. Phillips, ed., *Roots of Strategy*, Harrisburg, PA: Stackpole Books, 1985, or any of the lists from Marshall Foch, Major General J.F.C. Fuller, G.F.R. Henderson, B.H. Liddell Hart, Marshall Lyautey, *et al.*, found in John I. Alger, *The Quest for Victory: The History of the Principles of War*, Westport, CN: Greenwood Press, 1982, *passim*.

4. The first American use of the principles of war can be traced to the U.S. Army's 1921 version of *Army Training Regulations*. These principles have their distant roots in Baron Antoine-Henri de Jomini's *The Art of War* (Westport, CN: Greenwood Press, n.d., reprint of 1862 edition), and their immediate roots in the work of Major General J.F.C. Fuller as he attempted to distill lessons from the failed British campaigns of 1914-1915. (See Alger, *The Quest for Victory*, pp. 113-145). Although the principles of war disappeared from later versions, they were reintroduced in the 1939 draft version of *Field Service Regulations* (*FSR*s). Since that time, the principles of war have been incorporated into subsequent *FSR*s, as well as their successor, Field Manual 100-5, *Operations* (save the 1976 version). The principles of war also have been addressed–in varying levels of detail–in Field Manual 100-1, *The Army*, since that keystone document first appeared in 1978. See also Colonels Walter P. Franz and Harry G. Summers, "Principles of War: An American Genesis," An Occasional Paper from the Strategic Studies Institute, U.S. Army War College, February 20, 1981, p. 3; and Alger, *The Quest for Victory*, Appendices 43, 45, 53, and 54.

5. Joint Pub 3-0, *Doctrine for Joint Operations*, Washington, DC: U.S. Government Printing Office, September 1993, p. A-1.

6. See, for example, the cursory treatment in B.H. Liddell Hart, *Strategy*, 2d rev. ed., New York: Frederick Praeger Publishers, 1968, pp. 347-350. Jomini's *The Art of War* addresses the application of the principles of war at what he described as the strategic level, but which modern practitioners

would characterize at the operational level of war. Alger, *The Quest for Victory*, offers the most complete discussion at the strategic level, but his contribution is largely unique.

7. Edward Luttwak, "Toward Post-Heroic Warfare," *Foreign Affairs*, Vol. 74, No. 3, May/June 1995, p. 114.

8. For a discussion of these issues, see James O. Kievit and Steven Metz, *Strategy and the Revolution in Military Affairs: From Theory to Practice*, Carlisle Barracks, PA: Strategic Studies Institute, June 27, 1995.

9. Clausewitz, *On War*, Book One, Chapter 3, p. 101.

10. At this point it must be noted that disregard of the principle "objective" is *always* exceedingly risky. Yet one can argue that, historically, it has been among the most disregarded, not least by the United States, with oftentimes adverse results.

11. Thus, the authors adhere to Clausewitz's view that the principles of war (theory) are a means of study, rather than ". . . a sort of *manual* for action," (Clausewitz, *On War*, Book Two, Chapter Two, p. 141. Emphasis in the original) rather than the more prescriptive approach of Jomini. See Jomini, *The Art of War*.

12. "Strategic level of war–The level of war at which a nation, often as a member of a group of nations, determines national or multinational (alliance or coalition) security objectives and guidance, and develops and uses national resources to accomplish these objectives. Activities at this level establish national and multinational military objectives; sequence initiatives; define limits and assess risks for use of military or other instruments of power; develop global plans or theater war plans to achieve these objectives; and provide military forces and other capabilities in accordance with strategic plans."

"National military strategy–The art and science of distributing and applying military power to attain national objectives in peace and war."

Joint Pub 1-02, *Department of Defense Dictionary of Military and Associated Terms*, Washington, DC: U.S. Government Printing Office, March 23, 1994, pp. 363 and 254, respectively.

13. The elements of national power listed here are an amalgam consolidated from a variety of sources. Traditionally, political, economic, and military elements of national power have long been recognized. (See, e.g., Henry Kissinger, *Diplomacy*, New York: Simon and Schuster, 1995, p. 22.) B.H Liddell Hart, the noted strategist included diplomacy and morale as key elements (B.H. Liddell Hart, *Strategy*, New York: Signet, 1974, pp. 321-322). The *National Military Strategy* lists economic, diplomatic,

informational, and military elements of power. *National Military Strategy of the United States of America*, Washington, DC: U.S. Government Printing Office, 1995, p. 1. For a discussion of the elements of national power and their interaction, see David Jablonsky, "National Power," in Readings, Course 2, "War, National Policy, and Strategy," Academic Year 1995, Carlisle Barracks, PA: Department of National Security and Strategy, September 11, 1994, Vol I, pp. 163-195.

14. Even within the military element of power, different services are likely to identify certain goals as more easily attainable with their particular capabilities. A navy, for example, will find interruption of an adversary's sea lines of communication a more congenial mission than defense or seizure of vast expanses of land; an army will probably have exactly the opposite conception.

15. This is essential because "ways" at the strategic level will become "ends" for subordinate elements at the operational level. In the same way, operational "ways" become the tactical subordinates "ends."

16. For example, preparing to repel a predicted strategic offensive, whether in the form of diplomatic, economic, informational, or military actions, may allow the strategist to retain the initiative.

17. Using the Iraqi invasion of Kuwait as an example, the information that the United States possessed became important only when the United States took concrete action (e.g., briefing the Saudi royal family, the rapid transit movement of Desert Shield forces, and the decision to execute Operations Desert Storm and Saber) that actually seized, retained, or exploited the initiative. Conversely, the United States possessed technological dominance over Somali war lords with little apparent strategic effect.

18. For descriptions of the interagency process, see, e.g., Carnes Lord, ""Strategy and Organization at the National Level," *Grand Strategy and the Decisionmaking Process*, ed. James C. Gaston, Washington, DC: National Defense University Press, 1992, and ADM (ret.) Paul David Miller, *The Interagency Process*, Cambridge, MA: Institute for Foreign Policy Analysis, 1993. This does not imply that strategists and commanders should not proactively seek unity of command within U.S. operations when conditions warrant. In some cases, it will remain the shortest route to unity of effort. However, unified direction at the national level and unified action at the multinational level are more realistic methods of achieving strategic unity of effort.

Colonel Adolf Carlson, a U.S. Army War College colleague, points out that the essential problem at the interagency level may be that, unlike the military, the other instruments of national power are not yet disciplined by a rigorous estimates process that can forecast with any confidence whether

an envisaged action will result in the desired effect. Until that problem is overcome, he posits, unity of effort will be difficult to ensure, regardless of who is nominally in charge.

19. See, for example, the command and control relationships for coalition forces that participated in the Gulf War. Douglas W. Craft, *An Operational Analysis of the Persian Gulf War*, Carlisle Barracks, PA: Strategic Studies Institute, August 31, 1992, pp. 21-29 and H. Norman Schwarzkopf with Peter Petre, *It Doesn't Take a Hero*, New York: Bantam, 1992, pp. 302-472, *passim*. Or, more pointedly, see the U.S. reluctance to place its forces under other than national command. See, e.g., Ronald A. Taylor, "Foreign Command of U.S. Peacekeepers Debated," *The Washington Times*, August 19, 1993, p. 3; Trudy Rubin, "It's Too Soon to Put U.S. Troops Under Foreign U.N. Commanders," *The Philadelphia Inquirer*, August 20, 1993, p. 23; and The Clinton Administration's Policy on Reforming Multilateral Peace Operations (also known as PDD-25), May 4, 1994, pp. 9-11.

20. *A National Security Strategy of Engagement and Enlargement*, Washington, DC: U.S. Government Printing Office, February 1995, pp. ii, and 8-9, and the *National Military Strategy of the United States of America*, Washington, DC: U.S. Government Printing Office, 1995, pp. 10-11 and 13-14.

21. These issues could be ameliorated though increased reliance on Information Age capabilities, e.g., electronic staff exercises, shared data bases, "virtual" staffs, etc. For further information on such possibilities, see James O. Kievit and Steven K. Metz, *The Revolution in Military Affairs and Coalition Operations*, Carlisle Barracks, PA: Strategic Studies Institute, forthcoming.

22. Alvin Toffler, *The Third Wave*, New York: Morrow, 1980. For "third wave" warfare, see Alvin and Heidi Toffler, *War and Anti-War*, Boston: Little, Brown, 1993.

23. Thus, one can better understand the current frictions within NATO over the role of air power in Bosnia, as well as the diminished U.S. influence in the Balkan crisis.

24. Headquarters, Department of the Army, Field Manual 100-5, *Operations*, Washington, DC: U.S. Government Printing Office, June 1993, p. 2-4.

25. See, for example, the anxiety over the "CNN effect" described in Michael Dobbs, "The Amanpour Factor," *The Washington Post*, July 23, 1995, p. C3.

26. Clausewitz, *On War*, Book 1, Chapter 7, pp. 119-121.

27. Major General Richard A. Chilcoat, "Strategic Art: A Discipline for 21st Century Leaders," forthcoming, p. 4.

28. The Japanese response to the U.S. inspired oil embargo and freezing of financial assets in 1940-41 is an obvious example.

29. For example, the front page of *The Wall Street Journal* carried an article describing how in Iran:

> . . . an Islamic revolution is stirring–again.
>
> This time, the nerve center isn't the spartan lair of an angry ayatollah but the top floor of a modern theological seminary, where dozens of turbaned men with beards and bare feet peck at personal computers. Byte by byte, the young clerics–wired to the world via Sprintnet and other networks–are computerizing the full text and commentaries of all seven branches of Islamic law . . .
>
> . . . For years, many Iranian clerics opposed automating the scriptures; the mullahs feared that easier access would erode their preeminence in Iranian society. But younger, 'New Wave' mullahs, as the turbaned hackers are called, have persevered.
>
> "The spread of information will inevitably lead to a more moderate climate," says . . . the cleric who heads the Qom project . . . .

Peter Waldman, "Islamic Upheaval: Iranian Revolution Takes Another Turn, But Where Is It Going?," *The Wall Street Journal*, May 11, 1995, p. 1.

30. In a nonadversarial environment, the simplest strategic plan is best, since it eases the burden on subordinates and minimizes the opportunities for "Murphy's Law" to operate. In an adversarial environment, however, a simple plan may be easily understood by an opponent and accordingly foiled by his counteractions. Thus, the "strategic paradox" that Edward Luttwak describes in *Strategy: The Logic of War and Peace*, Cambridge, MA: The Belknap Press of Harvard University Press, 1987. The ideal is to be able to maintain a "complexity differential" where plans and actions are simple enough that subordinates can understand and execute, but sufficiently complex that understanding and counteraction by the adversary is insufficient or too late.

31. Dean G. Acheson, "Crisis in Asia–An Examination of U.S. Policy," reprinted in *Department of State Bulletin*, January 23, 1950, p. 116. For analysis, see Alexander L. George and Richard Smoke, *Deterrence in American Foreign Policy: Theory and Practice,* New York: Columbia University Press, 1974, pp. 141-157.

32. The distinction between linear and dyadic elements of strategy is developed in Steven Metz, *Eisenhower as Strategist: The Coherent Use of Military Power in War and Peace*, Carlisle Barracks, PA: U.S. Army War College, Strategic Studies Institute, 1993.

33. For example, strategic surprise can undermine strategic deterrence, an indispensable component of our national security and military strategies. On the one hand, deterrence requires visible capability and intent to act. On the other hand, a potential adversary's perception that the United States is capable of, and perhaps predisposed to achieving strategic surprise, could lead an opponent to a preemptive "surprise" attack of his own.

34. Two key examples of being able to read the mail, but not the mind immediately leap out: the Japanese attack on Pearl Harbor and the Battle of the Bulge. In the first instance, U.S. code breakers had forecast that the Japanese would execute a strategic level attack, but had concluded that the attack would occur in the then Netherlands East Indies. In the second case, the ULTRA system routinely intercepted and deciphered German radio traffic. But all communications concerning the German offensive in the Ardennes occurred over telephone and telegraph lines, to which the Allies did not have access. Thus, faulty assessment or too much reliance on a single source led to an opponent achieving surprise.

35. See, for example, Peter Lewis, "Security is Lost in Cyberspace," *The New York Times*, February 22, 1995, p. D1, 19.

36. On information warfare, see John Arquilla and David Ronfeldt, "Cyberwar is Coming!" *Comparative Strategy*, Vol. 12, No. 2, April-June 1993, pp. 141-165; Winn Schwartau, *Information Warfare: Chaos on the Electronic Superhighway*, New York: Thunder's Mouth Press, 1994; and George J. Stein, "Information Warfare," *Airpower Journal*, Vol. 9, No. 1, Spring 1995, pp. 30-55.

37. For example, during World War II, the Japanese relied heavily on their Purple diplomatic ciphers, and the Germans retained a high degree of confidence in the impenetrability of their Enigma coding machines, despite the fact that the Allies routinely intercepted and decrypted thousands of messages. More recent and pertinent, perhaps, are the Walker family spy network that provided the Soviets with information that allowed them to decrypt high level U.S. communications and computer hackers who periodically penetrate highly sophisticated electronic protection systems.

38. Acceptable risk is a fluid concept that shifts according to conditions and leaders. See Steven Metz, "Analyzing Operational and Strategic Risk," *Military Review*, Vol. 71, No. 11, November 1991, pp. 78-80.

APPENDIX A

THE PRINCIPLES OF WAR[1]

OBJECTIVE:

The purpose of the objective is to direct every military operation toward a clearly defined, decisive, and attainable objective.

The objective of combat operations is the destruction of the enemy's armed forces' capabilities and will to fight. The objective of an operation other than war might be more difficult to define; nonetheless, it too must be clear from the beginning. Objectives must directly, quickly, and economically contribute to strategic objectives. Avoid actions that do not contribute directly to achieving the objective.

OFFENSIVE:

The purpose of the offensive is to seize, retain, and exploit the initiative.

Offensive action is the most effective and decisive way to attain a clearly defined objective. Offensive operations are the means by which a military force seizes and holds the initiative while maintaining freedom of action and achieving decisive results. The importance of offensive action is fundamentally true across all levels of war.

Commanders adopt the defensive only as a temporary expedient and must seek every opportunity to seize or re-seize the initiative. An offensive spirit must therefore be inherent in the conduct of all defensive operations.

MASS:

The purpose of mass is to concentrate the effects of combat power at the place and time to achieve decisive results.

To achieve mass is to synchronize appropriate joint force capabilities where they will have decisive effect in a short period of time. Mass must often be sustained to have the desired effect. Massing effects, rather than forces, can enable even numerically inferior forces to achieve decisive results and minimize human losses and waste of resources.

ECONOMY OF FORCE:

The purpose of economy of force is to allocate minimum essential combat power to secondary efforts.

Economy of force is the judicious employment and distribution of forces. It is measured application of available combat power to such tasks as limited attacks, defense, delays, deception, or even retrograde operations in order to achieve mass elsewhere at the decisive point and time.

MANEUVER:

The purpose of maneuver is to place the enemy in a position of disadvantage through the flexible application of combat power.

Maneuver is the movement of forces in relation to the enemy to secure or retain positional advantage, usually in order to deliver–or threaten delivery of–the direct and indirect fires of the maneuvering force. Effective maneuver keeps the enemy off balance and thus protects the friendly force. It contributes materially in exploiting successes, preserving freedom of action, and reducing vulnerability by continually posing new problems for the enemy.

UNITY OF COMMAND:

The purpose of unity of command is to ensure unity of effort under one responsible commander for every objective.

Unity of command means that all forces operate under a single commander with the requisite authority to direct all forces employed in pursuit of a common purpose. Unity of effort, however, requires coordination and cooperation among

all forces toward a commonly recognized objective, although they are not necessarily part of the same command structure. In multinational and interagency operations, unity of command may not be possible, but the requirement of unity of effort becomes paramount. Unity of effort–coordination through cooperation and common interests–is an essential element of unity of command.

SECURITY:

The purpose of security is to never permit the enemy to acquire unexpected advantage.

Security enhances freedom of action by reducing friendly vulnerability to hostile acts, influences, or surprise. Security results from measures taken by commanders to protect their forces. Staff planning and understanding of enemy strategy, tactics, and doctrine will enhance security. Risk is inherent in military operations. Application of this principle includes prudent risk management, not undue caution. Protecting the force increases friendly combat power and preserves freedom of action.

SURPRISE:

The purpose of surprise is to strike the enemy at a time or place or in a manner for which it is unprepared.

Surprise can help the commander shift the balance of power and thus achieve success well out of proportion to the effort expended. Factors contributing to surprise include speed in decisionmaking, information sharing, and force movement; effective intelligence; deception; application of unexpected combat power; operations security; and variations in tactics and methods of operation.

SIMPLICITY:

The purpose of simplicity is to prepare clear, uncomplicated plans and concise orders to ensure thorough understanding.

Simplicity contributes to successful operations. Simple plans and clear, concise orders minimize misunderstanding and confusion. When other factors are equal, the simplest plan is preferable. Simplicity in plans allows better understanding and execution planning at all echelons. Simplicity and clarity of expression greatly facilitate mission execution in the stress, fatigue, and other complexities of modern combat and are especially critical to success in combined operations.

ENDNOTE

1. Joint Chiefs of Staff, *Joint Publication 3-0: Doctrine for Joint Operations*, Washington, DC: U.S. Government Printing Office, 1993. Because individual Service doctrine derives from joint doctrine, the principles of war contained in Service manuals conform to Joint Pub 3-0. However, because of the unique characteristics of each Service, elaborations and discussions contained in the various Service manuals differ somewhat from Joint Pub 3-0.

APPENDIX B

ALTERNATIVE APPROACHES

Our recommendations for revising the principles of war are not radical. They represent more incremental change, updating, and focusing than wholesale change. This is probably because the principles, as they exist, have been so carefully honed over time that they reflect the "truth" as accurately as possible.

In order to revalidate continually the principles of war, though, it is necessary to occasionally consider truly radical alternatives, even if only to reject them after thoughtful consideration. Two radical alternatives immediately come to mind. One might be called the "maximalist" approach, which posits that war has become so complex that no single set of principles can apply to all of war's variations. The time-tested principles work for conventional combined arms warfare, but a totally different set of principles would be required for guerrilla warfare, information warfare, or other forms.

At the other extreme, the "minimalist" approach suggests that the existing principles of war can be further distilled. For example, if "principles" offer guidance that always holds and which is universally applicable, many of the traditional "principles of war" do not fit at the strategic level. Some, such as "surprise," do not hold under all conditions. Others, like "unity of effort," may not apply to complex multinational forces. Having "principles" that only apply under some conditions or at certain times is, to say the least, confusing. For the sake of clarity and simplicity, then, it makes sense to distill the "principles of war" at the strategic level to two:

- Take all possible actions to increase your effectiveness and efficiency.

- Take all possible actions to erode an opponent's effectiveness and efficiency.

Most, if not all, of the traditional principles of war are actually useful (but not necessarily universal) ways of attaining these two overarching principles. Many ideas that are specific to the strategic level or the contemporary arena are also valuable methods of attaining those principles. Thus, the "minimalist" approach rigidly separates "principles" from the techniques for implementing them. For instance, to "take all possible actions to increase your effectiveness and efficiency," strategists:

- Must define, communicate, prioritize, and periodically adjust clear and attainable objectives;
- Must seek unity of effort;
- Should focus resources on the most important objective(s);
- Should maximize strategic resources (economic, military, psychological, and military) to the point that costs begin to outweigh benefits;
- Should synchronize the elements of national power;
- Should think and plan as far into the future as possible;
- Should seek clear responsibility and communications arrangements;
- Should protect friendly resources;
- Should make sure that objectives and plans are understood and implementable by all involved organizations and individuals;
- Should develop the ability to act, react, and adapt rapidly;

- Should mobilize the broadest and deepest possible support base for objectives and methods of attaining them.

Some of these are imperatives; others are desirable, but often not debilitating if not attained.

Similarly, to "take all possible actions to erode an opponent's effectiveness and efficiency," strategists:

- Must place the opponent in a position of disadvantage;
- Must understand the opponent;
- Should seize, retain, and exploit the initiative;
- Should apply the appropriate element and amount of national power at the decisive time and place;
- Should develop the ability to anticipate correctly an opponent's actions;
- Should create and manipulate a "complexity differential" between friendly and opposing organizations.

Distilling the principles to two will help strategists distinguish true, immutable principles from things that are usually a good idea, but not always so. It also will help distinguish the purely strategic from the strategic/operational.

In terms of the two principles, one additional fact becomes clear: the first is purely strategic in that it entails force development and the augmentation of capabilities. The second is strategic/operational. This has implications for who will make the most use of the principle and how he will do it. From a military perspective, for instance, the services are more concerned with the first principle as they raise, train, and equip forces. The commanders of the regional unified commands (CINCs) should be guided by both the first and the second as they augment their own capability and erode the capability of opponents. Moreover, contending that there are multiple ways

to attain each of the two immutable principles would also stress that strategy is essentially a creative activity not reducible to axioms or checklists.

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