REPORT DOCUMENTATION PAGE

AD-A269 965

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	1 Jan 87	Final: JANUARY 1987

4. TITLE AND SUBTITLE	5. FUNDING NUMBERS
THE EFFECTIVENESS OF MILITARY ORGANIZATIONS	C: NONE

6. AUTHOR(S) Various

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)	8. PERFORMING ORGANIZATION REPORT NUMBER
The Ohio State Univ. Columbus, OH 43210	NONE

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSORING/MONITORI AGENCY REPORT NUMBER
Office of the Secretary of Defense Office of the Director of Net Assessment Rm 3A930, The Pentagon Washington, D.C. 20301	87-0083

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION/AVAILABILITY STATEMENT	12b. DISTRIBUTION CODE
A. Approved for public release; distribution is unlimited.	

13. ABSTRACT

Assesses effectiveness of military organizations.

14. SUBJECT TERMS			15. NUMBER OF PAGES
Military Organizations			376
			16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	SAR

NSN 7540-01-280-5500

Standard Form 298 (Rev. 2-89)
Prescribed by ANSI Std Z39-18 298-102

THE EFFECTIVENESS OF MILITARY ORGANIZATIONS

Allan R. Millett, Williamson Murray, and Kenneth H. Watman
Mershon Center, The Ohio State University

Introduction

The interrelated issue of military structure and effectiveness confronts planners and commanders with some of the most intractable intellectual issues associated with organizational behavior. The realities of preparing forces to kill and to face death in the service of the state create problems with no analogues in other forms of social interaction. It is easier to define the behaviors one wishes to discourage in individuals -- cowardice, flight, and non-cooperation -- than to define the positive performance of complex organizations, which all armed forces inevitably become. "The primary object of organization," wrote General Sir Ian Hamilton, "is to shield people from unexpected calls upon their powers of adaptability, judgment, and decision."[1] Yet other commanders have observed that individual and organizational flexibility is essential to military success.

Despite a sizeable theoretical literature on organizational efficiency, military effectiveness remains an ill-defined concept. For some civilian and military analysts, effectiveness is tied to the social

structure of military organizations. The sociological approach focuses on factors such as unit cohesion, group solidarity, small unit leadership and _Kameradschaft_. Similar research seeks to link effectiveness to non-material factors like esprit, staying power, and the will-to-fight. Outside of the small-unit focus, the sociological focus -- regardless of whether the methodology is quantitative or descriptive -- may provide special insights on the likely performance of large scale military organizations, since it focuses on such problems as the normative aspects of officership, recruitment, military socialization, morale and political attitudes, and troop trainability.[2]

The operational approach emphasizes the importance of doctrines and tactical systems and their proper utilization on the battlefield. By implication, this concept is also sensitive to companion issues such as training and leadership, but pays special attention to weapons utilization. The analysis may flow from various types of wargames, a mainstay of military education for almost two hundred years, or from field exercises. It may also be developed from combat experience, distilled from post-combat interviews, or analyzed in the quantitative reconstruction of a series of engagements. Operational analysis pays special attention to the physical environment in which military events occur, and it may even attempt to introduce such mathematical rigor that it allows prediction or at least the establishment of probable outcomes. Most comparisons of modern armed forces utilize such approaches. While operational analysis employs quantitative techniques for the prediction of combat results between various forces, it has also been transformed into another variant, systems analysis, which produces cost-benefit comparisons of functionally similar forces in order to aid in, the building of strategic theory, the clarifying weapons procurement, and the

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assessing of logistical efficiency.[3]

These modes of analysis, however valid, provide only partial answers to organizational effectiveness. Military activity is extraordinarily heterogeneous, and the existing measures of effectiveness may fail to capture the full complexities of military organizations and their missions. Military activity has both vertical and horizontal dimensions. The vertical dimension involves the preparation for and conduct of war at the political, strategic, operational, and tactical levels. Taken together, these categories form a hierarchy of actions which military organizations must coordinate from the highest policy levels to tactical execution. The horizontal dimension consists in the numerous, simultaneous, and interdependent tasks that military organizations must execute at each hierarchical level with differing levels of intensity in order to perform with proficiency. These tasks include manpower procurement, planning, training, logistics, intelligence, and technical adaption as well as combat. An adequate definition of military effectiveness must include all these aspects of military activity. Similarly, the determination of overall military effectiveness requires assessments across the horizontal and vertical range of military activities. In addition, a true assessment of effectiveness should examine the likely barriers to purposeful change as well as the opportunities for reform. Aggregating the estimated effectiveness of hundreds of small units is not the same as evaluating overall organizational performance.

Definitions and General Points

Military effectiveness is the process by which armed forces convert resources into fighting power. A fully effective military is one that derives maximum combat power from the resources physically and politically available. Effectiveness thus incorporates some notion of efficiency. Combat power is the ability to destroy the enemy while limiting the damage that he can inflict in return. The precise amount of necessary damage depends on the goals of the war and the physical characteristics of armed forces committed to its prosecution. Resources represent the spectrum of assets important to military organizations: human and natural resources, money, technical prowess, industrial base, governmental structure, sociological characteristics, political capital, the intellectual qualities of military leaders, and morale. The constraints under which military organizations labor are both natural and political. Natural constraints include such things as geography, natural resources, the economic system, population, time, and weather. Political constraints refer to national political and diplomatic objectives, popular attitudes towards the military, the conditions of engagement, and civilian morale.

Obviously, no precise calculation of the aggregate military effects of such disparate elements is possible. But it is essential to reach a judgment about the possibilities open to a particular military organization in a given situation. Only then can one compare national armed forces, possessing vastly different characteristics, problems, and

enemies, in a fashion that can explain their relative effectiveness.

Some relationship exists between military effectiveness and victory. If "victory" were the sole criterion of effectiveness, however, one would conclude that the Russians were more effective than Finns in the "Winter War" of 1939-1940 or the Germans 1941-1945 war. However, a detailed examination of those struggles suggests that this was simply not so. Rather the Finns and Germans functioned more effectively at the operational level with limited resources than did their opponents. Victory is an outcome of battle; it is not what a military organization does in battle. Victory is not a characteristic of an organization but rather a result of organizational activity. Judgments on effectiveness should retain some sense of proporational cost and organizational process.

Military activity takes place at four different levels: political, strategic, operational, and tactical. Each category overlaps others, but each is characterized by different actions, procedures, and goals. Therefore, one must assess military effectiveness separately at each level of activity. It is doubtful whether any military organization is completely effective at all four levels simultaneously. No doubt this results from human limitations, but it also reflects the fact that the prerequisites for effectiveness at one level may conflict with those of another. For example, American military forces in South Vietnam might have increased their effectiveness at the tactical level by a greater willingness to close with the enemy instead of relying so much on indirect firepower. However, the price would likely have been higher casualties and therefore reduced political effectiveness.[4] When such conflicts occur, the organization may have to make deliberate choices to diminish effectiveness at one level in order to enhance effectiveness at other levels.

The basic characteristics of military effectiveness cannot be measured with precision. Instead, any examination must rely on more concrete indicators of effectiveness at the political, strategic, operational, and tactical levels. Therefore, we have divided the remainder of this essay into four sections. Each begins with a general description of a level of military activity and then examines various aspects of effectiveness for that particular level. The answers provided aim at focusing attention cn the various facets of military effectiveness at that level and at determining precisely where and in what ways organizations have or have not been effective. The goal is to identify those characteristics of military organizations useful to planners interested in assessing the effectiveness of potential adversaries or allies.

I. *Political Effectiveness*

For a military organization to act strategically, operationally, or tactically, it must consistently secure the resources required to maintain, expand, and reconstitute itself. Almost always, this requires the military to obtain the cooperation of the national political elite. Hence, the effort to obtain resources for military activity and the proficiency in acquiring those resources constitute political effectiveness. Resources consist of reliable access to financial support, a sufficient military-industrial base, a sufficient quantity and quality of manpower, and control over the conversion of those resources into military capabilities. The process through which modern military organizations obtain resources follows a general pattern. Military leaders assess potential adversaries and calculate the variety and level of the threat posed to national security. On the basis of those conclusions, they present arguments to the political leadership for a share of resources over some period of time to meet the threats to national security. Depending upon the regime and circumstances, military services will face objections from civilian departments that other needs are more crucial to national welfare. In a limited sense, a military organization's political effectiveness depends on an ability to articulate its needs more persuasively than its competitors.

A critical element in the ability to persuade or coerce involves the degree to which the political elite regards military activity as legitimate and officership as a distinct profession requiring extended

education and special expertise. If the political leadership perceives military skills as largely intuitive and undifferentiated from civilian occupations, military arguments for a large share of the nation's resources are not likely to carry much weight. However, to the extent officers are viewed as experts in a specialized and demanding function not mastered without long preparation, military assessments of the threat confronting a nation and recommendations for a particular response are much less likely to be directly contested. Military claims on resources may still not be granted in toto, but the credibility of the military's arguments for resources will usually not be the primary issue in dispute. Without political effectiveness, all other types of effectiveness are endangered. The following are various measures for evaluating the political effectiveness of a military organization.

A. To what extent can military organizations assure themselves a regular share of the national budget sufficient to meet their major needs?

Obviously armed forces needs financial and economic support. The mechanisms through which they satisfy their requirements vary from nation to nation. But in each the essence of the process is similar: The armed forces must compete both among themselves and with others for scarce resources. They accomplish this by convincing the political leadership that their needs are of greater importance than those of others. There are various cases to be made, but usually the military must educate or persuade budgetary authorities that the nation will face increased risk and dangers without the desired funding. This case is usually made by assessing the capabilities of potential adversaries and by using that

analysis to extrapolate possible intentions. Armed forces persuasive enough to secure steady, predictable, and high levels of support must rate highly in terms of political effectiveness.

Both the British Army and the French Air Force during the interwar period provide examples of political ineffectiveness as measured by their ability to secure resources. In the former case, the British Army was underfunded in almost every category of budgetary support. Admittedly, factors outside the army's control, such as the popular revulsion over the slaughter on the Western Front and the political denial of the strategic necessity for a continental commitment, contributed to this state of affairs. Nevertheless, the army generally failed to convey its strategic vision to those in power. Similarly the French Air Force failed in the same period to articulate the importance of its mission to the politicians of the Third Republic. Only in 1938 when the mismatch between French and German air strength had reached catastrophic proportions was the French Air Force able to influence its government and then, the desperate scramble to make up what the French "locust years" had lost occurred too late.[5]

B. To what extent do military organizations have access to industrial and technological resources necessary to produce the equipment needed?

Even with an ample budget, armed services still must convert financial support into equipment. They can do this either by depending upon national industries or by importing arms from abroad. Almost all military organizations need to do some of both, but, as a general rule, more advanced forces generally rely on internal sources of supply. To

the degree armed forces acquire their equipment from domestic sources, they must assess their nat*on's industrial, technical, and research and developmental capabil*ties, communicate their requirements, supervise and monitor production of those items and test the end products. In a market economy they must consider the relationship of investment risk to price. To operate such a system requires technologists capable of dealing with such concerns in the language of business, engineering, and science. Military organizations dependent on foreign suppliers may not need such elaborate arrangements, but they do require an ability to assess products and to enter into intelligent commercial relationships with suppliers. A military organization that cannot or does not exploit either domestic or foreign industrial and scientific communities limits its effectiveness.

In the 1920s and 1930s despite considerable internal difficulties, the Soviet military was able to make good use of foreign technology as well as its own engineering and production capabilities. One example of domestic exploitation of foreign design was arguably the finest tank of World War II - the T-34. In the 1920s the Soviets imported the Christie tank suspension system and incorporated it into their tank designs. In the 1930s, building on their past experiences, they utilized their own engineering and industrial capabilities, including even naval architects, to design a series of vehicles that culminated in the T-34. They then put their design into production with relative dispatch, so that the T-34 was available for the 1941 battles and in increasing numbers thereafter. It proved one of the nastiest surprises of the war for German armored forces. On the other hand, the Italian military forces, despite the allocation of considerable resources and financial support (outspending the French in the 1935-1938 period), failed to utilize the capabilities of Italian industry.[7] Among other items, the Whitehead firm of Fuime

developed an aerial torpedo in the late 1930s: the Italian services showed no interest despite its obvious applicability to the Mediterranean theater, and the weapon was eventually sold to the Germans.[8] Such blindness to the importance of available technology, foreign as well as domestic, in general characterized the Italian military in the interwar period. The former case suggests an effective use of national industrial and technological resources; the latter, the opposite.

C. To what extent do military organizations have access to manpower in the required quantity and quality?

Access to manpower involves not only legal power, but also moral and practical legitimacy. For example, the military may possess the legal right to universal conscription, but coercion alone cannot provide the personnel, if the society, or an elite within it, desires to circumvent the legal structure. The history of various American drafts illustrates that societal resistance or support can influence not only the effectiveness of conscription, but also combat power.[9] Especially important for military organizations is the willing cooperation and service of the educated and skilled middle and upper classes. Without their participation, military skills particularly in the officer corps cannot be maintained at a sufficiently high level of expertise. In addition, the absence from military service of the most politically active and influential segments of society will serve to isolate and alienate the military from the nation they protect. The citizenry will then lose the sense that defense is a legitimate activity. Effectiveness by this measure requires that the nation not stigmatize its armed forces. Furthermore, officership must be regarded by both the officer

corps and civil society at large as a distinct profession incorporating a body of specialized knowledge and a code of self-regulation.[10]

II. Strategic Effectiveness

The strategic level of military activity refers to the employment of national armed forces to secure by force national goals defined by political leadership. Strategic activity consists of plans specifying time, geography, mission, and objectives and the execution of those plans. Subsumed within the definition are the analysis and selection of strategic objectives and the linkage of those objectives to national goals through the mechanism of campaign o contingency plans. A campaign is a sustained operation designed to defeat enemy forces in a specified space and time with simultaneous and sequential battles. Usually several campaigns are required to achieve strategic objectives. An example would be the decision by U.S. Army Air Forces in 1941 that airpower could be most effectively used in attacks on Germany to destroy its ability and will to make war. Another example would be the decision by American forces in the Pacific to launch an island-hopping campaign in order to bring air and seapower within range of the Japanese home islands.[11]

One must not confuse this military activity with the analysis and designation of national goals by the political leadership. Germany's total defeat was the primary political goal of the United States in the European theater; bombing German industry represented a strategic decision intended to secure that goal. However, political and military decisions at these levels do overlap and are made iteratively; a purely linear conception that political goals always drive strategic decisions is simplistic. Political goals no doubt should inform strategy, but the

strategic alternatives, enunciated by the military, may simultaneously shape those goals. The analysis of strategic effectiveness should aim at capturing this reciprocity.

A. To what degree would achievement of the organization's strategic objectives result in securing the political goals of the nation?

The need for consistency between strategic means and political ends has become a truism -- especially since the "rediscovery" of Clausewitz. Therefore a test of that means-ends relationship must be a fundamental measure of strategic effectiveness. The Japanese decision to attack the United States in the Pacific is an interesting case. Why did the Japanese believe that even a complete initial strategic success in the Pacific would result in a victorious peace with the United States?[12] An analysis demands more than an answer to why the Japanese adopted their course of action. Rather, it must also assess the process of Japanese strategic decision-making. Since effectiveness has a normative component, the critique must provide a well-supported judgment about the fit between the available strategic alternatives and Japanese national goals. The applicable normative standard would be the consistency or inconsistency between means and ends. A gap between means and ends beyond prudent risk would suggest ineffectiveness at the strategic level.

B. To what degree are the risks entailed in the desired strategic objectives consistent with the stakes involved and the consequences of failure?

A strategic objective or course of action may fit desired political goals, but still not be prudent if the risks and costs of failure are sufficiently great. Therefore an analysis must assess the chances and consequences of failure of available strategic alternatives. It must then compare these with the benefits of success and the costs of tolerating the status quo. Again, the analysis must emphasize the normative aspect of effectiveness, and it requires a critique of those cultural or psychological impediments to strategic effectiveness in each particular case. To return to the World War II Pacific case, one can argue reasonably that Japan's assumption that America lacked the will to fight simultaneously on two fronts (Pacific and Europe) constituted a key element in the Japanese decision for war. The analysis must evaluate this assessment both in terms of what the Japanese knew at the time and what they should and could be reasonably expected to have known. For example, was it intelligent for the Japanese to base their entire campaign against the United States upon an evaluation of national political will, a type of judgment that has historically proven notoriously unreliable? Did the Japanese impute too much rationality to their adversaries? Was it reasonable to devise a strategic plan that contained the possibility of catastrophic failure, if the predicted enemy behavior proved incorrect? To the extent the answers are negative, an analysis would judge the Japanese strategically ineffective.

C. To what degree were the leaders of the military organization able to communicate with and influence the political leadership to seek militarily logical national goals.

The process of selecting national political goals and strategic objectives should be interactive. Strategic objectives chosen in a political vacuum possess no meaning. Political goals chosen without reference to what is strategically possible are futile at best and disastrous at worst. The military must communicate effectively to political leadership what is militarily possible and thereby influence the choice of national goals. A military that performs this task badly is strategically ineffective. Obviously, such strategic effectiveness requires certain skills within the military leadership, including the ability to persuade with candor when required and obfuscation when necessary. Practical prowess in bureaucratic maneuvering and coalition building is essential. An interesting example is whether the American military were strategically effective in communicating their limits to the civilian leadership during the Vietnam war. General William C. Westmoreland has argued that he made clear that the level of available American ground forces in Vietnam required that most pacification tasks would fall to the South Vietnamese. This meant, argues Westmoreland, that progress toward American political objectives in Vietnam would be far slower than with more American troops. On the other hand, Colonel Harry G. Summers, Jr. asserts in his book On Strategy that the American military failed to inform President Johnson and his advisors about what was and was not militarily possible with the prescribed goals, forces, and rules of engagement.[13] If Westmoreland's view obtains, one would have to rate the strategic effectiveness of the American military more highly than if Summer's assessment prevails.

One must also note that there have been times in the 20th Century when military organizations have shown enormous political effectiveness in persuading the national leadership to accept illogical national

goals. *Wilhelmine Germany represents the most clear-cut example. From Tirpitz's "risk fleet" theory through to Ludendorff's and Hindenburg's arguments for overambitious strategic and political goals in 1917/1918 in both the East and West, the German military indicated political effectiveness but an effectiveness that resulted in the most catastrophic consequences.*[14]

D. *To what degree are strategic goals and courses of action consistent with force size and structure?*

Although a military organization may possess limited power over the ultimate fit between strategic decisions and national goals, it usually has more control over the extent to which its force structure is appropriate to its anticipated uses. Accordingly, the military's level of accountability in this area ought to be high. Force size, of course, refers to numbers, force structure to the internal organization and the composition of forces.

The Russo-German war provides significant examples of strategic ineffectiveness arising from a poor relationship between available forces and strategic objectives. Even in 1941 German forces were undoubtedly too small, too ill-equipped, and too badly supported for many of their strategic tasks. Above all they lacked an effective logistics structure to accommodate the distances and weather of the theater. Few infantry formations were mechanized. Strategic planning was careless and often incomplete, and the Germans generally refused to face the problems inherent in conquering a country of continental proportions. Similarly, in 1942 the Luftwaffe's assessment of its size, force structure, and the potential threat was so faulty that its continued emphasis on bomber

production and other decisions lost air superiority over the Mediterranean and Eastern fronts by late summer 1943 and over all of Europe by spring 1944.[15]

One can contrast these cases with the American naval forces in the pre-war Pacific. Both the Navy and Marine Corps anticipated the nature of amphibious warfare and the requirement for naval air superiority with considerable accuracy in the 1920s and 30s. While force numbers were still low by the late 1930s, especially in aircraft carriers and amphibious shipping, the force structure of the two organizations was fundamentally sound for the strategic tasks they faced. Therefore, the strategic effectiveness of these two military organizations was high.[16]

E. To what degree are the military's strategic objectives consistent with their logistical infrastructure and the national industrial and technical base? Included in industrial base are manufacturing capabili- ties and rates, reserve capacities, sophistication, vulnerability, and access to raw materials.

Clearly, different strategic objectives require diverse supporting organizations and industrial foundations. For example, Anglo-American strategy in the Second World War faced enormous logistical problems in waging war far from the centers of Allied power, in fighting a massive aerial campaign to break German industrial power, and in mounting and supporting great amphibious efforts on coastlines where well-entrenched, highly motivated forces awaited Allied landings. An industrial-technical base that did not possess enormous productive potential and that did not have access to large, secure sources of raw materials would have rendered

Anglo-American strategy difficult, if not impossible to implement. Likewise, the Anglo-American strategy that heavily emphasized the air arm required a foundation of continuous technological innovation and the ability to translate those refinements into mass production. In addition, it demanded large numbers of highly skilled support personnel for the large infrastructure of bases, maintenance and repair facilities, transportation systems, and storage-distribution installations. Without those things, a sophisticated and effective strategic air campaign was unthinkable, however well conceived in military terms.

The German case in World War II makes an interesting comparison. As a result of their victories in the spring of 1940, the Germans had acquired access to virtually the entire manufacturing capacity of Europe. In terms of available raw materials the Germans could cover their needs in every area except for petroleum and a narrow band of specialized metals. At the same time, German strategic thought clearly began to turn to the problems involved in realizing the Führer's grandiose dreams of destroying the Soviet Union and dealing with the United States.[17] Throughout the period between the fall of France and the opening of massive military operations against Russia, German leaders underestimated the capacity of Soviet industry and the massive potential of the United States for industrial mobilization and production. In a limited sense Hitler perceived the dimensions of the problem. In the summer of 1940 he suggested that German industry increase the numbers of tanks produced from 100 to 1,000 a month. The army's ordnance authorities persuaded the Führer against implementing that decision with the argument that such a production level would overstrain the German economy.[18] Generally, the German military echoed the sentiments of Göring that American industry could only produce radios and refrigera-

tors, and they shared Hitler's optimistic belief that when one kicked in the Soviet door the whole regime would collapse like a house of cards.[19] Not until late 1941/early 1942 with the disaster in Russia and Hitler's declaration of war on the United States did the Germans begin to mobilize fully the industrial and technological resources available to them -- a year and a half too late and the direct result of the military's strategic incompetence.

F. To what degree are military organizations successful at integrating their strategic objectives with those of their allies and/or persuading them to adopt consistent strategic objectives?

Historically -- and certainly in this century -- coalitions have conducted a significant percentage of wars. Coalition warfare carries with it the problems of deriving full benefit from the partnership through the integration and coordination of individual contributions into a joint effort. World Wars I and II offer several interesting cases of both effectiveness and ineffectiveness in this strategic dimension.

The relations between the British and French armies during World War I fall somewhere in the middle of this measure for strategic effectiveness. Initial relations between the B.E.F. and its French counterpart were marked in 1914 and 1915 by considerable formality and coldness, if not a general failure of understanding. Matters improved under Field Marshal Sir Douglas Haig, who supported his French colleagues. Nevertheless, there was no combined staff, no centralized planning, and little sharing of operational concepts. The disastrous impact of Germany's March 1918 offensive finally forced the two allies to

create a supreme allied commander who could articulate and guide overall strategy for the allies.[20]

On the other hand the Axis alliance between Germany and Italy possessed virtually none of the characteristics of a serious alliance. Mussolini characterized the Italian effort in 1940 as a "parallel war."[21] The failures in coordination, the lack of a grand strategy, and the arrogant disregard of overall alliance strategy culminated in the ill-considered and disastrous Italian invasion of Greece in October 1940. In a real sense the combination of Fascist Italy and Nazi Germany represented an alliance where the whole was less than the sum of its parts.

The best example of strategically effective coalition warfare is the behavior of British and American military forces in World War II. Consultation and active coordination began early in the war and before American belligerency. Both sides hammered out strategic objectives in a series of conferences at which top political and military leaders and staffs communicated freely. These consultations led to the early creation of combined staffs and eventually combined commands for most deployed forces, at least at the theater level. The two allies often held significantly different views on Allied strategy. Yet, they were almost always able to bridge potential divisions so that actual military operations, once decided upon, were neither impaired nor weakened. To the extent the British and American military organizations were responsible for this integration and cooperation, one must judge them as strategically effective.[22]

G. *To what degree do the strategic plans and objectives place the strengths of military organizations against the critical weaknesses of their adversary?*

Ideally, the best strategic course should aim to place strength against critical weakness. Admittedly this is not always possible since the strengths and weaknesses of opponents are often not sufficiently complementary or clearly recognized. Therefore, in practice, a strategically effective military organization may have to be satisfied with a strategic course that at least would allow it to exploit fully its own strengths.

Germany's strategy at the beginning of 1916, cast by Chief of the General Staff Erich von Falkenhayn reflected a general ineffectiveness in this category. In a strategic memorandum, written for the Kaiser in December 1915, Falkenhayn argued that Germany faced a mighty coalition that possessed enormous numerical advantages in resources, population, and industrial potential. As the war continued, Allied military power would continue to wax while Germany's power could only wane. England, continued Falkenhayn, was Germany's principal enemy. The Chief of Staff then proceeded to argue that Germany strategy should fight a great battle of attrition against the French Army in 1916 as a means of destroying Britain's most formidable ally on the continent. Indeed, the German high command insured that the German forces in front of Verdun could not launch a quick, decisive thrust at the French fortress city, but rather possessed only enough strength to embroil both French and German troops in a massive killing battle of attrition -- a disastrous commitment of the German Army against Allied strength, their manpower and material.[23]

In the same war the Royal Navy, on the other hand, understood quite well the strategic advantages that accrued to Britain by geography, trade patterns, and the Navy's clear numerical superiority. The distant blockade, while keeping the fleet concentrated and avoiding needless risks, accurately reflected the strategic realities that obtained between the two nations. It forced Germany to take the offensive to break the deadlock by seeking a major fleet engagement. At Jutland Admiral Jellicoe fully understood that the annihilation of the High Seas Fleet was desirable, but that decisive fleet action was not necessary for accomplishing his primary strategic objective. This understanding explains his often criticized reluctance to press home his advantages on the evening of May 31. Whatever the operational failings of the Royal Navy, its strategic effectiveness throughout the war was enormous.[24]

III. Operational Effectiveness

The operational level of military activity refers to the analysis, selection, and development of institutional concepts or doctrines for employing major forces to achieve strategic objectives within a theater of war. Operational military activity involves the analysis, planning, preparation, and conduct of the various facets of a specific campaign. Within the scope of operational matters lie the disposition and marshalling of military units, the selection of theater objectives, the arrangement of logistical support, and the direction of ground, air, and sea forces. A combination of military concerns shape these operational-level decisions: the mission, the nature of the enemy and his probable objectives, terrain, logistics, the available allied and national forces, and the time available for mission accomplishment. An example of activities at the operational level was the choice by U.S. Army Air Forces in WW II to use massed, daylight, high altitude precision bombing raids against industrial targets for the strategic objective of reducing or eliminating the enemy's ability to wage war. Another is the development and application of ship-to-shore amphibious assault doctrine as a guide for employing landing forces in the Pacific to bring concentrated air and sea power to bear on Japan. Measures or indicators of operational effectiveness must reflect this doctrinal focus.

A.   To what extent do the military organizations of a nation

possess a professional ethos and integrity that allows them to

deal with operational problems in a realistic fashion?

The military organizations of the major powers have in the past

century come to view the position of officership as that of a profes-

sion, demanding ethical sensibility and considerable intellectual

attainments.[25] The staff and war colleges founded in the 19th Century

attest to a growing belief that only serious study could prepare officers

for the most senior positions of military leadership. Yet there remains

some doubt about how fully all officer corps have accepted this

particular attribute of the definition of professionalism. As MacGregor

Knox has noted about the Italian military in the past half century: "The

Duce's problems...lay in what one might term the Italian general staff

tradition: Custoza, Lissa, Adua, Caporetto. On those occasions the

military, as yet uncontaminated by contact with fascism, distinguished

itself by the lack of the sort of diligent study, careful planning, and

scrupulous attention to detail which characterized the Germans, and by a

tendency to confusion of responsibilities and of incessant intrigue among

senior officers."[26] The degree to which the officer corps of a nation

accepts the concept of professionalism is going to influence its ability

to perform its mission in the operational and tactical spheres.

Similarly the issue of integrity between the different levels of

command represents an important attribute of a serious professional

force. Without trust and honesty, information that is critical to the

evaluation not only of enemy capabilities, but of one's own as well, will

either become distorted or in some cases entirely false as it moves

between levels of command. In this case the exceptional critical

self-analysis of the German Army after its victory in Poland especially deserves attention. In spite of a massive victory over its opponents, the army's high command was dissatisfied by the performance of combat units. Moreover, the German system allowed subordinate commanders full freedom to discuss the weakness of their own forces in terms of equipment, manpower, and training. The result was that the general staff was able to evaluate the army's strengths and weaknesses in realistic fashion and to design a realistic training program to correct its defects. Victory over France in May and June of 1940 was due in no small measure to that process.[27]

B. To what degree are the military organization's operational methods integrated? To what degree do organizations attempt to combine combat arms to take full advantage of their strengths while covering their weaknesses?

The history of warfare has been marked by an accelerating growth in the variety of weapons, combat arms, operational transportation, and specialized units. Each weapon, unit, and technique possesses a unique set of capabilities and vulnerabilities. Taking full advantage of these military assets increases the likelihood that an armed force will fulfill its mission. Taken in aggregate, the operationally effective military organization is one that derives maximum benefit from its components and assets by linking them together for mutual support. Not only does this require complete utilization of combat branches within and between military services, but also the exploitation of weather, terrain, time, surprise, morale, training, and the physical capabilities of troops. The greater the integration of these disparate elements, the better will a

military organization generate combat power from its available resources.

In this area German military forces in the first several years of World War II exhibited a high level of effectiveness, particularly with regard to the evolution of operational concepts dealing with armored warfare. German armored doctrine as developed by its pioneers Generals Lutz and Guderian gave heavy emphasis to developing an all-arms approach to armored warfare. Consequently, German armored divisions consisted of motorized artillery, infantry, and combat engineers as well as armored components. With the addition of Stukas from the Luftwaffe's specialized Fliegerkorps VIII, the Germans were able to test and refine an all-arms doctrine of enormous effectiveness in the campaigns against Poland and France.[28]

The Israeli ground forces in the Yom Kippur War provide an interesting contrast. After the 1967 victory, Israeli operational planners gradually deemphasized combined arms in favor of an almost pure armor-aircraft combat doctrine. They essentially relegated artillery and infantry to a secondary status. This decision left Israeli forces vulnerable to weapons against which artillery and mechanized infantry would have been effective. It was only after battlefield reverses in the first week of combat in 1973 that they relearned the basic need for a combined arms doctrine. Ultimately, the reintegrated Israeli ground forces breached Egyptian air defenses which, in turn, allowed Israeli aircraft to function with their full lethality. In terms of integration, the Israelis were at first operationally ineffective, but through rapid adaptation recovered their high level of effectiveness.[29]

Operational effectiveness has a distinct human element. The nature of the professional and personal relationships between officers of different branches within the same service as well as between different

services provide the institutional and psychological underpinnings for integrated action. The personnel and training policies of military organizations determine in large part these relationships. Attendance at a service military academy can provide a common foundation of trust and experience that may endure between classmates who have gone into different combat branches. Likewise, personnel policies, as in the German case, that rotate staff officers through various branches and assignments between line and staff may have had the same effect. The practice of assigning officers to a regiment for the duration of their career may have a positive impact on unit cohesion, but it also may create narrow professional and psychological perspectives. The result of a parochial personnel policy may be the creation of officers with an intense "us-them" feeling that discourages their full integration into an all-arms concept. If poorly controlled by the leadership, the conflicting perspectives held by personnel from different services, amplified by interservice competitiveness, can hamper combined efforts.

C. To what extent are the military organizations mobile and flexible at the operational level? Can the organization move rapidly in both the intellectual and physical sense either in anticipated or unanticipated directions?

Existing technical conditions, of course, limit mobility. At the most obvious level, mobility consists of being able to move units in a flexible, timely fashion. This requires infrastructure to support them as well as to move them. At a deeper level, mobility and flexibility depend at least as much, if not more, on an appropriate command and control network and on staff elements that permit military units to

remain cohesive, distinctive organizations while they maneuver.

There is in fact no single military organization that provides an example of both mobility and flexibility in all their implied meanings. The British and Americans in World War II had superb mobility and flexibility between theaters of war. Within theaters these forces also possessed excellent mobility. However, it is more arguable whether British and American forces demonstrated the flexibility at the operational level necessary to seize the fleeting opportunities that their mobility presented. By contrast, German forces were physically less mobile; much of the army consisted of nonmechanized units, while force structure and size severely limited Luftwaffe airlift capabilities. However, the Germans had an unparalleled operational flexibility that allowed them to react rapidly with their numerically inferior forces to great effect. German flexibility highlights the importance of command and control as well as staff work to operational effectiveness. For many reasons, the use of mission tactics not the least important, German commanders and staffs possessed both the desire and ability to shift, recombine, and redirect forces as the situation demanded. American and British forces always possessed the technical and physical ability to do so, for allied communications, mechanization, and motorization were far superior to those possessed by the Germans. However, the Allies seldom showed the organizational abilities and flexible habits of mind to make full use of those great resources. To the extent that this was true, the Allies were less effective than their German opponent in this aspect of operational effectiveness.[30]

D.   To what extent are a military organization's operational

concepts and decisions consistent with available technology?

This measure searches for the relationship between technical innovation and operational effectiveness, a subject which has endlessly occupied military historians and analysts. It is still not clear to what extent technology drives operations or the reverse. What is certain is that each has powerfully influenced the other and that the exploitation of technology by military organizations has been of increasing significance. Therefore, an armed service's adeptness at identifying, encouraging, and assimilating useful technologies is an important measure of operational effectiveness.[31]

Examples of gross failures to exploit available technology abound in the 19th century; military organizations from the early 20th century have become more receptive to technical innovation and their failures in this area have become less dramatic. Perhaps the most famous as well as one of the most effective utilizations of technology came in the 1930s and early 1940s in Great Britain. The head of the RAF's research and development establishment, Air Vice Marshal Sir Hugh Dowding, played a major role in encouraging the first experimentation with what was to be known as radar. At the same time he was negotiating the original contracts that resulted in two single-engine air superiority fighters, the Hurricane and the Spitfire. Then, under his leadership, Fighter Command incorporated these new technological advances, designed an effective operational air defense system for defending Britain's air space, and finally in the Battle of Britain met the _Luftwaffe_ with the technology and the operational doctrine designed to utilize the RAF's strengths. The resulting triumph represented a true marriage between

technology and operational doctrine.[32]

There are many reasons why military organizations may reject new weapons. Frequently, insufficient funding by political authorities may not permit the development of new and untested devices. Obviously, the budget is something over which military organizations often exercise incomplete control. Rejection may result from the military leadership's judgment that a new technology is unreliable or not significantly superior to present equipment and therefore would not enhance fighting power. Paradoxically, the military may recognize a new technology's merit and still reject it if another technical innovation seems to possess even greater potential. If done often enough, the desire to wait for the "best" weapon can stifle technological improvement of military organizations. An analysis must examine military evaluations of technology for reasonableness and accuracy in the light of existing knowledge. Military organizations may only slowly adopt a new technology if its application is uncertain. The U.S. Navy's tepid interest in early submarines was in part the result of these considerations.[33] Finally a new technology that might increase combat power may still be rejected because it threatens either the status of existing organizations and the social environment of a military organization. Such was the case with the tank, the airplane, the aircraft carrier, and the submarine in the armed services of many nations. Since military organizations generally aim to increase their combat power, rejection of new weapon systems for sociological reasons is a strong indication of operational ineffectiveness.

E. To what extent are supporting activities well integrated with the operational concepts of the military organization? Do the

military organizations have the capability to support their operational practices with the required intelligence, supply, communications, medical, and transportation systems?

The most potent and ingenious operational capabilities are worthless unless a network of supporting activities buttress them. An example or two can illustrate this point as well as the application of this measure.

The German invasion of the Soviet Union in the summer of 1941 is an interesting case in point. Military historians have quite rightly given due credit to the awesome operational capabilities of the invading forces. What has not received adequate notice is the fact that the underpinnings of that invading force from logistical capabilities through to basic intelligence on the Soviet order-of-battle were completely inadequate. The expansion of the German armored force between the battle of France and Barbarossa saw a doubling in the number of armored divisions through a halving in the number of tanks in each division. Even more harmful, and rarely noted in the Anglo-American literature, is the fact that the Germans were only able to equip these divisions with a hodge-podge of supporting vehicles drawn from every nation in Europe.[34] Not only were the vehicles generally unsuited for their logistical tasks on the primitive roads of the Soviet Union, but the very multiplicity of supporting vehicles created a logistician's nightmare in terms of parts and maintenance. German operational planning had forseen a rapid drive to Smolensk and a pause to refit as the rail system back to Brest-Litovsk was repaired by railroad engineers. The repair units, however, were given the lowest priority of all army units moving forward into the depths of Russia.[35] It is no wonder then that the army's logisticians had to warn the high command in October that the supply

system could provide _either_ a build-up to meet the coming conditions of winter in Russia _or_ the fuel and ammunition for a drive on Moscow. The army leadership, reflecting its general disdain about logistics, drove on towards Moscow, and the winter catastrophe was a direct result.[36]

If the logistical support for the _Wehrmacht_'s awesome operational capabilities was inadequate, its intelligence support was even less impressive. From its estimation on Russian equipment through to its forecast on what the Soviet Union could mobilize, the Reich's military intelligence services proved catastrophically wrong. Those miscalculations are best summed up by Halder's complaint of August 11, 1941 that:

> The whole situation shows more and more clearly that we
> have underestimated the colossus of Russia - a Russia
> that had consciously prepared for the coming war with
> the whole unrestrained power of which a totalitarian
> state is capable.
> This conclusion is shown both on the organizational as
> well as on the economic levels, in the transportation,
> and above all, clearly in infantry divisions. We have
> already identified 360. These divisions are admittedly
> not armed and equipped in our sense, and when we destroy
> a dozen, the Russians simply establish another dozen.[37]

It is worth contrasting the German experience in Russia with the Allied (British, Canadian and American) effort in the Battle of the Atlantic during World War II.[38] Not only did that sustained campaign depend on a secure logistical base of immense proportions, but the use of intelligence, especially the decrypting of German messages to their

U-boats, was of importance in the winning the battle over German submarines. At least in the last half of 1941, "Ultra" alone was almost solely responsible for blunting the terrible threat posed by the rising numbers and effectiveness of Dönitz's forces.[39] That intelligence success may be one of the few times in the 20th Century when intelligence by itself was of decisive importance.

The importance of the integration of intelligence and operational activity is equally clear in another example: aircraft carrier operations in the Pacific. Successful carrier air strikes at other ships depend upon precise and timely intelligence. Given the vastness of the Pacific, inaccurate force direction resulted in failure with no accompanying "bonus damage" that often resulted when land bombers missed their original targets. In addition, given aircraft carrier vulnerability, timely intelligence on an adversary's location was of supreme importance. These lessons were replayed many times in the Pacific, and naval intelligence in that theater was an effective part of fleet operations. Diverse information sources (e.g., MAGIC, RDF, coast- watchers, submarine pickets, air patrols) produced data for centralized analysis, which naval intelligence staffs were rapidly able to provide to operating units. The extent of this dissemination, required by the size of the Pacific and the rapid pace of naval warfare, increased the risks of compromise, but resulted in a series of crucial American successes.[40]

P. To what extent is the military organization's operational concept consistent with the strategic objectives assigned to it?

Clearly certain methods of employing military organizations are totally unsuited to particular types of strategic objectives. Yet, an

age-old problem is the employment of military forces to achieve objectives for which they are largely unsuited.

In this category the evaluation must look for more than just the problem of whether an organization's operational concepts are consistent with the strategic objectives assigned to it. Given the difficulty in estimating enemy capabilities as well as the doctrinal adaptation that enemy forces go through, the real problem in this area may not emerge in the initial battles of a campaign. Rather the problem may lie in how well a military organization recognizes the obstacles that the enemy, its own technological capabilities, and its operational weaknesses in combat stand in the way of achieving its strategic goal.

Thus, considering the difficulties in training a vast new army and the technological problems (largely unsolved) that accompanied the introduction of rapid-fire, long-range infantry weapons and artillery, it is not hard to see why the British Army had such a difficult time on the Somme.[41] Where Haig and his generals on the western front are particularly open to criticism, however, is the fact that the same operational concepts (which had proved so unrealistic in 1916) were once again employed in Flanders in 1917. The pursuit of largely unrealistic strategic objectives with inadequate operational conceptions led to the blood bath of Paschendaele. Similarly in World War II it is not entirely clear that the first great bomber attack on Schweinfurt was a mistake, given what was known about the overall situation.[42] What was inexcusable was that Eighth Air Force continued to send massive unaccompanied bomber formations into the Reich until the second attack on Schweinfurt underlined in blood the inadequacies of its operational concepts. The strategic objective, the destruction of the German ball bearing industry, remained well beyond reach.

C. *To what degree does the operational doctrine of military organizations place their strengths against their adversary's weaknesses?*

The conduct of Bomber Command's operations in the Battle of Berlin from December 1943 through March 1944 may represent best the case for operational ineffectiveness in this category. Determined to prove that his command could replicate its successes of summer 1943 on a far heavier and more extensive scale, Air Marshal Arthur T. Harris set as Bomber Command's strategic goal the complete destruction of Berlin and victory over the Reich before Allied armies landed on the coast of France. Berlin, however, lay far from Bomber Command's bases and thus required an extended flight that exposed British bombers to the maximum German air defense effort. Moreover, winter weather was so bad that it was doubtful whether Pathfinder crews could find and mark a sufficiently clear object on the ground to achieve the necessary bombing concentrations. The result was that Bomber Command did not place its strengths against German weaknesses. Rather it placed strength against strength and a terrible battle of attrition culminated in the disastrous raid against Nuremberg in March 1944. Harris came close to wrecking his command without achieving his goals.[43]

The German campaign against France and the Low Countries in 1940 stands out in strong contrast to the Berlin air campaign. By taking considerable risks, the Germans placed their armored forces where they were most likely to utilize operational maneuverability and flexibility. Because the French high command had placed virtually all its motorized and mechanized forces on the left wing, it did not possess forces in the area that could meet the operational capabilities of German forces. Once

the German armored forces had broken out into the open behind the Meuse River, the French did not have the reserves available in the area to react effectively. In this campaign the Germans must be judged effective in pitting strength against weakness.[44]

IV. *Tactical Effectiveness*

The tactical level of military activity refers to the specific techniques used by combat units to fight engagements in order to secure operational objectives. Tactical activity involves the movement of forces on the battlefield against the enemy, the provision of destructive fire upon enemy forces or targets and the arrangement of logistical support directly applicable to engagements.

During World War II strategic bombing, the non-evasive flying by American heavy bombers, was a tactical activity designed to provide a more stable platform for defensive machine gun fire and more accurate bombing. Likewise, the use of wingmen in fighter combat is a tactical activity; so too are attacks by fighters out of the sun and from a higher altitude. The increased reliance by the U.S. Marine Corps on flame-throwers and demolitions to deal with Japanese fortifications is another example. The line between the operational and tactical levels is often blurred, and analysts may disagree over the classification of particular military actions. It is important to distinguish tactical practices since they may provide a clearer focus for comparing military organizations of different nationalities in differing eras. Some of the characteristics of tactical effectiveness resemble those for operational activity. Others are quite different.

A. To what extent are military organizations' tactical approaches consistent with their strategic objectives?

The adoption of particular tactical systems can reverberate so that military organizations are hampered in their pursuit of strategic objectives. For example, suppose that American bomber pilots in World War II had found that violent evasion greatly increased their chances for survival against flak and enemy interceptors. The effect most likely would have been a significant loss in bombing accuracy with accompanying injury to organizational strategic purposes, although with a lower attrition rate. It is not always clear that disharmony between strategic objectives and tactical methods indicates tactical ineffectiveness. Ideally what is tactically feasible should shape the selection of strategic objectives and plans. Therefore conflict between strategy and tactics may suggest strategic rather than tactical ineffectiveness.

B. To what extent are tactical concepts consistent with operational capabilities?

Here too dysfunctions can occur that pose interesting problems for the evaluation of tactical effectiveness. Consider the case of the French Army in the opening weeks of World War I.[45] The dubious doctrine of the Du Picq-Grandmaison school constituted French operational doctrine. The tactical system was accordingly based on the infantryman's ability to move rapidly in close order across the artillery and machine gun killing zone to engage the enemy in close combat, preferably with the bayonet. The French saw little need for large numbers of machine guns or heavy artillery, and relied for close support on light, rapid-firing 75-mm cannon. These tactics proved so unsuited to combat realities that French infantry essentially imposed a new tactical system on their military leadership, trench warfare.

The dysfunction between operational concepts and tactical capabil-
ities haunted World War I armies for the remainder of the conflict.
Staffs and generals on the western front persisted in thinking of
grandiose operational movement on a Napoleonic scale. As late as the
battle of Paschendaele in 1917, Haig was thinking in terms of a great
breakthrough followed by a cavalry pursuit of the beaten enemy.[46] At
the same time, Allied commanders frequently neglected the immediate
tactical problem of how to get through the killing zone of the enemy's
firepower. In the B.E.F., some argued that the British Army should
approach the problem of the Western Front as that of a seige and thus cut
down its operational plans to fit more realistically with available
tactical conceptions.[47] Interestingly, the solution -- the use of
firepower with flexible manuever -- seems to have come from the front-
line soldiers. Captain Andre Leffargue of the French Army saw very
clearly in 1915 the full dimensions of the problem as well as the
possible solutions. Unfortunately, it was the Germans who built on
Laffargue's tactical conceptions. In 1916 Ludendorff drew not only on
the French doctrinal concepts but, for the first time, forced the General
Staff to seek out the combat experiences of those in the trenches in
order to create realistic combat tactics. Only then were the Germans in
a position to bring tactics in line with operational conceptions; the
result was the return of maneuver to warfare.[48]

C. To what extent does the military organization's tactical
system emphasize integration of all arms?

This measure of tactical effectiveness closely resembles that of
its counterpart at the operational level. However, tactical

effectiveness requires that the principle of integration and combined arms not be strictly weapons-centered, but rather be applied to all the factors affecting combat power. Besides weapons, these include such things as terrain, training, qualities of the troops, morale, and weather. A tactical system that does not deliberately consider these and other important military variables will force serious problems.

The examples of Finnish ground forces during the Winter War and the British Army during much of World War I provide a useful contrast. The Finnish tactical system melded the characteristics of Arctic terrain and weather with the skills, small size, and light equipment of their army.[49] Consequently they were able to engage the Red Army in depth by utilizing ski troops and deep raids to fragment and destroy enemy columns. The Finns avoided setpiece combat situations in which the more ponderous and numerous Soviet forces could utilize their strengths. So long as the battlefield remained fluid, the Finnish tactical system generated considerable fighting power from relatively few resources. The Soviets were not successful until they pinned the Finns in prepared, static defenses.

The tactical system of the British Army of World War I, on the other hand, was deficient in integration in a variety of ways on both offense and defense.[50] On the attack, the British depended almost entirely on a clumsy integration of artillery and infantry armed with rifles. The British were slow to utilize small unit attacking formations, to use natural cover and concealment, to exploit the forward employment of light machine guns and mortars, and to use adjusted artillery fire. The result of this poorly integrated tactical system was essentially offensive impotence for much of the war. The defensive capabilities of the British Army in the war also suggest interesting

issues. In 1914 the integration of army and artillery was generally good, although because of a lack of communication systems the artillery often had to support the infantry by remaining within sight. While effective in the defensive battles of 1914, the cooperation proved very costly to Royal Artillery batteries that operated in the open, directly exposed to German counterbatting fire.

In 1918 the British were fully aware that the Germans were about to strike in the West. Haig's headquarters, in fact, used captured German manuals and combat experience from the 1917 Flanders battles to draw up an effective scheme of defense in depth that relied on close cooperation between infantry and artillery. Unfortunately, the British found it difficult to implement the new doctrine, and Gough's Fifth Army, which almost collapsed in March 1918, seems to have done almost nothing to implement the new concepts. The disaster of March 1918 provided a real spur to integrating the army's capabilities.[51]

D. To what extent do a military organization's tactical conceptions emphasize surprise and a rapid exploitation of opportunities?

Historically, surprise has been a potent multiplier of combat power. It is difficult to find a military that rejects surprise as an advantageous condition. There are, however, tactical systems with attributes that make surprise difficult to achieve. There are many sorts of surprise. Tactical surprise refers to where an attack will take place, the axes of the attack and its exploitation, and the timing and the weight of the attack. Tactical surprise differs from strategic surprise (e.g., in what general geographical area will an attack take

place) and technical surprise (e.g., the qualities of the weapons being used), both of which may be possible in principle regardless of the tactical system.

The British Army in both World Wars provides interesting examples of relative ineffectiveness in tactical surprise and exploitation. Lloyd George's memoirs contain an entry pertaining to Field Marshal Haig's unwillingness to pay attention to the element of surprise in the conduct of their operations: "Germans accustomed to his [Haig's] heavyfooted movements."[52] The massive artillery bombardments of great length and severity only served to alert the Germans as to where the next great British "battle of material" would occur. It enabled them, well before the British infantry attacks began, to redeploy reserves of artillery and other forces to meet the threat. Only after the bloodletting of Paschendaele had exhausted his army for a second time in two years did Haig allow his artillery and tanks to launch a raid, almost entirely based on surprise, against the German position at Cambrai. The success that British tank and artillery forces suggest what a more enterprising use of surprise might have achieved in 1916 and 1917.[53]

Although different than surprise, rapid exploitation requires similar capabilities and attributes. Effectiveness in this category involves the utilization of wide variety of opportunities created by the almost random fluidity of mechanized warfare. These opportunities usually appear and disappear suddenly. Therefore, a tactical system that utilizes decentralized decision-making, rapid movement, small-unit initiative, and imagination are basic if a military organization is to convert these fleeting advantages into battlefield success. By contrast, tactical systems that stress set-piece battles, rigid schedules for reaching objectives, and tight central control do not create the

conditions necessary for timely exploitation.

In World War II the British Army paid more attention to the element of surprise. Certainly Montgomery is justly remembered for his set piece battles. Nevertheless, even Montgomery attempted to include surprise as a basic element in his plans. "Market Garden" did not fail because of a neglect of surprise as a basic element in warfare. Rather that failure reflected a considerable British unwillingness (with the possible exception of O'Connor's operations against the Italians) to exploit tactical and operational advantages to the full extent possible. Consequently, the real British blunder in September 1944 came not with "Market Garden" but rather with the unwillingness to exploit fully the capture of Antwerp and the operational and tactical disarray of German military forces streaming back toward the Reich.[54] That British desire for a "tidy" battlefield and the deliberateness of tactical concepts resulted in the loss of unexpected tactical opportunities.

B.   To what extent is the military organization's tactical system consistent with its approach to morale, unit cohesion, and relations between officers, NCOs, and the enlisted ranks.

There have been several high-quality studies as well as much historical and anecdotal evidence pointing to the value of close relationships between soldiers within combat units.[55] Though any tactical system requires a military organization to pay attention to these issues, some systems require unusually strong and resilient bonds with military units. Military organizations that neglect this prerequisite of combat power pay a price in terms of tactical effectiveness.

The relative performance of the Egyptian and Israeli armies in the wars of 1948, 1956, and 1967 are cases in point. Obviously there are a number of causes for the striking differences in the social ethos of these armies. But there is strong evidence that in many Egyptian units, the relationship between officers and men reduced to cohesion and morale. Apparently, many Egyptian line officers were corrupt and exploited their units in various ways. There was minimal sharing of hardships and risks; front line troops had little contact with their commanders; and few officers led from the front. Most officers individually and the organization as a whole demonstrated a lack of even minimal sensitivity in such things as leave policy, regular pay, living conditions, and bonds between other unit members. Indeed, officers frequently did not hide their feelings of social superiority from their subordinates. The Egyptians attempted to ameliorate these problems, and their relative successes in 1973 may have been an indicator of progress.[56]

The Italian Army in both world wars presents a picture that is quite similar to that of the Egyptians.[57] *In its early World War I battles against the Austrians, an army quite similar in every fashion, the Italians put up a respectable showing, at least in terms of the casualties that they suffered. When, however, the Italians faced the pressures of combat against the Germans at Caporetto and against Anglo-American and Soviet units in World War II their military structure shattered. While it is not the complete answer, the relationship between the Italian officer corps and its men and the almost complete absence of a professional NCO corps to provide additional unit cohesion played a major role in Italian battlefield ineffectiveness. Italian officers by and large ignored their men, refused to share front line hardships, and generally led from the rear. The result was an almost complete lack of*

trust. *The Italian case may well suggest a paradigm for Third World military forces: certainly the performance of the Argentinian ground forces in the Falklands suggests a similar lack of cohesion between different levels within units with the same result.*[58] *To the extent military organizations are responsible for these shortcomings, they risk tactical ineffectiveness.*

There are some tactical systems that require an especially high level of trust between officers and men if they are to function. Any tactical approach that stresses initiative, independent action, day and night operations out of contact with headquarters or flanking units, and rapid movement depends upon front line leadership and an uncommon level of unit cohesion. To develop these characteristics, military organizations must pursue deliberate policies. These include stable unit affiliations and small unit memberships, timely and accurate recognition of skills and actions by promotion and awards, and an officer and NCO corps constituted from men with outstanding martial and intellectual qualities, particularly moral and physical courage.

F. To what extent is the military organization's approach to training consistent with its tactical system?

It is possible for a military organization to fail to train its personnel to perform the tasks prescribed by its tactical system. When this occurs, tactical effectiveness obviously will be reduced. This sort of disjunction can appear when tactical doctrine and training are managed by different, semi-autonomous bureaucracies with little intercommunication or when tactical doctrine has been changed suddenly and training has not yet adjusted.

The separation of training and doctrine is a common problem for military organizations. The German Army's response to its victory over the Poles in 1939 suggests a high level of effectiveness in this category as well as the importance of this index to battlefield performance.[59] The *Oberkommandodesherres (OKH)* took a close look at how well its doctrinal concepts had held up under the combat conditions of the Polish campaign. It then made an across-the-board effort to insure that training and retraining programs throughout the entire army reflected the "lessons learned" from Poland. In fact, *OKH* spent the next six months insuring that the training program, closely integrated with its doctrinal conceptions, brought the army up to a high level of capability. It is also worth noting that the actual training programs in the German Army, including basic training, remained largely decentralized with the division and regiments maintaining training cadre both at home and in some cases close to the front to integrate soldiers directly into combat units. The system was probably not "cost effective" in terms of the number of front line officers and NCOs detailed to training duties at any given time, but it did insure that German soldiers trained in a realistic environment that not only reflected current doctrinal practices but front line conditions as well.

The American Army's efforts to train newly arriving soldiers in Vietnam through specialized in-country centers served a similar purpose. While those combat divisions had little control over the nature of the training that replacements received in the United States, they tried to prepare the soldier for the realities of combat in Vietnam and current divisional combat practices. The training reduced the casualties usually suffered by "green" troops with little knowledge about conditions in the front line, at least by World War II standards.[60]

The British example in North Africa presents an interesting contrast to the German and U.S. cases. In 1940 the performance of British armored forces trained by Hobart and led by O'Connor suggests a high concurrence between a realistic doctrine and effective training. Thereafter, serious problems arose. The British do not seem to have developed a mechanism for transferring combat experience gained in the desert back to the training establishment in Britain. Consequently, the troops that arrived in the desert theater from the British Isles varied widely in their doctrinal concepts and the effectiveness with which their training had prepared them for combat against Rommel. Only with Montgomery's arrival was a more consistent doctrinal approach articulated and then incorporated into training the Eighth Army. The consequent improvement in British battlefield performance was directly attributable to Montgomery's efforts in this area.[61]

G.   To what extent are military organizations' tactical systems consistent with support capabilities?

It is not uncommon that a tactical system may require greater support than a military organization can actually provide. This problem is frequently most acute in the area of sustainability. Characteristically, military organizations underestimate requirements for transport fuels, ammunition, spare parts, and support personnel. A related problem is the tendency to underestimate the demands that a tactical system may place on troops, e.g., sustained periods of combat, the amount of time without rest, and the impact of casualties. The result of such errors is usually an inability to maintain combat operations at the tempo required by the tactical system. Therefore, military organizations that exhibit

this problem would be considered less tactically effective than others where the tactical system or support capabilities are more realistic.

The archetypal case is the October War of 1973. All the contestants underestimated the logistical requirements for tactical systems incorporating large numbers of automatic weapons, precision-guided munitions, and tanks. Within a short period, the Israelis had to ration ammunition and antitank missiles, a condition not alleviated until a massive American airlift of material had begun.

H.   To what extent do tactical systems place the strengths of military organizations against their adversary's weaknesses?

"Strengths" and "weaknesses" refer to the range of weapons and human characteristics that affect combat power. For example, an armed force based on a large national population and a backward industrial base would obviously be in error if it adopted tactical systems that required small forces equipped with sophisticated weapons. Faced with a similar mixture of strengths and weaknesses, the People's Republic of China has employed a tactical system emphasizing a lightly armed mass army trained to meet an invasion with protracted territorial defense. Only nuclear weapons vitiated the concept and then only to the extent the PRC needs to retain its cities. The armed forces of a society whose population is small and/or which attaches high value to human life would logically avoid tactical systems likely to produce high casualties.

Ideally, a military organization should seek tactical systems designed not only to use national strengths, but also to pit those strengths against the crucial weaknesses of its likely adversaries. The Israeli case illustrates this point. The Israeli tactical system

attempts to minimize casualties and to utilize its national technical base and highly educated population to confront Arab forces with combat situations in which the Israelis can exploit Arab weaknesses; e.g., situations requiring improvisation, rapid decision-making, and independent action by small units. The Arabs' inability to deal effectively with such problems is a function of larger social and national characteristics that are difficult to change, especially in combat. On the other hand, Arab military organizations have attempted a tactical response that exploits their larger populations by enmeshing the Israelis in battlefield conditions that result in high levels of attrition, while minimizing their personnel and technical superiority.[62]

The extent to which military organizations place their tactical strengths against enemy weaknesses - or at least maximize their strengths and minimize their own weaknesses - is one measure of tactical effectiveness.

Conclusion

A common thread unites the measures of military effectiveness proposed in this essay. They all describe various aspects of effectiveness, not as absolutes but in terms of different means-ends relationships. But the attempt to address the question: "What is military effectiveness and how can it be measured?" poses a new and equally important question: "What kinds of military effectiveness are most important and in what conditions?" For example, to what extent can tactical or operational effectiveness offset strategic ineffectiveness? While not often clearly articulated, many combat officers believe military effectiveness is synonymous with tactical effectiveness. They rightly argue that strategic effectiveness is useless unless a military force can operate successfully on the battlefield once it has made contact with the enemy.

On the other hand, the German experience in World War II suggests other conclusions. The Wehrmacht was a superb tactical instrument. Yet it was frequently launched in strategic and operational directions that nullified numerous battlefield successes. This pattern occurred repeatedly in the first two years of the Russian campaign, 1941 and 1942. Under some conditions, strategic ineffectiveness can render tactical effectiveness less relevant or counterproductive; under other conditions the reverse is true. The key task is to determine what these conditions are and when they are likely to occur.

Similarly, within the strategic, operational, and tactical categories, what types of effectiveness are most important and in what conditions? For example, what contributes most to overall tactical effectiveness - technological sophistication or unit cohesion? Obviously both are crucial, but which counts for more and under what circumstances? There is a growing sense based on the experience of the Vietnam war, the Falklands campaign, and the wars in the Middle East that unit cohesion may be the key to tactical effectiveness. On the other hand, no amount of unit cohesion can outweigh an extreme disparity in technical sophistication as the Zulas learned in the 1870s.

Similarly, what contributes more to operational effectiveness, mobility or integration? During much of the campaign in North Africa, airpower and superiority in supplies of vehicles and gasoline gave the British forces greater overall mobility than their opponent. The Germans, on the other hand, integrated their forces, especially armor and artillery into a potent anti-tank defense, offset the British advantages in material, defeated poorly integrated British armored attacks, and then exploited their advantage into significant operational successes.

In any event, one cannot limit the judging of military effectiveness only to non-dynamic assessments of tactical units. One must include in the analysis non-quantifiable organizational attitudes, behaviors, and relationships that span a military organization's full activities at the political, strategic, operational, and tactical levels. A more limited method of assessment only provides equally limited conclusions.

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AMERICAN MILITARY EFFECTIVENESS

IN WORLD WAR I

Timothy K. Nenninger

Introduction

During the First World War the American Army grew from a constabulary force of about 100,000 professionals to a conscript army of four million. The Navy changed in an equally rapid fashion, from a force built around a few powerful battleships to one consisting of hundreds of smaller craft for combatting submarines. The American military effort was immense, in some respects unique -- supporting a two million man expeditionary force 3000 miles from home, fighting a war with allies for the first time since 1783, and attempting to mobilize the entire industrial economy to prosecute the war. To a considerable extent traditional practices, in Russell Weigley's terms "the American way of war," shaped wartime performance at all levels -- political, strategic, operational, and tactical. American effectiveness in each of these spheres depended on how readily the military adapted its past experience to the demands of the World War situation. A few key issues, including how to use U.S. combat troops overseas, shipping shortages, and the difficulties of industrial mobilization, had an impact on military

effectiveness at all levels. Perhaps the most significant limitation on American effectiveness, espec ally operationally and tactically, was the short time the United States was an active belligerent. The Americans, despite a massive war effort, had little opportunity, because they had so little time, to learn from their experience and improve effectiveness.

I. <u>Political Effectiveness</u>

Several factors influenced the political effectiveness of the American military during the era of the First World War, with the military itself having more control over some factors than others. Political leaders were more receptive to military advice after the declaration of war on Germany, April 6, 1917, than in the period of non-belligerency. Neither the Army nor the Navy had mature, well functioning mechanisms to analyze defense problems, on the one hand, and systematically convey that analysis to civilian leadership with recommendations for military needs, on the other. As a result, some of the military assessments of foreign threats and military requirements were strategically unrealistic and politically naive.

If the policy formulating entities within the services were weak, the mechanisms for interdepartmental coordination of military policy were even weaker. The Joint Army-Navy Board, established in 1903, was supposed to coordinate planning between the two departments. Never especially effective, the Joint Board played an even smaller role during the Wilson Administration which frequently denigrated the need for long-range military planning. Henry Breckinridge, Assistant Secretary of War from 1913 to 1916, indicated its importance to the political leadership: "This was a board I fooled with on hot summer afternoons when there was nothing else to do."[1]

Political-military cooperation was even more haphazard. With no organizational structure such cooperation was heavily dependent on the

personalities involved. Wilson's first Secretary of State, William Jennings Bryan, was a pacifist who on one occasion thundered that military officers "could not be trusted to say what we should or should not do, till we actually got into war."[2] At the Navy Department, the near-pacifist secretary, Josephus Daniels, perpetually feuded with the General Board and many of the other senior officers. Robert Lansing, who in 1915 succeeded Bryan at State, on the other hand, met nearly daily with officers from the Navy's General Board and the Army's General Staff. Relations between Newton D. Baker, Secretary of War from 1916 to 1921, and more senior Army leaders were also good.

The American tradition in civil-military relations, and particularly Woodrow Wilson's strict interpretation of that tradition, was perhaps the crucial limitation of the military's political effectiveness in the pre-belligerency period. Civil authority was always to be dominant and unless in an actual state of war the military was to remain as inconspicuous as possible. Wilson demonstrated his inflexibility on the subject, as well as his misunderstanding of the need for military contingency planning prior to hostilities in the fall of 1915. He brought to the attention of Henry Breckinridge, then Acting Secretary of War, an article in the Baltimore Sun which stated that the General Staff was preparing plans in case of war with Germany. Wilson instructed Breckinridge to determine of the accuracy of the story, and, if true, "to relieve at once every officer of the General Staff and order him out of Washington."[3] So long as he thought war with Germany was avoidable Wilson wanted no military action that increased the chance of a clash and was thus generally unreceptive to military advice.

During early 1917, as war seemed increasingly likely, the President and the military leaders found some common ground. Wilson still opposed

intervention in the European war and wanted to avoid overt actions, but he gradually recognized the necessity for some military preparations. By mid-February, the General Staff had prepared a plan for conscripting, equipping, and training a four million man army -- a plan Wilson endorsed. In late March he dispatched Rear Admiral William S. Sims to London to coordinate plans with the British in the event of American intervention. But even at this late hour, Wilson thought any American participation in the European war would be limited to loans, merchant shipping, and possibly moral support. Neither he nor the military leadership foresaw the dispatch of a large expeditionary force to France.

After the declaration of war there was still vacillation among the political leadership on how to prosecute the war. Wilson did not provide clear direction on the type or scale of American intervention. As late as September 1917 he still raised questions about a massive intervention in France. But increasingly, especially beginning in the fall of 1917, the Administration let the military prosecute the war. The overseas commanders, Pershing and Sims, had extraordinary powers to deal unilaterally with the Allied governments. At home, Wilson seldom interfered with Baker's running the War Department or Daniels' the Navy Department.

During 1916-1917 Congress and the military, especially the Army, were not on good terms, further limiting military preparations. As one observer has noted, the General Staff program for military preparedness from 1915 to 1917 "showed an extraordinary insensitivity to the limitations and requirements of public policy."[4] General Staff planners ignored the National Guard as the principal resource for increased military manpower during this period and emphasized compulsory universal service -- both were anathema to large segments of Congress.

Consequently, Congress, like the Administration would not act decisively in early 1917. As late as mid-February, after resumption of unrestricted submarine warfare by the Germans, after Germany and the U.S. broke diplomatic relations, and only six weeks before the declaration of war, the House Military Affairs Committee unanimously concluded that it should undertake no radical changes in the country's military policy.[5]

The actions of the military planners themselves also limited their ultimate effectiveness. Before early 1917 few talked openly of the possibility of intervention in the European war and the requirements that would entail for building up the Army and Navy. Rather, most military planners and civilian preparedness advocates spoke in terms of preparing the Army and Navy for a defensive war to repulse an invasion of the United States and its possessions by foreign powers in the wake of the European war. Like many of their countrymen, the military planners doubted the U.S. could be drawn into the European war; believed in the ultimate victory of the Allies; considered the Atlantic Ocean a 3000 mile strategic cushion; and, even when intervention seemed more likely, considered the dispatch of a large expeditionary force unwise.[6] Although this task avoided some immediate political problems, it distorted long-range military planning and inhibited mobilization once war was declared.

Only after the diplomatic break with Germany in February 1917 did the American military clearly focus on intervention in the European war. And only after the declaration of war in April 1917, when the enemy and American military needs became clearer, would budget authorities in the Administration and Congress consider funding the military's proposed expansion program; even then some reluctance remained.

The fate of budget requests for the Ordnance Department is indicative of the process. On April 5, 1917, the Chief of Ordnance submitted a $3 billion estimate for initial arms purchases to support a one million man army. Because the request was not itemized, the House Military Affairs Committee rejected it. A second Ordnance request included the proviso that ten percent of the amount appropriated under any particular heading could be spent for any purpose the Secretary of War thought necessary. Congress also rejected this submission. Ultimately, Congress appropriated the full $3 billion initially requested, but it took until June 5, 1917, to do so. An additional request for $3.7 billion to arm the second million men inducted did not pass until October 6, 1917. After that time, however, largely because the requirements had become clearer, the budgeting process did not inhibit the ordnance program.[7]

Despite such initial faltering, the American military generally received adequate budgetary support for its program during the First World War. To support the war effort, Congress increased most taxes and also issued loans thus passing a major portion of the cost on to future generations. Of the total war expenditures, nearly $33 billion, over $21 billion came from borrowing, the remainder from taxation. Significantly, the four Liberty Loans and a final Victory Loan at the end of the war were all oversubscribed.[9] The American people enthusiastically supported the war effort by their purchase of the bonds. Yet, this enthusiasm was undoubtedly directed more to support of American war aims in general then to the military's program in particular.

In order to prosecute the war, the military had to convert the nation's financial resources into militarily useful materiel. This required the assistance of scientists, engineers, and businessmen.

Throughout much of the 19th and early 20th centuries elements of the American military had maintained some relationships with these groups. During World War I the previous connections proved useful but were not sufficiently strong or sophisticated enough to overcome structural weaknesses in the system of military procurement and economic and scientific mobilization.

From 1915 to 1917 scientists, engineers, businessmen, and their organized associations, were among the most active participants in the preparedness movement. George Ellery Hale, a spokesman for the National Academy of Sciences, promoted the Academy as a potential coordinator of the nation's entire scientific effort in event of war. Secretary of the Navy Daniels brought scientists and engineers into even closer cooperation with his service when in July 1915 he appointed a Naval Consulting Board, with Thomas A. Edison as chairman. Experts from the Society of Automotive Engineers and the National Automobile Chamber of Commerce worked with the Quartermaster Corps during the war to modernize a fleet of standard truck models.[9]

But the more traditional relationship between the military and American business had been entrepreneurial with inventors attempting to peddle original ideas and business trying to sell goods and services. The military services sometimes advanced money for a pilot model but usually the inventor produced the model himself and the department tested it. For most businesses, this was risky, especially since the purchasing bureaus within the services decided by competitive bidding who would get most production contracts. Additionally, prior to World War I the services expected government run arsenals and foundries to produce most of the small arms and heavy ordnance they required. In 1917 only Spring-field Armory, of the five principal Ordnance Department establishments,

could handle mass production.[10]   Because there had been no regular,
large scale demand for arms and military equipment, government arsenals
and private industry had only a limited capacity for immediate expansion
to meet war requirements. To be effective that expansion had to be well
organized and well managed. That did not happen.

Before the war, the individual War Department bureaus handled their
own procurement without regard for an integrated departmental program.
The system survived because it was never severely tested by shortages,
competing interests, and need for immediate results. The Navy's supply
system, largely centralized in the Bureau of Supplies and Accounts, was
somewhat more efficient. But the war brought on a frenzy of procurement
that the existing organizational structure proved unable to bear.

In the early days of the war, War Department bureau chiefs went on
a spending spree. They succeeded to the extent that most of the supplies
secured from American sources before the Armistice had been contracted
during the first six months of the war. The Quartermaster Corps bought
uniforms and contracted for the construction of training camps; the
Ordnance Department purchased small arms and other munitions; and the
Adjutant General tried to corner the market on typewriters. But they
were working at cross purposes with no centralized planning, no setting
of priorities, and no ultimate authority. The frenzied activity of the
bureaus absorbed a great portion of the nation's industrial capacity,
created shortages, and contributed to a near paralysis of industry and
transportation by the end of 1917.

Within the War Department Secretary Baker, under considerable
pressure, took steps to bring army supply under control. Increasingly he
concentrated authority for procurement in the hands of Maj. Gen. George
W. Goethals, first as Quartermaster General and later as Director of

Purchase, Storage, and Traffic. The appointment of Peyton C. March as chief of staff in February in 1918 resulted in further emphasis that the General Staff, not the individual bureaus, should direct the supply program. By the end of the war Goethals virtually controlled military supply procurement in the United States.

Mobilization of the private sector, to a large extent out of control during the early days of the war, remained chaotic to the end. The General Munitions Board (created April 1917) and its successor the War Industries Board (created July 1917), superficially represented an effort to centralize economic mobilization. But the War Department, with Baker's approval, often ignored the WIB and continued to deal directly with its civilian suppliers. In March 1918 the situation improved when Wilson appointed Bernard Baruch Chairman of the WIB and gave him authority to settle conflicts between departments, to follow up on contracts and deliveries, and to anticipate future military requirements. But Baruch did not become a supply czar, merely the symbol for unified industrial mobilization. To a limited extent he coordinated the efforts of the military services, other government agencies, and industry. Yet many businesses continued to deal in their traditional way, directly with the services, bypassing the WIB.

However great American industrial capacity, it could not adjust overnight to many specialized military requirements. A military aviation industry could not be created in just eighteen months, for example. As in other areas, industrial production and the smooth functioning of the mechanisms for economic mobilization did not become fully developed during the limited period of American participation in the war.

The effort to meet French and British production needs, in addition to American, further impeded economic mobilization. American industry

had accepted large orders for munitions and other war goods from the Allied powers which between 1914 and 1917 accounted for $2.2 billion. The expertise gained in filling these orders provided a small technic base on which American industrial expansion later built. But to a far greater extent production for Allied needs complicated American production. In early April 1917 the Ordnance Department decided not to interfere with orders already placed for the Allies. This considerably limited the plants available for American ordnance production, thereby contributing to materiel shortages that plagued U.S. troops to the end of the war. While the United States continued to meet Allied needs for some important war commodities, it was Allied, not American, production that largely supplied the AEF in 1918.[11]

American industry did produce prodigious quantities of war materials. It made more rifles than either Great Britain or France during the same period; it produced more machine guns and automatic rifles than Great Britain, though not as many as France; and it turned out nearly as much smokeless powder as Britain and France combined. Quantities of munitions aside, in 1918 the United States was not the "arsenal of democracy" it would become by 1940. Organizational weakness inhibited war production at many levels. Fewer than three percent of the Ordnance contracts let before December 1917 had been completed by the time of the Armistice. Much of the production program, especially of ordnance, was out of balance. Although American industry produced 30.6 million 75-mm shell primers and 26.8 million shell cases, it made only 12 million fuses, 13.9 million shell bodies and 10.9 million shell boosters. The AEF fought in France only because the French and British were able to furnish much of its supplies and equipment. American troops were especially dependent on foreign sources for artillery, ammunition,

tanks, airplanes, and machine-guns. The scale of this dependency was great; the AEF purchased ten million tons of supplies and equipment in Europe during the war and received only seven million tons shipped from the United States.[12]

The American military was effective in gaining access to the industrial and technological sources required to produce the equipment needed for the forces being created in 1917-1918. They effectively exploited previous contacts with the business and scientific communities to gain such access. They were woefully ineffective, however, in managing the overall effort, especially in setting priorities, establishing realistic needs, and getting the arms and equipment to the AEF in France.

Through most of World War I the American military had adequate qualitative and quantitative manpower resources. Resistance to military service generally was limited to socialist, pacifist, and religious groups, and had little significant impact on the military's requirements. Much of the success of military manpower policies had a basis in developments prior to the declaration of war.

Preparedness advocates, military reformers, and General Staff planners in 1916 and early 1917 debated the merits of some form of peacetime universal training and wartime conscription to meet military manpower needs. On several occasions in 1916, Hugh Scott, the Chief of Staff, testified in favor of compulsory military training for all able-bodied 18 to 21 year olds as a means to raise 3 million men. At this early time Secretary Baker and the Wilson administration disassociated themselves from Scott's proposals. But during late 1916 and early 1917 there was growing public sentiment in favor of some form of universal training. Baker, opposing peacetime UMT, did believe that

in event of war some type of selective conscription would be necessary. By March 1917, Baker and Scott had also convinced President Wilson that for the duration of the war selective service was the most effective means to mobilize the nation. It not only would allocate men for military needs, but would provide for industrial and agricultural manpower as well.[13]

The Wilson Administration and military planners resorted to conscription within six weeks of the declaration of war partially in response to earlier British experience. Great Britain did not adopt conscription until 1916, in the process demonstrating that indiscriminate volunteerism was a poor way to mobilize a nation for war. In particular British war production suffered from shortages of skilled labor in some key industries as many workers volunteered for military service. Wilson agreed to conscription less as a way to field a large force in France than as a way "to keep the right men in the right jobs at home." The Selective Service Act itself provided for occupational deferrments and furloughs for servicemen to return to civilian jobs if production needs required it. Some 800,000 men received industrial and agricultural deferrments (of 18 million classified) and a few thousand got furloughs in the summer of 1918. Although there were some occupational shortages, principally in shipping, shipbuilding, railroads, and the coal mines, manpower mobilization during the war was generally consistent with industrial mobilization.[14]

The prewar debates, particularly the support for UMT among influential segments of the population, went far to establish in the minds of most Americans the legitimacy of military service. The General Staff reinforced this by the careful framing of what became the Selective Service Act of 1917. There would be no bounties, no substitutes, and no

purchased exemptions. All male citizens and resident aliens, from twenty-one to thirty (later extended from eighteen to thirty-five), had to register with the local boards who actually administered the draft. The concept of local administration was politically astute and helped further support for and compliance with the system, which most perceived to be essentially fair.

Between May 1917 and the Armistice conscription was the principal means of raising men for the military services. While the draft directly supplied over two-thirds of military personnel during the war, indirectly it also spurred voluntary enlistments. Local boards registered nearly 24 million men, inducted almost 3 million, and forced millions of others into vital war industries. Given its size, the selective service system worked remarkably well furnishing the services, largely the Army, with the numbers of men needed.

One French officer told an American colleague late in 1918, recruiting and conscripting over 3 million men in nineteen months was "very good but not so difficult." But it was "astonishing", if not "impossible", that in the same time the United States was able to commission 200,000 officers, most of them competent. Officer Training Camps of ninety day duration, first established in 1917 and an outgrowth of the pre-war Plattsburg training camps, were the source of these officers. Because they were supplying the leadership cadre for the wartime Army, the OTCs had had to open, screen and train candidates, and provide commissioned junior officers quickly, before the first draft calls began sending conscripts to the induction centers. The first series of OTCs admitted 43,000 officer candidates on May 16, 1917, just five weeks after the declaration of war. Their opening was an administrative disaster but a triumph of political effectiveness for the Army.

With neither the manpower nor the organization to work out the details of establishing the camps, the War Department accepted the assistance offered by the Military Training Camps Association -- the Plattsburgers. Throughout the war the MTCA helped the Army recruit for the officer corps and the technical services. It even provided the War Department with its card files of potential candidates and with clerical assistance. The MTCA also assisted the War Department in identifying and inducting men with specialized skills. When the AEF needed 7000 men to work in its ordnance depots, MTCA recruiters enlisted the needed mechanics in three weeks. Connections between the War Department and the MTCA not only produced tangible results, but also assured support for the military by a significant segment of upper-middle class American society.[15]

With some exceptions, the quality and quantity of available manpower remained adequate throughout the war. All newly commissioned officers of the line (infantry, cavalry, and artillery) were graduates of the OTCs. Only those who demonstrated ability -- somewhat over 50% of the candidates -- received commissions on completing the course, thus assuring some consistency in the quality of the officer corps. Unlike World War II when large numbers of the best qualified officer material went to the Army Air Forces, the Navy, or other specialized organizations, there was considerably less competition from other arms in World War I, thus assuring the Army combat branches of a large pool from which to draw junior leaders.

The principal shortcoming of the World War I personnel system occurred late in the war when combat divisions in the AEF faced significant shortages of trained replacements. But the shortages occurred because the AEF expanded more rapidly than planned, casualties

were heavier than expected, and the management of the replacement system was poor. In general, the military was effective in securing the manpower it needed.

II. Strategic Effectiveness

Allied decisions and actions were significant factors in limiting American strategic alternatives during World War I, particularly since the United States was the junior partner in the coalition and entered the war late -- after many of the important strategic decisions had been made. Prewar American strategic plans had little relevance in the war of 1917-1918. Black, the plan for war with Germany, envisaged German intervention in the Western Hemisphere. None of the plans included the contingency of an American force being sent to Europe. American strategy during the war evolved largely from decisions and events after the diplomatic break with Germany in February 1917.

By mid-February the General Staff had developed plans for raising, equipping, and training an army of four million men. Also before the declaration of war, proposals surfaced in the War Department on potential theaters of war for American forces. Some American political and military leaders were reluctant to join the Allies in the bloody battles underway on the Western Front. Even after the declaration of war many assumed the United States would furnish the Entente with supplies, financial aid, shipping and naval support, but not put a large army in the field in France. President Wilson was among those who were unsure that the Western Front was where to commit an American Army in force. As late as November 1917 Wilson was still asking Secretary Baker for alternatives. The Army however, had virtually settled the issue between May and July 1917.[16]

British and French missions visited the United States in late April to initiate military cooperation. The British wanted support troops and raised the sensitive question of using individual American replacements in their units. The French requested service troops and at least one combat division to show the flag and boost French morale. During May the Administration agreed to send immediately a token expeditionary force to France. Wilson, on Secretary Baker's recommendation, selected Major General John J. Pershing to command the AEF. Baker delegated considerable authority to Pershing, who was to cooperate with the Allies in operations against the Germans but in so doing was to preserve the identity of American forces as a "separate and distinct component."[17] The maintenance of a separate American Army, resisting Allied efforts of amalgamating American manpower into the French and British armies, remained a key element in U.S. ground strategy for the rest of the war.

By the end of May 1917 Baker, Bliss, Pershing, and the planners on the General Staff had agreed that France was the decisive theater. Expeditions to other areas could influence the ultimate outcome but in themselves would not be decisive. Details of the ultimate size of the American commitment, how the American Army would cooperate with the Allies, and the area in France in which it would operate were all Pershing's responsibility.

Shortly after arriving in France Pershing began to press for a much larger American contingent. The General Organization Project, completed by his General Headquarters (GHQ) staff on July 10, 1917, called for one million men by 1918 organized in 20 combat divisions, with an ultimate force level of three million in 1919. Over the course of the war the planning targets for force levels changed from 30, to 80, to eventually 100 divisions with GHQ of the AEF in France and the War Department

General Staff in Washington often disagreeing. From the early summer of 1917 on, the U.S. Army planned to send more than simply a token force to France.

Even before arriving in France Pershing's staff began considering where on the Western Front to employ the force. The French wanted the AEF to occupy a sector on the eastern end of the front that ran from Toul in Lorraine to the Swiss border. Because the Lorraine front had been generally inactive for several years the Americans could train there and eventually release French divisions for more active sectors. Pershing believed that Lorraine provided good terrain which might allow the AEF to operate in the open and break the trench stalemate. But the logistical arguments were most compelling. The base ports along the southwestern French coast and the railroad network south of Paris provided direct access to Lorraine. They were less congested than the facilities further north which would have to be used if the AEF operated with the British or in a sector between the British and French armies.[18]

On September 25, 1917, the Operations Section at GHQ provided Pershing with "A Strategical Study on the Employment of the A.E.F. against the Imperial German Government," which shaped much of what the AEF planned for and did over the next year. The study concluded that the AEF could not mount a major offensive in 1918, but established Metz as the objective for a decisive 1919 offensive. Pershing used the Metz offensive as justification for creation of an independent American Army, for his refusal to turn U.S. troops over to Allied commanders other than for training or temporary emergencies, and in his insistence on training the AEF for open warfare. Despite its importance to American strategic planning, the AEF never launched its Metz offensive.

The success of American ground strategy depended on cooperation with the British in combatting German submarine attacks on merchant shipping in the Atlantic. In 1916 the country had adopted a naval building program to create a fleet of 60 capital ships by 1925. Such a fleet was inappropriate to American naval needs in the Atlantic after April 1917. Admiral William S. Sims, sent to London to determine naval requirements and eventually the American naval commander in Europe, realized that German submarines posed a deadly threat to the French and British and to any American attempt to send men and material to Europe. Although other naval leaders wanted to continue the 1916 program, Sims advocated meeting the immediate submarine threat by concentrating on construction of antisubmarine craft and merchant shipping. The Administration accepted Sims recommendations and postponed the capital ship construction. American naval strategy was as much a response to peculiar wartime conditions as was the ground strategy.

American strategy in 1917-1918 was both consistent with the political goals of the Wilson administration and militarily sound for hastening the defeat of the German armed forces. Key elements of that strategy, concentration in France, insistence on an independent American Army, and cooperation with the Royal Navy in the anti-submarine effort, could all be justified politically and militarily.

When Woodrow Wilson led the United States into the European war his ultimate war aim was to influence the peacemaking following the war. To achieve that objective the United States had to maintain political and diplomatic flexibility, yet also make a major military contribution to winning the war. Creation of an independent American Army and concentrating that force for offensive operations on the Western Front contributed to both. Alternatives to concentration in France had been

tried by the Allies already, at Gallipoli and in Salonika, with not very successful results. An American sideshow was unlikely to be any more decisive particularly given the limits on manpower and material immediately available. If the United States did not join in the effort on the Western Front, it would have contributed little to winning the war, might have even contributed to losing it, and would have been able to exercise far less moral and political leadership in the ensuing peace negotiations.

Similarly a policy of amalgamation might have obscured the American contribution to victory, whereas the effort of an independent American Army was more discernible, more obvious. Wilson and Baker explicitly told Pershing that they wanted to maintain the separate identity of American forces, but considered that secondary to meeting any critical situations. In other words, if Pershing thought it was necessary to divert troops to help the French and British prevent a German breakthrough he should do so. Pershing and his staff thought amalgamation would disperse American strength thus they persisted in building an independent American force. A recurring argument in their effort was the political effect it would have on Wilson's ultimate role as peacemaker: " ... when the war ends our position will be stronger if our army acting as such will have played a distinct and definite part."[19]

The psychological impact of a separate American Army, positive for the Allies, especially the French, and negative for the Germans, is difficult to gauge. But there is some reason to believe that an independent expeditionary force had more of an effect on both sides than amalgamated reinforcements would have had. Neither the Allies nor the Germans anticipated the speed and impact of the American build-up in

France, nor the ability of U.S. forces once on the battlefield. Ludendorff, after the war, lamented: "I admit that the German General Staff did not perceive, right from the start, the speed and full scope of this American achievement." Although Ludendorff admitted to some surprise at Pershing eventually exercising independent command of an American Army at St. Mihiel, he declared for reasons of prestige and national self-esteem, Pershing "simply had to take such a course."[20]

Naval strategists also faced limited options. But when it became obvious that the big fleet, capital ship navy envisaged prior to the war by the General Board was not adequate for the immediate threat facing the U.S. Navy, the strategy was changed. Destroyers, escorts, and merchant ships, to combat the German U-boats, became the focus of the naval buildup.

One historian has described the effectiveness of American World War I strategy, both politically and militarily, in the following terms: "Rarely had a great nation followed a course so consistently and seemingly achieved its ends so fully. During 1918 the United States had gained its military goal -- the provisional acceptance of President Wilson's plans for the post-war world."[21] American strategy during the war had been congruent -- securing the nation's political goals and reducing Germany's ability to resist.

There were risks inherent in that strategy, however. Wilson based his decisions to break relations with Germany in February 1917 and to declare war in April of that year on the belief that the United States had reached a point from which it could not turn back. Only by entering the war could the country shape a peace settlement that averted future wars and preserve a world in which American values could thrive. He did not believe that in early 1917 any European power directly menaced the

physical security of the United States. But he could not acquiesce in the sacrifice of American prestige and moral influence, particularly for what he conceived such a sacrifice would mean in terms of affecting a postwar settlement.[22] For Wilson, war with Germany entailed fewer risks than did the loss of American moral suasion and influence if the country had ignored the German submarine threat.

The United States became a belligerent late in World War I. At the time German submarines were sinking thousands of tons of merchant shipping each month while Allied offensives on the Western Front gained little ground, led to virtually no decisive results, and expended as much French and British manpower as German. In this situation the greatest risk for American strategy makers was that the war might be lost before U.S. forces could be engaged in strength. It was obviously a risk shared by the Allies, for whom the consequences of failure were more severe than for the Americans.

The deliberate pace of American mobilization, imposed by the desire to create an independent, self-sufficient expeditionary force, had concerned the Allies for much of 1917. With the military and political situation deteriorating late in that year, and with an awareness that the Germans were building forces for a major offensive early in 1918, Allied concern was heightened. American reinforcements would be needed to stop the German offensive. Yet Pershing, with the support of Baker and Wilson, opposed any proposal to amalgamate American units in French and British organizations. When the crisis came in the spring of 1918 Pershing continued to resist. But Bliss and House, working through the Supreme War Council, forced some modifications in Pershing's position. In exchange for additional British shipping for American infantry reinforcements, but not for the support personnel needed to create the

balanced independent force he wanted, Pershing agreed to allow U.S. troops to serve temporarily with the British Expeditionary Force. When the crisis passed in mid-summer 1918, the Allied demand for amalgamation also passed.

In August 1918, Pershing organized his separate American Army, but it was hardly independent for it relied on the Allies for much of its artillery, air, and logistical support. Pershing's unbending resistance to any form of amalgamation, particularly in the face of the German attacks of the spring and summer of 1918, involved grave risks. In the end he was correct: the Allies did not need as many individual American reinforcements as fast as they claimed. Pershing's success came with a political price, for the amalgamation controversy was the one issue which threatened Allied unity in the last year of the war. A less rigid American attitude on the question might have better preserved that unity, met immediate manpower needs in the 1918 crisis, and still have resulted in creation of an independent U.S. force.

American naval strategy offers an interesting contrast. Although the General Board never completely renounced its desire to complete the 1916 capital ship building program, it quickly recognized that the Germans might win the war before full American power could be brought to bear. Given that risk the naval strategists were more willing to cutback capital ship construction in favor of the more urgently needed antisub-marine craft. There was thus greater consistency between risks and goals in American naval strategy during the war than in its military strategy.

During World War I the United States had few formal mechanisms to integrate political and strategic planning. There was no National Security Council or Joint Chiefs of Staff. The existing interservice planning staff, the Joint Army-Navy Board, was largely ignored and played

no significant role in framing American strategy. With no regularized means by which to receive information and recommendations, the political leadership sometimes made decisions in ignorance of the military consequences.

Wilson eventually tired of armed neutrality and opted for war out of a mistaken estimate of what war would require. Principally, he wanted to fight German submarines and defend American rights at sea. Additionally, the U.S. would supply the Allies with arms, supplies, and money. Although aware of General Staff plans for a 500,000 man expeditionary force, most of whom were to be Regulars or other volunteers, he probably could not have envisaged in April 1917 the nearly two million man AEF that was in France in November 1918. Closer coordination between military planners and the Administration might have avoided such situations, especially in the period just prior to the declaration of war.

After April 1917 Wilson exhibited little interest in and seldom interfered with the military aspects of the war. He ratified Pershing's selection as commander of the AEF, wanted U.S. troops to fight as organized units in France, but was principally concerned with wartime diplomacy and with Congressional efforts to reduce presidential authority for administering the war effort. Political access for military leaders was constrained. Between April and December 1917 Wilson met only once with Pershing and never with Bliss. The President exercised control over the Army indirectly through Secretary Baker. This lack of direct political access made some senior officers uneasy. In December 1917 one General Staff officer recommended that the Chief of Staff seek to gain "a direct constant voice on his own initiative in the councils of the Chief Executive."[23] But when Baker left the country for an extended trip to

Europe, Wilson began dealing directly with the new Chief of Staff, Peyton C. March. For the remainder of the war March had somewhat more access to the president than had earlier been the case. Additionally, several issues arose during 1918 that had major military and political components and that bore on aspects directly related to Wilson's war aims. These included amalgamation, intervention in Russia, and the Armistice.[24]

Although lacking formal means to communicate regularly with the political leadership, the military did influence civilian policy makers over the course of the war. Most military leaders understood the political objectives of the Administration. They knew that Wilson wanted to maintain political flexibility during the war and avoid too many commitments in order to have maximum influence at the peace conference. In fact, when it suited their purposes, as in the effort to create and maintain an independent American Army, they used these political arguments to support their military objectives. Finally, the military leadership were universally able and politically attuned officers. Bliss and Pershing in particular had long civil-military experience. One reason Baker recommended Pershing for the AEF command, after all, was because he had willingly carried out Wilson's orders during the Mexican Punitive Expedition, even though he did not completely agree with the Administration's position.

Although the military eventually was able to communicate its views to civilian policy makers and despite politically able military leaders, civil-military relations during the war were marked by the initial failure to inform Wilson of the military consequences of his actions in April 1917. Yet overall, American political and strategic goals proved logical.

On the other hand, America's strategic goals during World War I were nearly totally inconsistent with the military force size and structure available in early 1917. The basic American war effort was to try to build an Army and Navy to meet the demands required by the strategic goals set between April and June 1917.

In 1917 the Navy consisted of some 64,000 officers and men manning 130 shore stations and 300 ships. Battleships were the dominant force in the fleet and their strategic and operational employment dominated naval thinking. But the immediate need in the sea war was some means to counter the growing success of the German submarine campaign; in April 1917, coincidently, U-boats sank more merchant ships than in any other month of the war. Battleships were not a viable means to counter the submarines. Initially the Navy had just 70 destroyers, only 44 modern oil burners, to use as escorts and in antisubmarine patrols. About half of these were sent in July 1917 to reinforce the British. As naval construction shifted to producing ships suitable for the anti-submarine war, American industry proved very adept at rapidly completing destroyers and other ASW craft. Shipyards reduced the completion time for destroyers from over a year to two to three months. At the end of the war 248 destroyers, 60 large subchasers, and 116 small subchasers were built or building for the U.S. Navy and many more for the Allies.[25] By November 1918 over 80,000 American sailors were operating 47 bases and 370 ships in European waters alone. Over 200 were destroyers, subchasers, and other craft directly involved in ASW. The Navy had also contributed to the ASW effort aviation squadrons and a mine laying force that sowed a belt of mines 230 miles long and 15 to 35 miles wide. In eighteen months the Navy adjusted its force size and structure to meet the strategic requirements of its new antisubmarine mission.

The Army had a more difficult and less successful time adjusting to its strategic requirements. Prior to the declaration of war the Regular Army consisted of something over 100,000 officers and men. Essentially it was a constabulary force whose principal missions included defending the coasts from seaborne attack and policing the Mexican border and America's insular possessions. It was not suited for the sort of war being waged in Europe. About one-third of its strength was in cavalry and fixed defense coast artillery troops. Only six of its 52 line regiments were field artillery; machine gun strength was equally inadequate. With the Regular Army small and ill-fitted for sustained combat on he Western Front, and no reliable reserve component available, clearly the Western Front -- independent American Army strategy decided on in the spring of 1917 was not consistent with the resources at hand.

The amalgamation debate was essentially over whether the United States could create quickly enough an army consistent with its strategy. From the first the French and British did not think so. In particular they believed the U.S. Army did not have enough competent, experienced commanders and staffs to run an independent army. Most estimates predicted that no significant U.S. formations would reach France until 1919. With some important qualifications, the estimates proved wrong. By the time of the Armistice and well ahead of most projections, the U.S. had raised nearly four million men, with two million in France and over one million seeing combat. By contrast, it took the British three years to put two million men on the continent -- a task the Americans did in eighteen months. And the Americans did organize an independent army -- two field armies, in fact, by November 1918. Forty-two American divisions reached France of which 29 saw combat.

However impressive the statistics, there was price. Because the initial force size and structure were inconsistent with strategic objectives, a number of expedients were necessary to assure that American troops reached France in time to have an effect. Most divisions reached France and entered combat without completing their training regimen, and components of one division often had to fight with elements of another division with which they had never trained. American divisions were also nearly twice the size of similar Allied formations. This reduced requirments for staff officers and senior commanders but made them unwieldly to maneuver and difficult to supply. Most of the machine guns, artillery, tanks, and aircraft that the AEF used had to be supplied by the Allies. Because no well functioning replacement system existed, other divisions were skeletonized to obtain fillers for infantry units hard hit by casualties. Some of the expedients adopted in an effort to overcome the inconsistencies between force structure and size and strategic goals reduced the potential fighting power, endurance, and overall effectiveness of the AEF during its 1918 battles.

Although American strategy was consistent with the nation's industrial-technical base, planning of the overall economic mobilization was weak as was the logistical infrastructure of the military.

The strategic decisions made in the spring and early summer of 1917, to field an independent American Army on the Western Front and to shift naval construction from producing capital ships to large numbers of ships more suitable for antisubmarine war, were based in part on the assumption that the country's industrial base could shift rapidly from a peacetime to wartime footing and that it could sustain the necessary rates of production to produce the specialized tools of war required. Potentially, it could. The United States possessed essential raw

materials; a large output of iron, steel, and coal; and an expanding manufacturing base.

American industry did produce prodigious quantities of war material during 1917-1918, increasing production significantly from pre-war levels. For instance, in 1915 shipyards in the U.S. completed 325,413 tons of merchant shipping. By 1918 the total had increased to 2,080,262 tons, which represented about half of the total tonnage completed world wide.[26] But inadequate overall planning for industrial mobilization, some production programs that were too ambitious, and unfortunate timing, all plagued the American war effort. For tanks, aircraft, artillery, and machine guns, the AEF was nearly totally dependent on the Allies.

In some instances this was the result of conscious decisions. Artillery production facilities in the U.S. were limited. The Ordnance Department therefore concluded that existing capacity should be refit to produce French artillery pieces. Whatever the converted American plants could not furnish then could be made up from French stocks. Under the circumstances this was undoubtedly the correct decision. The conversion, unfortunately, was more difficult than anticipated. Only a small number of guns of American manufacture arrived in AEF hands before the Armistice.[27] Overambition also plagued American war production. One three year plan for military aviation proposed completing 23,000 aircraft and 45,000 engines at a cost of $640 million. This despite the example of a three year French effort which produced only 4700 planes and a virtually nonexistent American aircraft industry.[28] Unfortunate timing and poor allocation of available resources also plagued the American logistic effort. During the spring of 1918, when overseas transportation was in short supply and first priority was being given to combat troops, Pershing recommended suspending shipment of horses and mules. By October

1918 he was paying the price in chronic shortages throughout the AEF of all means of ground transport -- motor vehicles, railroads, mules and horses.

At least some of the logistic chaos late in the war resulted from the AEF having to make its major effort months in advance of the projected 1919 campaign. Had the effort been postponed to 1919 some of the potential war production might have been realized. Organizational changes in civilian economic agencies and the War Department, made early in 1918, had not had sufficient time to take full effect prior to the Armistice. Although the military's initial strategic objectives were consistent with the nation's industrial-technical base, the management of the logistical infrastructure within the services, particularly the Army, and the overall management of the war economy was ineffective.

Because the United States entered into belligerency late and joined the coalition as the junior partner, American strategists aligned their objectives with those already established by the Allies. They recognized that the strategic alternatives available in 1917 were limited and followed the Allies largely out of necessity.

Having attempted operations against the Central Powers in theaters other than the Western Front with limited success, the Allies concluded that a campaign of attrition against the German Army in France and Belgium was the only means by which a decision could be won. The Americans, recognizing that they were unlikely to change Allied strategy significantly and lacking a viable alternative strategy, reluctantly agreed. Similarly, the Americans conformed to the essential principles of already established Allied (largely British) naval strategy, namely containment of the German High Seas Fleet and defensive measures against attacks on merchant shipping.

While the Americans accepted the strategic assumptions of the Allies, it could not be said that their strategic objectives were completely integrated. President Wilson believed a decisive military victory over Germany was a necessary prelude for a postwar settlement that would create a stable world order. He made clear, however, that there were limits on how closely the United States would cooperate with the entente powers. Military cooperation on the Western Front would be as complete as possible, but Wilson wanted to avoid political entanglements that could complicate the postwar peacemaking. The fight against amalgamation and for a separate American Army was one aspect of the limits on cooperation.

The Allied command structure during the war put other limits on how closely the war aims and strategic objectives of the belligerents could be integrated. Until late in the war Allied armies in the field operated nearly independently taking their strategic direction from their own governments. There was little coordination and no central direction of the strategic effort. When it entered the war the U.S. exchanged a series of missions with the French and British to work out the minimal means of cooperation. With the collapse of the Italian Front, the withdrawal of Russia from the war, and the threat of a German offensive, late in 1917 the Allies established the Supreme War Council to provide additional coordination. For discussion of some political and strategic issues the SWC was useful. Gradually it became the medium through which the amalgamation controversy was resolved. Bliss, the American representative on the SWC, was more willing than Pershing to compromise on the question of amalgamation. The Wilson administration, also not as completely opposed to amalgamation as Pershing, gradually gave Bliss more responsibility for settling the issue.

The SWC was an improvement over the previous arrangement and it was a useful forum for debate. But the Allied effort still had no central focus until April 1918, when the Allied governments entrusted Foch with the strategic direction of military operations. Because the respective army commanders-in-chief retained tactical employment of the forces, as well as the right to appeal Foch's decision to their governments, the Generalissimo had limited power. The command arrangement for the last six months of the war in no way resembled SHAEF twenty-five years later. Haig, Pershing, and sometimes even Pètain "disputed almost every issue with Foch and obeyed his orders with reservation and when it suited them to do so."[29] But with the creation of the SWC and the appointment of Foch, the Allies made some effort to coordinate strategic planning, concentrate their operational efforts, and give a minimal overall operational direction to the war.

Necessity more than any original strategic designs forced the Americans to integrate their overall military objectives with those of the Allies. This was true despite differences in political goals among the Allies. The U.S. used the SWC effectively as a means to protect its ultimate political interests while cooperating with the Allies militarily.

The naval war and the ground war fought by American forces in 1917-1918 offer interesting contrasts in terms of putting strategic strengths against German weaknesses. In the Western Front strategy, the decision to create an independent American Army, and even in the conception of the Metz offensive, Army strategists were pitting strength against strength. On the other hand, naval strategists, particularly Admiral Sims, recognized vulnerabilities in the German naval campaign which the Allies could exploit.

A remarkably small German force carried the submarine war. As of February 1917 just over 100 U-boats were in operation, generally with less than half at sea at any time. Given the strategic importance of the U-boat campaign, the German navy underemphasized its submarine building program. Although clearly making a major strategic contribution to the German war effort in early 1917, the U-boat campaign was also vulnerable.

Within weeks of the declaration of war, Sims made several recommendations to the Navy Department on measures to combat the German submarine offensive: "At present our battleships can serve no useful purpose in this area;" "Maximum number of destroyers to be sent, accompanied by small anti-submarine craft;" and "... the critical area in which the war's decision will be made is in the eastern Atlantic at the focus of all lines of communication."[30] Sims recognized that the Germans had only a limited number of U-boats and those had a limited range of operation thus the ASW effort should concentrate on attacking them in the critical trans-Atlantic sea lanes where they were most vulnerable.

American ground strategy in World War I, emphasizing concentration of effort on the Western Front, pitted a potential strength, U.S. manpower, against existing strength, the main force of the German Army. But the decision was not illogical. The Allies had already determined France was the decisive theater; sideshows had not been particularly successful; and importantly, in the war of attrition waged between the Allied and German armies, American manpower represented an untapped and possibly decisive force. However sanguinary the prospects for a war of attrition on the Western Front, such a strategy nonetheless was consistent with pre-war American strategic thought, which emphasized that victory would be won only by confronting, head-on if necessary, the

enemy's main force.

American military leaders pursued the strategy of concentration in France consistently, although sometimes political considerations mitigated against it, e.g. intervention in Russia. In the end they were successful. During 1918 American manpower did make a quantitative and qualitative difference on the Western Front. As German manpower was worn down, particularly after the spring and summer offensives, American troops held larger and larger sections of the front. By November 11, 1918, the AEF held a slightly larger portion of the front than the BEF. A German general, Herman J. Von Kuhl, put the American contribution in perspective. Fresh, strong nerved, though inexperienced, U.S. troops in 1918 faced an exhausted German Army: "In this and in the great numerical reinforcements which the Americans brought to our opponents at the decisive moment lies the importance of American intervention."[31]

III. Operational Effectiveness

The U.S. Army of 1916-1917 was campaign experienced, many officers and enlisted men having fought against Moro bands in the Philippines and Villa's irregulars along the Mexican border. The principal combat arms were all tactically proficient. It was a small Army more suited for constabulary duties than for mounting a major campaign against experienced European opponents.

But the U.S. Army did possess a coherent, codified, and generally relevant operational doctrine. In 1905 the General Staff had adopted German regulations to American organization and produced the first U.S. Army edition of Field Service Regulations (FSR). Subsequent, revised editions appeared in 1910, 1914, and 1918. In both general principles and specific details the FSR governed the administrative, tactical, and operational employment of the Army in the field. Above all they emphasized offensive operations by mobile field forces as the means to achieve decisive results.

The FSR were the basic organizational and operational doctrine followed by the AEF in 1918. Nonetheless, even the July 1918 revised regulations had important shortcomings and omissions. They did not take into account the use of aviation, tanks, or gas, and they underemphasized machine guns, field artillery, and motor transport. Doctrine for employment of new weapons systems and the integration of new technology with traditional means was not, therefore, completely codified but evolved during 1917-1918 through use.

The U.S. Army also possessed a small cadre of experienced, trained officers capable of implementing its operational doctrine. From 1903 through 1916 the Army War College, Staff College, and School of the Line had emphasized the operational realm in their curriculum. When the U.S. entered the war graduates of these schools, by age, grade, and experience, were destined to become the key staff officers, brigade, and regimental commanders in the AEF. (Many of the division, corps, and army commanders had been too senior to attend the schools.) At the schools these officers had studied the workings of general staffs in war games, practiced moving armies to battle and sharpened their tactical decision making in map maneuvers, and in general prepared themselves intellectually for managing mass armies at war. The greatest shortcoming of the schools was the small number of officers who had attended; about 400 graduates were available in 1917.[32]

The course of the war and the pace of the American buildup in France necessitated a piece-meal commitment of U.S. units. GHQ AEF did not organize its ultimate operational objective, a separate field army, until August 10, 1918. Thus the AEF did not fully enter the operational realm until eighteen months after the U.S. declared war and only three months before the Armistice. This limited the time in which commanders, staffs, and troops could learn from their experience and improve their performance.

Other factors beyond the control of the AEF also limited its operational effectiveness. Allied strategy assumed the U.S. could not play a major role until 1919; American organization and training projected such a timetable as well. With the Allied defensive and offensive successes from June through August 1918, Foch and Haig saw the prospect of defeating the Germans before the end of the year if the

British, French, and American armies all pushed hard. Foch wanted the principal U.S. effort along the southern flank of the attack pushing north between the Argonne Forest and the Meuse River toward Sedan. Pershing wanted to follow the AEF's original strategy of launching an attack on St. Mihiel-Metz, sixty miles south of where Foch wanted the U.S. effort. The compromise, a limited First Army attack on St. Mihiel followed two weeks later by a major effort in the Meuse-Argonne, put severe operational strains on the AEF. Within two weeks the First Army would mount two major attacks sixty miles apart, in the process shifting its axis of advance ninety degrees. The terrain in the region between the Argonne and the Meuse, where Foch wanted the American attack, was rough, wooded, and clearly favored the defense. It was not a region conducive to attack by an inexperienced army. Because of the forces assigned to the St. Mihiel attack, Pershing had few experienced divisions for use in the Meuse-Argonne. Of the nine assault divisions, five had little battle experience, three were worn from the summer campaigns, and only one was a sound, veteran unit.[33] Given these difficulties, it is not surprising the AEF was in number of respects operationally ineffective.

Despite obvious problems with performance, American operational doctrine in World War I was basically sound. It stressed integration of the combat arms and combat support units to conduct offensive operations. Both the current Field Service Regulations and pronouncements from GHQ AEF emphasized that all arms, especially the artillery, had to support the infantry in gaining fire superiority and fulfilling the organization's mission.

To some extent the selection of key personnel also fostered operational integration in the AEF. Pershing made good use of the small

number of Regular Army officers that had any previous training in operational planning and execution such as the service schools at Fort Leavenworth provided. When he initially formed his headquarters staff, 24 of the 27 officers he requested were Leavenworth men. Throughout the war twelve officers served at GHQ as chief of staff, deputy chief of staff, and heads of the five staff sections -- nine had been to Leavenworth. The pattern continued in the operational commands, with the chiefs of staff of both field armies and nine of the ten officers who were chiefs of staff of the seven AEF army corps Leavenworth men, as were most of the heads of the operations sections of the corps. Only three of the 29 U.S. divisions that saw combat did not have Leavenworth graduates as chiefs of staff. The common background of the Leavenworth men provided some unity and consistency to the AEF's operational performance. One AEF staff officer remembered meeting with three corps chiefs of staff in October 1918 to plan an attack: "Except for an ominous rumble to the north of us, I might have thought that we were back at Leavenworth. It seemed just like a Staff College conference between the phases of one of the old map maneuvers. The technique and the talk were just the same."[34]

The Leavenworth trained staff officers were not omniscient. Some had difficulty dealing with older officers who had not attended the schools and who were often the division and corps commanders. Leavenworth men were in part responsible for some of the AEF's major operational breakdowns -- delay in taking Montfaucon, the stalled Meuse-Argonne offensive, and the race to Sedan. But they did contribute a unity of purpose to AEF operations that would otherwise have been sorely lacking. To the extent that Pershing utilized this trained group of officers throughout the combat elements of the AEF to assure the

integration of operational doctrine with performance, he enhanced the organization's operational effectiveness.

In its two operational efforts, St. Mihiel and the Meuse-Argonne, the AEF attempted to follow doctrine and utilize combined arms to support the main infantry advance. Several factors hindered performance. For instance, only a small number of tanks, less than a quarter of what the planners thought necessary, was available for either action. In both offensives the limited tank resources permitted support to only two divisions on a small portion of the front.[35] Despite poor tank-infantry liaison, the tanks assisted the infantry advance in the sectors where employed, but had little impact on the overall objectives of the operations.

In preparing for the two offensives in the fall of 1918 American operational commanders were cognizant of factors which could enhance the fighting power of their units -- namely, exploitation of weather, terrain, and surprise. Because Foch, not the AEF, had established the objectives and the basic timetable for the fall offensives, American commanders were unable to utilize the weather or the terrain to their advantage. Terrain in the Meuse-Argonne region, in fact, worked to their considerable disadvantage. But in both attacks, they had some success in achieving initial operational surprise. They masked the concentration of troops for the attacks by limiting most road movements to the night; they held artillery registration and radio messages in the concentration area to a minimum; and they attempted a number of ruses to convince the Germans that French troops were still occupying positions in what were supposedly quiet sections of the front. The First Army achieved some surprise in the initial stages of both operations.

As with the integration of forces to enhance combat power, American experience with mobility and flexibility was also mixed. The technology existing during World War I imposed limits on mobility in the AEF; application of that technology imposed others. Although the AEF used great numbers of motorized vehicles, motor transport was little more than a supplement to horses and wagons for local transportation and a substitute for railroads for longer hauls. The AEF never had more than half of the vehicles prescribed in tables of organization. More importantly, because this was the U.S. Army's first large scale use of motorized equipment, there was uncertainty as to how accurately the organization tables represented real needs.

In order to overcome its transportation shortages and limited mobility, the AEF resorted to expedients, particularly in the last months of the war. During the first week of August 1918 the 89th Division moved by truck to the front near Toul. It was the first large scale movement of an American division conducted by an American organization entirely in American trucks. To accomplish the move of just this single division, however, required trucks "from all over the A.E.F." The division itself had to plan, organize, and coordinate the move at the last minute.[36] On the one hand, this incident illustrates the limited operational mobility of the AEF. Yet at the same time, it indicates the organization was sufficiently flexible to overcome some of the limits on its mobility, if only in a limited area.

The United States demonstrated its greatest feat of mobility and flexibility in transporting troops to the theater of war. Shipping was perhaps the most difficult, intractable problem faced by the United States in the war. It affected American participation at all levels. Losses in merchantmen to U-boats in early 1917 were serious, but the

difficulty was more fundamental. In 1917 the US merchant fleet was "more legend than reality"; American ships carried less than ten percent of US foreign commerce. Early in the war Wilson recognized the inadequacy of the merchant marine and wanted legislation to help expand it. Congressional opponents, fearing government intervention in international commerce, expansion of presidential power, and possible friction with the British, put off action for two years. The Shipping Act of September 1916 did lay the basis for the effort in 1918 that permitted the rapid movement of a large portion of the AEF to France. But it was several years late in passage and months slow in implementation. Inadequate American shipping resources led to great dependence on the Allies for trans-Atlantic transport. The Allies exacted political and strategic concessions from the Americans; shipping shortages also had a negative impact on operational and tactical effectiveness of the AEF.[37]

By end of 1917 fewer than 200,000 U.S. troops were in France, largely because the shipping available to the Army was only one-fourth that needed to meet the goal of putting and maintaining one million men in France by the end of June 1918. Between March and August 1918 an additional 124 ships went into service transporting U.S. troops and supplies to Europe. Most of the additional tonnage was British, diverted from other use. But German merchant ships and passenger liners, interned in American ports since the outbreak of the war, provided another 300,000 tons of shipping capacity. When the U.S. declared war the German crews of these ships wrecked the engines and other machinery. Naval shipyards had quickly repaired these ships much to the surprise of the Germans who believed many of the vessels were permanently disabled. The former German ships carried over 500,000 American troops to France in 1918. The overall movement of manpower to France in the months following the March

1918 German offensive was remarkable; 1.5 million men in the last six months of the war. The German high command had not expected such an achievement; even Ludendorff considered the effort skillfully and energetically undertaken.[38]

In demonstrating intellectual flexibility in command and control, American forces were only partially effective. The St. Mihiel and Meuse-Argonne campaigns offer examples of both operational effectiveness and ineffectiveness in this regard. Within two weeks in September 1918, the First Army launched two major offensives on battlcfields sixty miles apart connected by only three useable roads. The staff work alone needed to extricate the First Army from one battle and ready it for another would have strained the staffs of any of the Western Front belligerents in 1918. That the relatively inexperienced First Army staff on very short notice mastered the operational and logistical details was testament to its "outstanding flexibility of mind."[39]

But the flexibility demonstrated by the First Army staff in planning and massing forces for the Meuse-Argonne offensive was not often carried over to the actual conduct of operations. Operations orders in the AEF normally prescribed in great detail division and corps boundaries, phase lines, and objectives. For the initial attack in the Meuse-Argonne the planners believed that such precise, detailed orders were essential to facilitate the movement of the large numbers of inexperienced troops engaged. The close adherence to the prescribed orders that the planners thought necessary for control, however, dampened whatever initiative the commanders on the ground might have exercised. Too often units halted on their initial objective, within their unit boundaries, to await progress by units on their flanks; even when they had the opportunity to seize additional key objectives. A German

observer of the St. Mihiel offensive described this inflexibility: "...
the plan of attack was too schematic. An attack on a large scale does
not run like clock-work ... . This was not taken into consideration in
the American plan of attack."[40] At St. Mihiel the First Army plan
succeeded beyond all expectation with the army objectives being reached,
in some places, within the first few hours. But this was not followed
up. The American command needed to liberate itself from previous
preparations and make new decisions. This they did not do.

The Americans were also slow to adapt new technology to battle
field operations during the war. In 1917 the United States possessed few
combat aircraft, no tanks, and no offensive or defensive gas warfare
capability. By November 1918 American industry had produced few of these
weapons for use by the AEF and no clearly codified doctrine for their
employment had been developed. Yet at the operational level the AEF did
employ aircraft, tanks, and gas. With respect to new weapons the
principal American failure was one of organization and production, a
reflection of the general disorganization of the War Department for most
of the first year of the war.

The AEF from its earliest organization projects in the summer of
1917 planned to use these new weapons. Far more than the War Department,
Pershing recognized the advantages of providing an organizational base to
oversee the doctrinal development and employment of new weapons. At GHQ
AEF he established chiefs of the air service, chemical warfare service,
and tank corps, in May, September, and December 1917; at the War Depart-
ment those services did not get an institutional basis until May, June,
and April 1918 respectively. One careful student of technology and
doctrine has postulated that the greatest stumbling block to the revision
of doctrine and the integration of new technology with existing

operational concepts is the absence of a system, or institutional base, to analyze the new weapons and their relation to prevailing practices.[41] Yet Pershing's effort at the operational level could not overcome the dispersion of effort in the United States in development and production.

The American experience with chemical warfare was indicative of the process. By April 1917 the Bureau of Mines at the Interior Department, which had been testing masks and respirators, had done more to prepare for gas warfare than had any element of the War Department. Following the declaration of war, the Medical Department developed and procured gas masks (functions later turned over to the Engineers); the Ordnance Department developed offensive chemical weapons; and the General Staff formulated offensive and defensive doctrine and supervised chemical warfare training. All this stateside activity had virtually no effect on the AEF.

In August 1917 Pershing organized a gas service in the theater of operations which in many respects paralleled or duplicated the gas activity in the War Department. But AEF division commanders and staffs were unwilling to sacrifice training time from more traditional military skills for a new, unfamiliar weapon. As a result, between one-quarter and one-third of all combat casualties suffered by the AEF were from gas, although fatalities were relatively few.[42] The AEF made minimal offensive use of gas, as well. Early in the Meuse-Argonne, corps and division commanders, with no training, experience, or doctrine to follow, seldom resorted to gas to neutralize enemy batteries and strong points. As the First Army artillery commander noted: "... offensive use of gas does not seem to be understood." Over the course of the campaign, subjected to often incessant gas attacks by the Germans, AEF commanders gradually recognized the necessity of using it themselves. By the

November 1 attack the AEF had gained confidence in use of gas and to good effect.[43]

American experience with gas warfare during World War I was basically one of learning by doing. There was no systematic effort beforehand to assess the new weapon, determine needs, develop a doctrine, and train troops and commanders in its use. To some extent the same situation obtained with tanks and military aviation. There was a general recognition of the importance of technology and the new means of warfare. But there was a critical lack of coordination between the AEF and the War Department. As a result no American doctrine for their employment developed. American production of these weapons faltered, making the AEF dependent on the Allies for material; and actual operational employment was poor. The United States did not make effective use of the weapons technology available.

Support and logistical activities were major operational weaknesses of the AEF. In part the problems were spatial, material, and doctrinal. Never before had the United States (or any nation) attempted to support a two million man force 3000 miles from its industrial base; the sheer magnitude and unique character of the situation caused problems. There were also materiel shortages that had an adverse impact on American operational performance. Finally, although _Field Service Regulations_ provided some doctrinal basis for the administration and support of an army in the field, few officers in the pre-war U.S. Army had seriously studied battlefield logistics. Before the war Leavenworth had included separate field engineer, signal, and field medical schools, but never a separate supply school. Instructors at Leavenworth recognized that while their curriculum did not completely ignore logistical support of operations, it was heavily weighted to purely tactical and operational

considerations. Thus while the AEF had many competent officers in supply billets, Regular Army quartermasters or recently commissioned civilians with business backgrounds, there was no cadre of logisticians, trained in all aspects of supply operations.

The AEF classified supplies (Classes 1-4) for distribution to combat divisions according to recurring requirements. Class 1, for instance, included all items of daily automatic supply -- rations, fuel, gasoline, oil, forage. The distribution of the other classes of supplies was dependent on requisitions from supply officers based on use, need, or other variables. Regulating officers and regulating stations, innovations adopted from the French, at the railheads governed the flow of supplies between the depots and the divisions. It was a well conceived scheme that recognized operational performance depended on a regular, automatic flow of supplies to the combat elements.

The Meuse-Argonne offensive put severe strains on the system. Transportation of troops, supplies, and casualties was the principal problem. The poor roads in the region could not support the heavy traffic needed to sustain a major offensive -- fresh troops and supplies moving in one direction with casualties and exhausted units travelling the other. Traffic, heavy bombardment, and years of neglect eventually broke the surfaces of the three main roads leading into the area. Large numbers of engineer and pioneer troops spent the remainder of the war keeping the roads minimally passable. Shortages of trucks, horses, and mules intensified the transportation problem. Shipping priorities the previous spring, which emphasized infantrymen but not the service troops and equipment (including animals) needed to support large formations, had come home to haunt the AEF. The number of casualties sustained in the last weeks of the war also began to tax the evacuation and hospital

system to its limits. Although the AEF had a well conceived logistics system, problems in implementation, particularly transportation shortages, hampered its effective support of offensive operations.[44]

Despite the relatively slow moving pace of World War I operations, the AEF faced a persistent problem of communications. Numerous other means of communications were tried including visual lamp and flag signals, carrier pigeons, and buzzer codes sent over telephone lines; all had serious limitations. So did field radios which were immobile, unreliable, and tended to give away friendly positions to enemy intercept operators. Runners and field telephones, both vulnerable to enemy fire, were the principal means of communication within the AEF. As a result, operational commanders frequently lacked timely information on which to base their decisions and had no rapid, dependable means to convey decisions, once made, to subordinate units.[45]

The AEF developed an extensive intelligence apparatus that utilized agent reports, prisoner-of-war interrogations, interception of enemy communications, and analysis of the German press reports. But this effort had little positive effect at the operational level. Few of the messages intercepted and decoded by the Radio Intelligence Service (G-2-A-6) had immediate operational relevance in the two American offensives, although radio traffic analysis helped clarify the extent of the enemy withdrawal and order of battle in the latter stages of the Meuse-Argonne campaign. At the beginning of that campaign, insufficient intelligence contributed to the overambitious attack plan. Although American order of battle information on the German units in the zone of operations was accurate, the assessment of the morale and staying power of the enemy was not. In part, because he had been led to believe that the German units had low morale, Pershing risked using inexperienced

assault divisions in the unsuccessful effort to overwhelm them.[46]

In several respects, the AEF's offensively oriented operational doctrine was not sufficiently supported by its logistical system. In particular, the AEF experienced difficulties in keeping troops at the front adequately provisioned. During the last two months of the war the rough terrain and poor road net in the Meuse-Argonne region exacerbated existing weakness in the AEF's logistic and transportation infrastructure. Other shortcomings in communications and intelligence further eroded American operational effectiveness.

American operational doctrine and practice during the First World War were generally consistent with the country's strategic objectives. The Navy's principal strategic mission was to assist the Royal Navy in defeating the German U-boat campaign and protect merchant ship and troop convoys destined for Europe. Although the main operating units of the U.S. Fleet, the battle line, were inappropriate for the anti-submarine campaign, the Navy rapidly adjusted its forces and operational doctrine to meet the U-boat threat. The immediate dispatch of available destroyers for escort duty in European waters, the shift in the naval building program to construction of antisubmarine craft, and the adoption of the convoy system all furthered the strategic objective of defeating the submarines. The convoy system in particular proved effective. Convoys employed light cruisers and armed merchantmen as escorts for commercial shipping on the high seas. Destroyers and other light escort craft provided protection when a convoy passed through the most dangerous U-boat zones, generally in the mid-Atlantic. Because the escorts made the convoys more difficult and dangerous to attack, the U-boats began to operate in narrower waters where other ASW measures (mines, depth charges, aircraft, and nets) were more effective. The ASW campaign

adopted in 1917 ultimately defeated the U-boats and permitted the rapid buildup of American forces in France during the spring and summer of 1918.

American Army operational doctrine emphasized offensive action by combined arms to engage the main force of the enemy army, head on if necessary. This approach, basically attritional, was consistent with Allied strategy and with the strategic and political objectives of the Wilson administration. The administration wanted a visible, viable American presence that would affect the military outcome of the war in such a way as to increase American political influence during the peace making. An American Army conducting offensive operations against the Germans on the Western Front was one means of demonstrating the military and political power of the United States. Alternative operational employment of American forces, such as amalgamating them into French and British formations, would have diminished the strategic and political impact.

The operational doctrine implemented by the AEF pitted American strength against German strength. The operational realm, in this respect, reflected the strategic. But by the late summer of 1918, when the AEF first began functioning at the operational level, the relative strengths of the two forces were rapidly changing. The AEF could afford to wage an attrition campaign much more than the German Army could sustain one.

Pershing did not rush to implement his operational concepts. Early AEF planning foresaw no significant operational role for U.S. forces until 1919. Pershing recognized that through much of 1918 his troops were inexperienced, his tactical units undertrained or untrained for the operations he wanted to undertake. Even after the First Army was opera-tional Pershing wanted to limit its employment. At one point in early

September 1918, he argued with Foch that the First Army should carry out
the St. Mihiel assault and then withdraw from active operations to train
throughout the winter of 1918-1919 for an offensive in early 1919 against
Metz.

Allied strategic imperatives in the face of the deteriorating
German position, however, demanded the full-scale commitment of the First
Army after St. Mihiel. In the Meuse-Argonne campaign Pershing utilized
his growing operational strengths -- firepower and manpower. The Ameri-
can zone of operations afforded little opportunity for maneuver, but then
American doctrine placed little stress on it anyway. The First Army plan
combined strong air support by over a thousand planes and massive fire
support by 2700 guns with overwhelming infantry superiority; the assault
troops would outnumber the German defenders by 8:1. After some initial
success the Meuse-Argonne attack came to a halt. Logistical and opera-
tional failures by the Americans and fierce German resistance, magnified
by the terrain and prepared defensive positions, all contributed. Pershing
continued to press his commanders and his troops to the attack. The last
six weeks of the war for the AEF were very much a battle of attrition.

Once engaged in the Meuse-Argonne attack, Pershing never doubted
the operational strengths of the AEF nor the superiority of his troops
over those of his Allies or the Germans. He believed they would
triumph. As one British historian put it: "In the end, and at cost
which the United States could well afford, he would be right."[47] But
American operational doctrine had evolved in a vacuum; the U.S. Army was
preparing to fight no particular enemy, least of all the German Army.
Thus it was fortunate that the AEF's operational strengths, its manpower
and firepower, were increasing at the moment it became heavily engaged
with the German Army, whose combat power was then on the wane.

IV. Tactical Effectiveness

Tactical performance in the AEF did not completely match tactical pronouncements and intentions. American commanders, particularly Pershing, believed that three years of trench warfare had eroded the offensive spirit of the French and British and led them to accept a defensive attitude which resulted in an indecisive war of attrition. Pershing concluded that if his troops adopted the trench warfare tactics of the Allies, their offensive spirit would also wane. He wanted aggressive American troops capable of driving the Germans out of their trenches and of defeating them in a war of movement and pursuit. Pershing continually stressed the importance of the infantry rifleman: "The rifle and the bayonet are the principal weapons of the infantry soldier. He will be trained to a high degree of skill as a marksman both on the target range and in field firing. An aggressive spirit must be developed until the soldier feels himself, as a bayonet fighter, invincible in battle."[48]

Despite Pershing's faith that the American rifleman was the key to success on the Western Front, other aspects of AEF planning took cognizance of the effects of modern weapons on warfare. In July 1917 the Operations Section (G-3) at GHQ rejected recommendations that the AEF adopt light, mobile howitzers for its artillery regiments. Choosing firepower over mobility, the G-3 determined the AEF should use heavy French weapons, 75-mm and 155-mm guns. The size and organization of American infantry divisions also indicated the AEF expected battles

of attrition against German defenses organized in depth. AEF divisions were twice as large as European, were rich in infantry, and had a full artillery brigade for fire support. In May 1918 GHQ AEF rejected a smaller three-regiment division organization that had advantages in mobile, flexible maneuver operations. The staff concluded that the square division of four regiments-two brigades of infantry was more suited for Western Front combat.[49]

AEF doctrine stressed that commanders should press an aggressive offensive using flexible formations that made use of the terrain and supporting arms. Particularly in frontal assaults, fire superiority and formations in depth were required to carry the enemy position. Conventional wisdom in the AEF deemed that such assaults could be successful if conducted in strength on a sufficiently narrow front. Early experience in offensive operations, however, did not go according to doctrine. During the summer of 1918 a German intelligence officer suprisingly reported of the Americans: "Apparently little stress is laid on marksmanship."[50] There had also been little noticeable command influence particularly in coordinating the action of infantry and artillery.

Americans were equally critical of themselves. The Training Section (G-5) at GHQ analyzed combat performance and pointed out shortcomings. In early September 1918 a G-5 publication noted: "The principles enunciated [regarding offensive combat] are not yet receiving due application." Assault formations had been too dense and lacked flexibility; scouts were seldom used; supporting arms were improperly employed; and junior officers displayed little initiative. After St. Mihiel and the first week of the Argonne, the G-5 had seen improvements, but noted that some troops lacked aggressiveness and that brigade and

division headquarters were too far in the rear. By the time of the Armistice, American units were becoming more tactically proficient: "Rapid progress in the art of war was everywhere to be seen. Divisions were more mobile, formations less dense; suitable maneuvers in the attack were more often seen; and vastly better advantage was taken of cover. Commanders and staffs were generally more confident, and worked with greater sureness and dispatch."[51] Clearly the AEF learned to fight by fighting, as much as because of Pershing's insistence on "open warfare."

American tactics emphasizing offensive combat and open warfare, were consistent with the country's political, strategic, and operational objectives. The political leaders wanted a visible, prominent American military presence overseas that would maximize political influence during the postwar peacemaking. Strategically this entailed organizing an independent field army capable of conducting offensive operations against main force German units in France. Operational doctrine similarly stressed the attack: "Decisive results are obtained only by the offensive. Aggressiveness wins battles."[52]

From shortly after Pershing arrived in France in June 1917, the AEF based its planning, organization, and training on an offensive role for U.S. troops, with the main effort to come in 1919 by an independent U.S. field army. It took time and assistance from battle experienced Allies to create the sort of force and train it in offensive tactics that the Americans wanted. While open warfare was the ultimate tactical goal, all American divisions received extensive training in trench warfare. In fact, most U.S. troops first saw action occupying trench positions, on the defensive, usually closely supervised by the French or British.

Indeed, some in the AEF believed the Allies exerted too much influence on American tactical development. One staff officer in July

1918 articulated a commonly held view among AEF professionals: "Berlin cannot be taken by the French or the British ... . It can only be taken by a thoroughly trained, entirely homogenous American Army, in which the sense of initiative and self reliance upon the part of all officers and men has been developed to the very highest degree."[53] American insistence on its own tactical methods and doctrine was consistent with the objective of emphasizing a unique U.S. contribution to the war effort for political and strategic purposes.

Besides political considerations and national pride, there were valid tactical reasons why the AEF opposed amalgamation of small units (companies and battalions) as the Allies had requested. After four years of war Allied interoperability was far from perfected. At the tactical level, the French and British remained remarkably ignorant of each other's language, doctrine, organization, and methods. There was little reason to suppose the Americans would have any more success in such matters, especially with the French. The language problem frequently proved insurmountable between French company officers and the Americans who trained with them, served with them in quiet sectors, and sometimes relieved them at the front. American experience with French staff work and command methods during the defensive and counteroffensive operations of June-July 1918 was sometimes exasperating and costly. French commanders repeatedly changed orders, often with little advanced warning, and paid little attention to the logistics needs of the American units serving under them. For instance, on three occasions during the Aisne-Marne counteroffensive, on the Marne, on the Ourcq, and at Fismette, units of the 28th Infantry Division, while attached to French divisions, suffered heavy casualties directly as a result of faulty French tactics. The experience of the 28th Division made Allied

criticism of American training, tactics, and competence all the more difficult for Pershing and his subordinates to accept. It reinforced their opinion of American methods and their opposition to amalgamation.[54]

Doctrinally, American offensive tactics emphasized the close integration of infantry with supporting arms and the need for infantry to use fire and maneuver when attacking hostile positions. Performance was inconsistent, with most divisions seldom achieving the level of tactical proficiency Pershing expected. Rigid plans of attack, lines of infantry advancing over open ground without regard for concealment or cover, little use of fire and maneuver, and improper employment of infantry supporting arms, were typical of American infantry in the offensives of the summer and fall of 1918.

Artillery support was most effective when controlled by observers with the frontline infantry who could communicate with the gun batteries to adjust the fire directly on identified targets. Although the requirement was understood it proved nearly impossible for most American units to achieve. Reliable communications linking the frontline observers with the guns did not exist. Radios were not yet portable enough and telephone wire linking the gunners to the observers was easily and often cut by fire and vehicular traffic. American artillery relied more on map firing, saturating a pre-selected area with shells, than on observed fire, which was more efficient for infantry close support.[55]

Infantry attacks on the Western Front seldom could carry beyond the limit of the range of the field artillery. Thus any army contemplating offensive oriented tactics needed to find a means to extend the range of artillery support. Most simply, this required firing batteries to displace forward as the infantry advanced. Because guns on the move could not fire and were vulnerable to counter battery fire, especially

the closer they got to the front, the process required planning, training, and coordination. Some batteries had to remain in place to continue fire support for the infantry while others were on the move. Engineers had to make roads passable so the guns would have unhindered, rapid movement to their new firing positions. And the infantry had to stay in touch with the gunners so the advance would not be deprived of maximum support at critical moments. Few American divisions trained to accomplish such complicated movements. Division artillery, in fact, normally trained separately from the other combat elements. Furthermore, divisions in the latter stages of the war had artillery regiments from other divisions attached, rather than their organic units. Tactical effectiveness suffered because the AEF did not take steps to maximize coordination and integration of the infantry and artillery within combat divisions.

American tactics in World War I also underemphasized surprise and the rapid exploitation of opportunities. The only specific mention of surprise in Field Service Regulations was in a defensive context: "To be surprised is never justifiable in warfare."[56] Doctrinal statements from the G-5 section of the AEF also virtually ignored tactical surprise and exploitation. The necessity for subordinate infantry commanders to exercise "a high degree of initiative" while handling local tactical situations was addressed by G-5 only after the Armistice and largely as recognition of tactical shortcomings in the last stages of the war.[57]

Far more than with surprise and exploitation, American tactical doctrine was concerned with careful planning, with preparing precisely drafted operations orders according to a fixed format, with developing fire support, and with maintaining correct formations and troop frontages. In short, the Americans fought set-piece battles. American commanders

recognized some of the shortcomings of the AEF and believed that these required closely controlled operations. The shortcomings included deficient small unit leadership, too few trained staff officers to support a system of decentralized leadership, and inexperienced troops that did not always recognize the opportunities presented to them.

The closely controlled tactical dispositions in the AEF resulted in numerous missed opportunities. Perhaps most significant was the failure to take Montfaucon, the dominant German position, early in the Meuse-Argonne attack. Montfaucon was the first day's objective for the 79th Division. Early in the attack, the 4th Division, facing less opposition than the 79th, had the opportunity to flank and possibly encircle the town. The corps chief of staff prevented the movement of the 4th Division into the 79th's zone of action because operations orders did not specify such a movement and it would have complicated control. The Germans were given time to consolidate their hold on Montfaucon which did not fall for several days. This contributed to the early stalling of the entire Meuse-Argonne attack. Exploitation, in this and other situations, was forsaken for control.

Despite the absence of doctrinal guidance, in some situations units in the AEF did attempt, sometimes succeeding, to achieve tactical surprise. Artillery fired smoke barrages to mask the movements of attacking infantry. Night movements and, in the last phase of the Meuse-Argonne, night attacks were attempted. Some commanders also tried to adjust the patterns of attacks so that preliminary artillery barrages would not always signal an assault. Surprise and exploitation of opportunities, although not completely ignored in practice, were underemphasized in American tactical doctrine. Thus overall the AEF was proved ineffective by this measure of tactical performance.

A tactical system that relied on offensive combat by combined arms in open warfare should have put a premium on junior officer leadership, unit cohesion, and morale. Heavy dependence on inexperienced infantry made such requirements even more necessary. Personnel policies in the U.S. Army, however, did not give sufficient attention to the needs of the tactical units. In a few cases procedures in the AEF were actually destructive of the required results.

The quantity and quality of manpower from which the Army drew its small unit leadership was generally adequate, possibly of even higher quality than was available to it during World War II. While even the harshest critics considered most American junior officers "gallant and brave," many platoon leaders lacked tactical skill, "could not hold their units together," or generally proved unable to maintain discipline.[58] Part of the problem was training and accountability. Instruction at the Officer Training Camps, from which most of the platoon leaders had been commissioned, had in some cases been too rudimentary. Equipment shortages, inadequate housing, and not enough instructors experienced in dealing with civilians plagued the OTCs. As a result officer training too closely resembled recruit training without sufficient development of leadership qualities and tactical skills.[59]

Other personnel policies did not compensate for the shortcomings of the officer corps. Unlike some European armies, for instance, the U.S. Army tended to undervalue the importance of its noncommissioned officers. NCOs were not a class apart from other enlisted ranks, with distinct privileges, duties, responsibilities, and prestige. Such distinctions would have enhanced their role as small unit leaders, especially in combat. Promotion to non-commissioned rank was often a causal affair -- easily won and easily taken away. This likewise eroded their potential

value in fostering unit cohesion. Wartime NCO training tended to be on-the-job, and stressed the vocational aspects of an NCO's duties. The training neglected the leadership role of noncommissioned officers and their status in the hierarchy of command. This is not to say that some American NCOs did not rise to the occasion when required by circumstance of battle, even assuming command of platoons and companies when the officers became casualties.[60] But the system of NCO selection, training, and promotion neither emphasized nor inculcated such performance.

Particularly destructive to unit cohesion in the AEF was the practice of relieving officers from their commands for detached service, often to attend army schools, on the eve of major operations. Several divisions were nearly decimated as a result. Long after the war George Marshall complained that just before the Meuse-Argonne attack several of the inexperienced assault divisions "were absolutely scalped ... in order that the next class at Langres [the AEF Staff College] might start on scheduled time. The amount of confusion and mismanagement resulting from this was tremendous."[61] The staff at AEF GHQ, specifically the Training Section, was principally responsible for these practices. Thus that element of the command structure that should have been most cognizant of troop needs and unit cohesion was fostering practices destructive of them.

The replacement system also created personnel turbulence and was not conducive to fostering unit cohesion. Because the War Department wanted to ship full strength units to France, it broke up established organizations to provide fillers and replacements for divisions ready to embark for overseas. Many units were cannibalized in this manner, some more than once; morale and unit esprit could hardly develop under such circumstances. A similar situation obtained later in France when the AEF broke up some of the newly arrived combat divisions in an effort to

replace casualties and maintain experienced divisions at near fighting strength. But even this fell short of needs as the number of replacements was sufficient for American divisions to stay in action but at strengths considerably below tables of organization. Replacement shortages occurred early in 1918 and persisted until the Armistice. In February 1918 the system was operating so badly that the four combat divisions of the 1st Corps were short 8500 officers and men. The 41st Division, responsible for furnishing replacements to the corps, was itself short 4500 men. By October AEF combat units needed 80,000 replacements but only 45,000 were available. Combat divisions reduced their strength by 4000 men in that period, mostly infantrymen.[62]

Generally the deleterious aspects of American personnel practices were more evident during the last two months of the war than during the fighting in the summer of 1918. The divisions that bore the brunt of the summer fighting (1st, 2d, 3d, 4th, 26th, 32d, and 42d, for example) in most cases had served for at least a few weeks in less active sectors thus allowing an opportunity to develop some unit cohesion under fire prior to involvement in full-scale offensive combat. These units also tended to have a larger percentage of experienced Regular Army (or Marine) personnel in key leadership positions. By the late summer that leadership pool had been diluted by casualties and transfers to other newly created divisions.

Late in the war, particularly in the Meuse-Argonne, evidence became clearer of the weak personnel practices. After the Armistice an AEF inspector reported: "Discipline as shown by inattention and carelessness in saluting, straggling, lack of proper measures in sanitation, carelessness in observance of traffic regulations, etc., seemed to grow more lax as the offensive went on." Straggling was an especially pernicious

problem, sapping combat strength and effectiveness. It was evident in some divisions more than others. One division in the Meuse-Argonne had reported an effective front line strength of only 1600 men. Yet when the division came out of the line and arrived in its rest area, the infantry regiments alone had over 8400 men.[63] The AEF used expedients such as straggler posts of military police to keep the troops moving toward the front. But these had only limited effect and did not address the root causes of the problem.

During World War I the U.S. Army organized a system of training that dwarfed all its previous efforts. Most of the 1.4 million soldiers who actually fought in France passed through a progression from individual, to small unit, to division training. Officers and specialists attended schools that covered a range of subjects from general staff duties to proper use of the Stokes mortar. Although the magnitude of the training effort was considerable, a number of problems hampered the overall effectiveness of the program.

Neither the Training Branch of the War Department General Staff nor the Training Section of the AEF staff had full responsibility or authority for training. Both organizations, in fact, published some training literature, supervised some aspects of individual training, and issued unit training schedules. Because of the rapid and hurried shipment of U.S. troops to France after April 1918, some individual replacements had marksmanship training at camps in the U.S. while others learned under French instructors overseas. Some units began one part of their training cycle under War Department supervision but completed it in France under the AEF. Neither the Training Branch nor G-5 supervised all American troops in any single aspect of the training cycle. Although there was some liaison between the Training Branch in Washington and G-5 in France,

neither had the resources required to supervise closely individual and unit training in their areas of responsibility. Many departmental, camp, and unit commanders, consequently exercised their own initiative in carrying out various training functions. That most American units upon reaching Europe initially trained and served in quiet sectors under French and British supervision only exacerbated the diffusion of responsibility.

The doctrinal ambiguity between trench warfare and open warfare tactics was a second major area that prevented implementation of a coherent training regime. Pershing pushed an open warfare doctrine based on infantry marksmen, yet approved of the heavy, square division more suited for attritional warfare. War Department and AEF training publications stressed trench warfare, as much as open warfare, often reprinting French and British documents on the subject. Most U.S. units first saw combat in trenches, on the defensive, at a quiet sector.

The original AEF training plan anticipated complete divisions arriving in France on a regular basis. After arrival each infantry division was to have three months of training before commitment to combat. The three one-month phases included preliminary small unit training; integration of U.S. battalions into quiet defensive sectors with French or British units "to harden and accustom them to all sorts of fire"; and finally regimental, brigade, and division maneuvers in the attack. The German 1918 spring offensives, necessitating early commitment of American units, curtailed the divisional training program. After April 1918 few divisions had a full four weeks in any phase; for some the entire cycle was only a month.[64]

Because of the demands of offensive combat on the Western Front it was especially important that infantry and artillery developed as a

combined arms team. Infantry could not advance without artillery fire support. Joint training was essential to develop the liaison and coordination necessary to assure that support. Field artillery brigades were supposed to have a four phase training program -- technical artillery instruction, brief service at the front under French or British supervision, tactical training with the remainder of the division, and schooling for higher commanders and staffs. No brigade ever completed all four phases; only two or three finished the third; less than half completed the second, although most finished the first.[65] AEF artillery training, therefore, was weakest in the most crucial area of infantry-artillery liaison.

The necessity to speed troops to the front likewise affected individual training. Many untrained replacements, for example, reported to combat divisions in the latter stages of the war. In late September 1918 the 77th Division received 2100 replacements. Over half lacked rudimentary infantry skills. Many had not been issued weapons prior to reporting to the division and did not know how to care for or use a rifle. The day after receiving these replacements the division jumped off at daylight as part of the Meuse-Argonne attack.[66]

Many in the AEF recognized the shortcomings of the training system. The G-5 section in particular tried, though unsuccessfully, to inculcate doctrinal uniformity on American units and troops. To that end, and to compensate for the obvious lack of combat experience, G-5 had observers with nearly all frontline divisions during combat. Based on their observations, G-5 produced a series of "lessons learned" for dissemination throughout the AEF. Units not yet in combat could adjust their training regimens and gain some benefit from the experience of veteran outfits. Seasoned units too, after their periods in the line,

withdrew to rest areas where they resumed training. After its hard battles in June and July 1918 the 2d Division, one of the best in the AEF, practiced "open order warfare" in its rest area in Lorraine eight hours a day through most of August. The training emphasized small unit tactics with one squad of a platoon utilizing maximum firepower, from rifles, grenades, and automatic rifles to attack an enemy position while the other squads used cover and maneuvered against the flanks.[67]

Given time, veteran AEF units could profit from their combat experience, conduct realistic training based on that experience, and improve overall tactical effectiveness. For most units, however, the rapid expansion and early commitment of the AEF prevented the orderly training required.

In the tactical realm the AEF had other serious problems with the human and material aspects of combat support and sustainability. Failures of leadership, inadequate organization, lack of resources, and simple inexperience all accounted for the problems. Although some of the weaknesses were apparent even before U.S. troops entered combat, the sustained fighting in the last two months of the war magnified them. The large 28,000 man American divisions did not meet the expectations of AEF planners for staying power in battle. Moreover the divisions proved difficult to supply, transport, and manage. They had difficulty getting into battle and once engaged had difficulty distributing food, ammunition, and other supplies.

Division transport depended on primitive motor trucks and especially on horse and mule drawn wagons, all road bound. Because shipment of animals from the U.S. to France was considerably reduced in the spring of 1918 to make room for infantry replacements, severe shortages of transport animals occured later. Without proper fodder and care the animals quickly

broke down. By the end of the war, the condition of horses and mules in many divisions was very poor contributing to the already difficult transport and supply distribution problems. Besides shortages of vehicles and animals, congestion within division areas was a greater hindrance. The movement of trucks and wagons was triple that of French divisions, prompting an observer to characterize the automobile traffic in one area as "fantastic." Traffic conditions throughout the First Army during much of the Meuse-Argonne offensive "became a severe impediment" to movement. Division engineers worked almost solely on repair and construction of roads over shelled areas. It took 3 to 5 trains daily just to bring in materials to maintain the existing road system. The AEF clearly underestimated the difficulties of transporting troops and supplies in close proximity to the battlefront.[68]

Availability of supplies for combat units also became a problem late in the war. Again, a contributing factor was the shipping schedules during the spring and fall. To sustain the high rate of troop shipments, automatic supply was cut from 50 pounds per man per day, to 40, then to 30. By the fall some commodities were in short supply. Distribution was the main difficulty, however. In the first phase of the Meuse-Argonne many division supply officers were content with waiting for the automatic supplies to reach them or with submitting requisitions to Army depots and waiting for deliveries. As divisions moved, supplies frequently failed to reach the units on time. With experience, supply officers became more aggressive in locating depots and personally supervising delivery of supplies. Some troops went hungry in the first weeks of the Meuse-Argonne. After they finished the two days of iron rations they carried they could get little resupply. Field kitchens could not get so far forward and carrying parties had difficulty getting over the rough,

shell-pocked terrain to ration dumps in the rear. One platoon leader described a ration dump in the 2d Division sector: "... just what the name implies -- a dump." Ration wagons had deposited great heaps of bread and canned goods into a huge hole caused by the collapse of a dugout. There was no system, no issue -- anyone could carry away what he wanted.[69]

Despite the huge size of its infantry divisions the AEF did not have sufficient service troops to carry rations, bury the dead, evacuate casualties, and perform other direct combat support functions. Too often the infantry, already strained and exhausted from combat had to do these tasks. Commanders sometimes did not appreciate the effects that sustained combat had on individual troops. The weaknesses of the AEF's combat support and sustainability became manifest in the Meuse-Argonne. As one eminent American historian put it: "The 'staying' power of a division often was reduced to replacing exhausted troops who had suffered casualties with exhausted troops who had not."[70]

Much like American operational doctrine, the tactical system emphasized by the AEF placed American strengths against German strengths. The German Army, employing innovative infiltration tactics by combined arms teams in its 1918 spring offensives and elastic, flexible, deep defense tactics in the face of the Allied counter-offensives, demonstrated its tactical prowess. The U.S. Army had neither the experience, training, or ability to match the Germans in the tactical realm. Against the skill of the Germans the U.S. pitted inexperienced, often undertrained troops. In 1918 the untapped pool of American manpower, however, was one potentially decisive resource recognized by the Allies and the enemy alike. From the battles of the early summer 1918 to the end of the war, numerous French, British and German observers commented on the aggres-

siveness of U.S. troops, particularly while attacking. This aggressiveness continued and the morale of U.S. troops remained generally high until the Meuse-Argonne offensive bogged down in early October 1918.

Pershing was inspired by the right idea. In order to break the Western Front stalemate, the AEF had to adopt aggressive, offensive, open warfare tactics. He wanted to capitalize on what he perceived as the inherent strengths, the individualism, aggressiveness, and high morale, of his principal asset -- American manpower. If properly led and thoroughly trained in open warfare tactics, in late 1918 U.S. troops could have achieved as important a tactical innovation as the Germans had earlier in the year. But Pershing put too much faith in the ability of individual infantrymen to overcome the firepower of modern weaponry. Pershing correctly wanted to drive the Germans into the open and defeat them in a war of maneuver, but concluded only the rifle could accomplish that. He demanded men schooled in individual marksmanship. Unfortunately, the stress on the individualistic rifleman diluted the needed emphasis on combining infantry firepower and maneuver with heavy artillery, machine gun, and tank support.

The tactical system employed by the AEF did try to exploit the quantitative and qualitative manpower strengths of the United States. But it also placed those strengths against German strengths. The strain on the Americans was even greater because of the difficulty of forming the cohesive units needed to conduct offensive combat from untrained, inexperienced personnel.

Conclusion

In general, the World War I era American military was more effective in the political and strategic realms than the operational and tactical. But there were some weaknesses at the political and strategic levels and several positive aspects to operational and tactical performance. More significantly, important operational and tactical failings were directly attributable to decisions (trade-offs) made at the political and strategic level.

Prior to the declaration of war in April 1917 the American military was not effective in assessing the military situation, analyzing requirements, and convincing the civilian political leadership of military needs. Traditional American attitudes toward military advice during peacetime and the Wilson Administration's desire to remain strictly neutral in the European war, further inhibited contingency planning. With the commencement of hostilities, however, the military was considerably more successful in gaining access to the financial, industrial, technological, and manpower resources required to prosecute the war. Organizational weaknesses within the military establishment, between military and civilian policy making entities, and between the government and the business community, continued to limit the efficiency with which these resources were mobilized.

Because it was the junior partner in the coalition and because it entered the war well after the other major belligerents, the United States faced limited strategic alternatives after April 1917. Yet the strategy pursued, concentration on the Western Front, organization of a separate American field army in France, and cooperation with the Royal Navy in the anti U-boat campaign, was consistent with the Wilson Administration's political objectives and with the nation's industrial bases. To a large extent all elements of the strategy had been achieved by November 1918. This perhaps was more a function of the limited options available and the material support of the Allies than of the .logic of the strategic objectives.

American operational doctrine in World War I stressed integration of all arms to conduct offensive operations and relied on one important American asset -- a large, untapped manpower pool. Besides a sound doctrine the AEF utilized to good effect the small cadre of Leavenworth trained staff officers and commanders for important operational billets. In some cases the AEF exhibited an intellectual and physical flexibility to adjust to changing battlefield conditions. But in more instances insistence on rigid adherence to orders, inadequate combat support capability, and limited utilization of technology, hindered operational effectiveness. Besides, American forces functioned at the operational level for less than six months; divisions and corps did not enter large scale offensive operations until the summer of 1918. The American had little opportunity, therefore, to learn from their initial mistakes and improve operational performance over time. The over-all assessment of American operational effectiveness must be low, but as the fighting in early November 1918 demonstrated, the AEF gradually was becoming more operationally proficient, however slowly.

Although the American tactical approach, exemplified by Pershing's advocacy of open warfare, was consistent with the country's strategic objectives and operational doctrine, it often failed miserably because personnel practices did little to enhance the unit stability, cohesion, and training required to employ such tactics. Neither the War Department nor GHQ AEF had complete responsibility for supervising individual and unit training. Virtually none of the AEF divisions completed their full training cycles, while many individual replacements went into combat with only rudimentary fighting skills. Unit tactics emphasized correct frontages, depth, and alignment, rather than surprise, flexibility, and maneuver. By the Armistice only a handful of American divisions had become skilled, reliable offensive formations.

In the American World War I experience, there were clear relation-ships between military effectiveness at one level and performance at other levels. Most notably, decisions made to improve political and strategic effectiveness, or in pursuit of political and strategic goals, inhibited performance in the operational and tactical realms. This was true despite the basic logic and consistency of American policies among the four levels. For instance, even though open warfare tactics were consistent with American operational, strategical, and political objectives, decisions made at the political and strategic level made the pursuit of such tactics less likely to succeed.

For valid political reasons, to maximize flexibility in postwar peacemaking, the Wilson Administration wanted to avoid too close a military attachment to the Allies. Military strategists, namely Pershing, used this to insist on forming a separate American field army rather than amalgamating U.S. troops with Allies, and on developing American tactics that were perceived to be different from previous French

and British practices. The decision to create oversize U.S. divisions stemmed from these political and strategic considerations. This in turn complicated supply, training, and battlefield employment; there were few compensating enhancements at the operational and tactical level to overcome these problems. Personnel practices, creating considerable turbulence, in fact, intensified the difficulties.

The principal "tradeoffs" among the four levels of participation flowed from the political and strategic to the operational and the tactical. Political and strategic objectives were held paramount, despite the operational and tactical problems this might have created. Put another way, political decisions drove tactical practices and performance, not the reverse. World War I was thus very much within the traditional "American way of war."

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MILITARY EFFECTIVENESS OF

ARMED FORCES IN THE INTERWAR

PERIOD, 1919-1941: A REVIEW

Alvin D. Coox

Introduction

The definition of the word "interwar" had a different meaning for most of the seven military organizations under study. Though the year 1919 was the baseline for all, Japan had been fighting an all-out war against China since 1937; France and Britain were at war with Germany in 1939; Italy entered the hostilities in 1940; Russia was invaded by Germany in June 1941; and the United States only went to war in December 1941.

The cast of national characters was importantly different from the alignments of the first World War. Two victors of 1918 -- Italy and Japan -- had opted to reverse themselves and become the allies of a vanquished state, Germany. Russia, under new management as the Soviet Union since 1917, ended up fighting on the same Allied side once chosen by the last Romanov Tsar. The United States, too, found itself again the comrade in arms of its former Allies, England, France, and Russia.

Britain was still a contitutional monarchy in 1939, though it had had a series of prime ministers between the days of Lloyd George and of Winston Churchill. Under the Third Republic of France, there had been a succession of premiers between Clemenceau and Daladier. In Japan, the same Emperor held the Throne; though a general, Terauchi, led off the period as prime minister. He had had 22 successors by 1941, the last being another general, Tojo, by October of that fateful year. In the 1920s, after Wilson's presidency, the United States had had Republicans Harding, Coolidge, and Hoover as chief executives, but the Democrat Franklin D. Roosevelt was in uninterrupted charge throughout the rest of the period. Mussolini had been the Duce of Italy since the early 1920s, under a silent monarch; Hitler became the undisputed Fuehrer of Nazi Germany after the failure of the Weimar Republic in the early 1930s; and Stalin was the dictator of the Soviet Union since the death of Lenin in the mid-1920s.

I. *Political Effectiveness*

While the period between the wars can thus be subdivided on the basis of varying leaders, parties, and successions, a number of significant factors affected most of the countries and their armed forces in the 1920s and 1930s, though to a varying degree and at somewhat different times:

1) Arms reduction or limitation (Washington and London Conferences).

2) Reparations or war debts.

3) Inflation, recession, and depression.

4) Establishment of the League of Nations.

5) Introduction of a No-War agreement (Kellogg-Briand Pact).

6) Treaties of guarantee (Locarno Pact).

7) Notions of collective security.

In the absence of palpable foreign threats in the 1920s, regimes generally found it difficult to provide realistic policy guidance or to generate popular support for large standing military establishments. Retrenchment and economies were the order of the day, especially in the European nations that had borne the brunt of the Great War. Even in Japan, during the Indian summer of democracy in that country several years after World War I, a Diet member asked why arrows were needed when

there were no targets. In peacetime, he argued, healthy men were more necessary than healthy soldiers. In the year of the convocation of the Washington Conference, even pro-Navy Japanese newspapers began agitating for an arms cutback.[1]

Emerging from the abyss of the Great Depression, the have-not authoritarian states of unshackled Germany and vengeful Italy, soon joined by increasingly militarized Japan, searched for solutions in autarky and for distractions in adventurism. Conscription provided sufficient numbers of men for the self-imposed requirements of their ground forces, as for those of recuperating Russia. But the United States and Britain had reverted to small volunteer armies, and France's military needs could barely be met during the "hollow years" of the 1930s, when the low birth rates between 1914 and 1918 caused shortfalls in the classes called to the colors twenty years later.

Even if the men taken prisoner or listed as missing in action are omitted from the casualty statistics for World War I, the numbers of dead and wounded are fearsome (with the exception of Japan, whose combat role was minor). It was France which had fared the worst of the major Allies -- and worse even than Germany. About 1.4 million Frenchmen had been killed; 4.3 million wounded. On the Central Power side, Germany lost six million men killed or wounded; Austria-Hungary, 4.8 million. Among the Allies, Russian casualties totalled 6.7 million killed or wounded; British, 3.0 million; Italian, 1.6 million; American 360,000.

From the smallest and oldest pool of manpower of the Great Powers, France lost three out of every four men who served in the armed forces. Almost eleven percent of the active male population had been lost -- twice the ratio of England's casualties. Special age groups were hardest hit; the flower of French youth, the classes of 1912-1915, suffered

twenty-seven to twenty-nine percent killed or missing. France's losses were so great that in 1925 its population was smaller than in 1914, despite the return of the provinces of Alsace-Lorraine. Not merely were there now three Germans for every two Frenchmen; after the Reich absorbed Austria and the Sudetenland, there would be two German males of military age for every Frenchman of the same age.[2]

A war-weakened demographic base inevitably affects force sizes and structures. In the case of France, the legacy of death and destruction generated an *Avarice du sang francais* (to borrow Daladier's phrase) which in turn bred pacifism and an aversion to struggle. This could be seen in interwar France's approach to security and quest for cheap alternatives. At the same time, France hesitated to make difficult decisions in the face of new external dangers; i.e., when totalitarian Germany was rearming and collective security tottered. The cumulative burdens, aggravated by a lack of cohesion, unity, and will, could not be redressed by appeasement, by alliances built on sand, or by ramparts made of concrete. Franc's own *malaise*, however, resembled that of all the Western democracies, including the United States, when weighed against the rapacity of the totalitarian powers in the interwar period. Never in modern European history had national moods been so polarized. The consequences in the realms of strategic and operational effectiveness in particular were therefore enormous.

II. Strategic Effectiveness

For the Great Powers, the decade after World War I entailed a need to digest and adjust to important strategic changes in the political topography of Europe: the Versailles settlement's near-elimination of Germany as a military and naval power, and demilitarization of the Rhineland; the fragmentation of old Austria-Hungary's borders, the redrawing of the map of Central and Eastern Europe, and the creation or resuscitation of secondary states such as Czechoslovakia, Yugoslavia, and Poland; and the exclusion of Russia from the councils of the mighty. Under the circumstances, military planning on the part of the victor states was geared to guaranteeing the status quo and maintaining security in homeland and empire. Threats to the peace were of merely local and transient importance; e.g., the Greco-Turkish hostilities and Mussolini's schemes involving aggression against Corsica, Corfu, Turkey, and Yugoslavia.[3]

That the strategic balance was shifting ought to have become apparent, in the Far East by 1928, after insubordinate elements of the Japanese Kwantung Army in Manchuria assassinated warlord Marshal Chang Tso-lin, eliciting no retribution. But when the old Marshal's son, Chang Hsueh-liang, sought to solidify his succession by eliminating Soviet influence in 1929, the Russians revealed an unexpected recrudescence of strength by invading Manchuria, brushing aside Chinese resistance, and bringing the young Marshal to heel. The fine hand of the Soviet strategist Blyukher, an alumnus of the civil wars in China, was apparent,

and it did not take long for the unruly Kwantung Army to "rectify" matters by a pre-emptive conquest of all Manchuria on Japan's behalf in 1931-32. Blyukher's army, the conquerors of Chang Hsueh-liang, did not raise a finger against the Japanese.[4]

The impotence of the League of Nations, in the face of deliberate encroachment by a major power, was revealed to all, and the aggressive aspirations of Italy and Germany were soon vented on the international scene, with little effective resistance from any quarter. Lord Chatfield called collective security "a heavenly dream, as it was the British sailors' nightmare."[5] Counter-alliances and cordons sanitaires encompassing the Succession States and Poland achieved little in practice.

With the coming of the 1930s, the European democracies and America were afflicted by economic woes and torn by domestic discontent. Franklin Roosevelt once admitted to Stalin that "when he first became President the United States was close to revolution because the people lacked food, clothing and shelter."[6] The Western military establishments reflected the penury of the era, with baleful effects on doctrine and hence on strategic effectiveness. As the French Colonel Alerme put it, "The past was the guarantor of the future. A few lacunae might have to be plugged, but the broad lines had been laid down."[7]

There was a contradiction in terms between the notion of protection and the practice of isolation and defense. World War I had ended with the pendulum of tactics swung far toward the defensive. Trench warfare and the successful defense of Verdun had convinced the French in particular that passive defense, in positions supported by artillery fire, was far superior to the offensive which, as the war seemed to show, usually cost from three to four times as many casualties as did the defense. Coupled with the general exhaustion came a revulsion against

the all-out offensive, which was difficult, costly, and painful.[8] This serenity derived from persistence in trusting in the inviolateness of the continuous front, whereas the war had proved that strategic exploitation was more difficult that the breakthrough. Only the Germans and the Russians seemed to devote thoroughgoing consideration to full-scale offensive warfare.[9]

The successful French defense in 1916 in the forts of Verdun impressed even the men who built them. It was discovered that an incredible amount of heavy-caliber bombardment had been withstood by the concrete casemates, even when partly dismantled. But it was not only the French who had had favorable experience with fortifications. The Germans had similar success with modern works, _Feste Mutzig_ and _Feste Istein_, which sharply checked the French advance; and the Turkish forts held at the Dardanelles, too. All in all, military theorists such as Petain were deeply affected by the defensive value of deep underground chambers covered by reinforced concrete.[10]

Defense implied a loss of initiative, but it would save lives in close combat. To bridge the gap between the past and the future of warfare and to make it less abrupt, materiel and fire power were to be substituted more and more for irreplaceable manpower. This, in part, explains the genesis of the Maginot Line. "_Le feu tue_," Pétain always said. As for Allied manpower problems, the French hoped that the British and Belgians (and the Americans?) would eventually help to fill the deficiencies.[11]

It was but a short step from the trust in passive fire power to the abdication of mobile maneuver. De Gaulle remarked that the French Army had been created to fight on a stable front; to which J.F.C. Fuller has added that the mistake was to relate defensive power to "an offensive

approaching obsolescence."[12]

De Gaulle's counterparts in the new German Army faced the same resistance to innovation. General von Thoma asserted that the development of armored forces "met with much resistance from the higher generals of the German Army, as it did in [the British Army]. The older ones were afraid of developing such forces fast -- because they themselves did not understand the technique of armored warfare, and were uncomfortable with such new instruments. At the best they were interested, but dubious and cautious. We could have gone ahead much faster but for their attitude." Von Kleist was a "converted sceptic" who had long been a major opponent of panzers.[13] Of Fritz Halder (Chief of the General Staff, 1938-42), his successor Heinz Guderian (1944-45) has written: "[He] was an officer of routine, of the old school. He did the inevitable, nothing more. He did not like panzer divisions at all. In his mind the infantry played the leading role now and for ever." Guderian did read De Gaulle's Vers l'Armee de Metier in German translation with great interest, and was anxious to see whether the French would accept De Gaulle's concepts. "Fortunately they did not."[14]

Part of the problem in interwar armed forces was the misreading or ignorance of relevant combat experience of the 1930s; e.g., the Italian invasion of Ethiopia, the civil war in Spain, the Japanese experiences against China and the Soviet Union. As Wesley Wark writes, the small wars of the 1930s "introduced potential and unwanted ambiguity, by multiplying the lessons of the past. [They] created a new catalogue of war experience, which had to be made to fit with the received ideas of war based on the experience of the years 1914 to 1918. This served to complicate the business of 'seeing' these small wars as they really were."[15]

Although Italy's political victory over the British in 1936 was not missed in the West, the course of the Ethiopian War received scant study. The Italians themselves learned some wrong lessons; e.g., that armor is an infantry-support arm.[16] Foreign observers allowed contempt for the Italians to color their few comments on military performance. In a secret British high command meeting in September 1935, Maj. Gen. J.G. Dill called the Italian Army "technically highly developed and the officers keen ... but they still remained Italians."[17]

The Spanish Civil War attracted considerable attention; those who learned most from it were the Germans. Von Thoma, who commanded German ground troops in Spain, regarded the war as "the European Aldershot," and he taught Franco to use tanks in concentrated fashion.[18] The French Army, however, made few efforts to derive new or valuable patterns from the operations in Spain. Main-stream French military writers preferred to find justification or vindication for their preconceptions and traditional views, specifically that modern battle remained the realm of infantry and that tanks were little better than flaming coffins which were incapable of occupying ground. The Spanish experience had supposedly disproved many of the arguments for autonomous mechanized units. Possibilities of a future Blitzkrieg, a war of swift decision, had been grossly exaggerated.[19]

The British military produced relatively better analyses of the Spanish experience and accorded particularly high marks to the German 88-mm. Rheinmetall antiaircraft guns. Nevertheless, the British studies were weakened by the caveat that the results achieved in Spain fell "far short of what should be expected from first class powers."[20] As for the Soviet Union, Russian sources now admit that their High Command had incorrectly assessed the experience with tanks and motorized forces in

Spain, having stressed the infantry-support role.[21]

The massive Japanese operations in China, which raged for eight years from 1937 and involved all three services, taught Western observers the least. In part this was attributable to the inaccessibility of the theater of operations, but the main reasons were a shared underestimation of the Japanese military establishment, prompted by racial and cultural prejudices; coupled with the opinion that the Chinese were too archaic a belligerent to justify serious study. As for the large-scale experience of the Japanese in small wars against the USSR (Changkufeng/Lake Khasan in 1938 and, in particular, Nomonhan/Khalkhin Gol in 1939), Western intelligence was woefully inadequate, and even the Japanese preferred to draw largely irrelevant lessons. Only Zhukov and the Red Army learned very much from their combat in the Far East, though even in their case there was tardiness in application to the European theater.[22]

The strategic effectiveness of major interwar navies was generally of a higher order of magnitude than their ground counterparts, but they too suffered from a number of drawbacks: the great expense of naval vessels and equipment in a period of economic austerity; obsession with fleet-to-fleet combat in the tradition of Trafalgar and Tsushima, to the detriment of the air dimension; distraction by the old concept of the guerre de course; little combat experience employing the newest weapons.

In an era of considerable technological uncertainty, all air forces grappled with questions of conflicting doctrine: Douhet's strategic bombing concept versus ground support missions; independence of the air arm or subordination to the ground forces. The experience of Ethiopia, Spain, and China again seemed irrelevant and atypical, especially where the Italians and Japanese were concerned. Assessing the former, for example, the Chief of the British Air Staff, Air Marshal Sir Edward

Ellington, said that "the Italian airman might start full of confidence, but a few knocks would soon reduce his enthusiasm."[23]

In short, interwar strategic effectiveness was affected by the way the individual powers viewed hypothetical enemies, allocated precious resources to the various services, and interpreted the lessons of the wars fought by them or others. The victorious Allies of World War I tended to regard their conduct of operations in that war to have been vindicated by ultimate victory. They stifled innovation and hoarded the large inventories of obsolescent materiel they still retained from 1918.

A defeated and fettered country such as Germany, however, was not saddled by huge stocks of junk on which to build a new national military establishment. Nazi Germany could also start from scratch in terms of military doctrine, and could more easily extract relevant lessons from the limited wars of the 1930s. The centralized authoritarian structure of the German, Italian, and Soviet Russian states afforded them tighter coordination between domestic and military policy, and better integration of military planning with foreign policy during most of the two decades after World War I. They squeezed satisfactory force size and structure from their demographic base, as did Japan; but inadequate reserves of raw materials boded ill for Axis ability to wage protracted hostilities.

III. Operational Effectiveness

Operational ineffectiveness in the interwar period is usually ascribed to the dead hand of trench warfare and massed artillery barrages so characteristic of World War I. Certainly, most of the Western and American military leadership that sustained the first blows in the Second World War were better prepared for war of a 1914 style, whether the arena be Belgium, Holland, Flanders, Malaya, or Luzon. Just after the Germans surged into Poland in 1939, General George C. Marshall, the new U.S. Army Chief of Staff, confided to a friend:

> The present [American] general officers of the line are for the most part too old to command troops in battle under the terrific pressures of modern war. Many of them have their minds set in outmoded patterns, can't change to meet the new conditions they may face if we become involved in the war ... .

> [They] are commanders whose minds are no longer adaptable to the making of split-second decisions in the fast-moving warfare of today, [and] whose bodies are no longer capable of standing up under the demands of field service. The experience and judgment of these older officers can [best] be used in training and in maneuvers.[24]

Of his own military establishment, De Gaulle wrote that defeat was the "simple result of out-dated conceptions, in whose name the French Army was prepared and commanded as if to wage the preceding war, instead of seeing its means, tactics, and strategy replaced in view of the war of the future."[25] The British and even the Germans called the French Army the strongest in western Europe, but in the early 1930's Soviet observers already discerned the fragileness of the facade when they reported that "most of the French equipment is obsolete and cumbrous, the troop units are slow in maneuver, the calculations of the high command are too pedantic, and in general the offensive power of the army is insufficient."[26]

Against the charges of military antiquarianism and obscurantism, it has been argued that, in the case of the British, they might "have performed far better on the battlefields of World War II had they ruthlessly prepared to fight the last war." As for the Germans' Blitzkrieg victories early in the Second World War, it has also been pointed out that they "rested almost entirely on the exploitation doctrine of 1918 German infantry tactics and their gradual extension throughout their army in the interwar period."[27]

Nevertheless, one detects a strong flavor of superficiality and of lip service to modernity among the protestations of relevance on the part of interwar theoreticians and practitioners. General von Thoma regarded even De Gaulle's interwar writing as "rather 'fantastical.' It did not give much tactical guidance, and was rather up in the clouds."[28]

Stalin claimed that the Russians were "bringing the motor to the army" at the very time (January 1941) that Marshal Kulik, a favorite of the Soviet dictator, still dared to argue for giant infantry divisions and horse-drawn transport. Even after Zhukov's success with encirclement

and annihilation against the Japanese at Nomonhan in 1939, Stalin had allowed himself to be convinced that the Red Army should break up the existing mechanized corps, whose origins went back to the early 1930s. Marshal Yeremenko struggled "to overcome conservatism and to inculcate the military cadres with the idea that tanks were an independent arm and not an appendage of the infantry."[29]

The brilliant and innovative British tank general, Percy Hobart, was recalled from Egypt in 1939 in disgrace, ending up as a corporal in the Home Guard next year.[30] De Gaulle and his patron Reynaud did not win the activation of the first tank divisions (D.C.R.'s) until World War II had broken out in Europe. The initial two Japanese tank divisions were not created till the summer of 1942.[31]

Operational effectiveness was thus influenced greatly by attachment to the tried and true methods and components of the past. In 1939, the Polish Army of Rydz-Smigly had 11 cavalry brigades but only one mechanized brigade with which to confront the Germans, who outnumbered them by 15:1 in both tanks and planes.[32] Duff Cooper made the apt comment in 1935 that asking British cavalry to trade horses for trucks "was like asking a great musical performer to throw away his violin and devote himself in the future to the gramophone."[33] The new Japanese infantry division which fought Zhukov almost alone in 1939 was supposed to have been motorized, but it included 2,200 horses in its organization. When Japan was seriously considering war with the Soviet Union in the summer of 1941, the Kwantung Army was reinforced by 370,000 horses but by only 6,000 trucks and sedans. Of course, Japanese industrial output was low at the time, but there is an obvious correlation here between doctrine and manufacture. Prominent Japanese artillery officers never ceased to extol horse-drawn pack guns for line divisions.[34]

In other than the totalitarian countries, the ground armies struggled merely to survive during the interwar period. Indeed, for other than strictly professional reasons, the same can be said for the Red Army in the 1930s when Stalin's political purges ravaged the officer corps. German, Italian, and even Japanese officers had also to maintain a low profile vis-a-vis their respective "thought control" authorities. Under such circumstances, professional military controversy centered on such limited topics as the following:

Should triangular formations provail over the old square formations?

How should the movement of foot troops (the Queen of Battles), cavalry, and artillery, be coordinated with that of mechanized units?

What is the optimum mix of tanks, trucks, armored cars, and horses?

Ordnance designers, always conservative and notoriously slow to proceed to production, received discordant signals as to operational requirements, warped in part by fallacious lessons drawn from irrelevant small wars after 1918. Thus the Japanese Army, whose hypothetical enemy was always the Soviet Union in the 1930s, in practice found itself constantly engaged against the Chinese, who lacked armor and artillery. The result was a Japanese emphasis on fast but flimsy tankettes and on ancient, under-armed main battle tanks (variants of the Type 89) which were first designed in 1925, had only been accepted by the army in 1929, and had performed satisfactorily in Manchuria in 1931-32. It took the army six years before accepting the Type 95 light tank in 1935; seven

years to accept the best of the Japanese medium tanks, the Type 97, in 1936.[35]

The frustration of the combat user with the reputed sloth of ordnance bureaus was no stranger to Americans. Gen. George S. Patton once exploded in typically colorful fashion: "Ordnance takes too God Damn long seeking perfection at the expense of the fighting men and you can tell that to anyone at Ordnance."[36]

Air forces and navies exuded more so-called glamour and were generally at a higher level of readiness and training than ground armies in the interwar decades. Operational effectiveness was impeded, however, by fiscal constraints and by a lack of agreement as to doctrine. In the case of the air forces, mission and organization, and consequently the need for specific types of aircraft, remained unclear -- and the small-war experience cast fuzzy light. The public's fancy was caught by the daring peacetime exploits of Italian, Russian, American, Japanese, and French aviators; by goodwill flights across the oceans and between hemi-spheres; by long-range races; and by distant explorations. But military air experts were troubled by innumerable questions that vexed them as well as officers of sister services:

> What was the proper balance between air speed, load, weapons, and armor?
>
> Had the advent of the bomber nullified the role of the interceptor?
>
> Should aircraft be the handmaiden of ground armies (and navies) or the sword of an independent strike force?

The theoretical framework within which most air forces operated in the interwar years was close cooperation with ground armies in the same general battle. But the general mission -- destruction of land and airborne targets, and the search for and transmission of information -- precluded the development of one type of plane to fulfill all requirements. Consequent operational specialization, however, still permitted the attainment of other portions of the general mission, for only materiel was the main limiting factor in exploiting effectiveness and range of action. To give the Air Command the greatest possibilities for maneuver, each warplane should preferably incorporate a practical radius of action that would correspond to the distance of the farthest important target. Somehow, the highest speed was to be synchronized with the maximum armament and the most useful weight.

In other words, specialization was to accompany homogeneity -- an impossible task. A French Army of the Air was formally created in 1933 but, as De Seversky wrote, it was merely "the semblance of a separate Air Force, as a concession to modernity;" the French did not have their hearts in it.[37] Eventually, the French developed six naval and eight military air categories, the latter comprising strategic reconnaissance, tactical reconnaisance, day bombing, night bombing, "artillery," attack, pursuit, and interception. Flying these missions were sixty different plane models and prototypes. To cite but one example, the Amiot 143 was first designed in 1928, was put into production in 1933, and was still in service in 1940. In Germany, the lead time for the introduction of aircraft averaged 12-18 months.[38] The Japanese Army Air Force, in an effort to fill a gap where heavy bombers were concerned, purchased gas-guzzling Fiat BR-20s and directly incorporated them into operational flying units.[39]

Air Marshal Trenchard of the Royal Air Force once said that the great military strength of the Germans derived from the fact that "they have ruthlessly discarded outworn naval and military traditions, have allotted to air power its proper share in their plans, and have remolded their naval and military technique to suit the conditions of the air age."[40] On the Allied side stood "a church, in the eyes of which there appear as heretics all the arms which aspire to equip their units with the flying materiel necessary to the accomplishment of their mission."[41]

The necessity of air control as the _sine qua non_ for successful ground operations was not clearly grasped. Anachronism, inflexibility, and quantitative inferiority made for a deadly brew in the face of resurgent German and underrated Japanese air power.

In the naval sphere, the Western democracies and the United States operated from a sounder existing base, although their resources were taxed by challenges around the world, from the Mediterranean to the Far East. Improvements had been made since 1918, but all navies tended to underestimate the threat posed by submarines and aircraft, preferring instead to emphasize decisive fleet versus fleet action centering on battleships, rather than the tedious task of guarding slow convoys. The world's Number 3 navy, that of Japan, was as blameworthy in this respect as the Anglo-Saxon powers, although desperation forced able Admiral Isoroku Yamamoto to develop plans for a daring, hitherto-untried carrier-centered task force strike against the heart of the U.S. Pacific Fleet in 1941. Italy's uneven naval buildup, stressing submarines and unemployed battleships, posed a particular threat to parity-saddled France, but Mussolini consistently turned down the idea of building an aircraft carrier.[42]

Envisaging trans-Pacific assult landing operations in the event of hostilities against Japan, the U.S. Marine Corps was the world leader in developing amphibious doctrine and maintaining a fighting edge in that sphere. Surprisingly, as late as Japan's attack on Pearl Harbor, neither the Japanese Army nor Navy had any comprehension of the mission or organization of the U.S. Marines. Reflecting their spotty operational intelligence capability, the Japanese continued to regard the Marines as comparable to their own Naval Landing Parties, which were intended to do little more than send bluejackets ashore to protect lives and property in endangered foreign port cities.[43] Emerging U.S. Marine Corps doctrine contributed to the eventual operational success against Japan in the island and atoll fighting that would characterize the war in the central and western Pacific.

IV. _Tactical Effectiveness_

In the training of their armed forces during the interwar period, all the powers played up their presumable national distinctiveness and played down the abilities of potential enemies. They were often painfully wrong on both counts. Hitler spoke of "blond beasts of prey" devouring _Untermenschen_, and Mussolini described his "gallant, restless and bitter youth who face the dawn of a new history."[44]

Their enemies, to the Axis, were "worms." To rate the foe too highly, the chief of the Japanese Army General Staff once explained, tended to breed defeatism and cowardice and to erode friendly forces' morale. According to a widely read Japanese general, "in point of discipline and skill in the art of war, the Americans are the worst of all the nationalities. Moreover, the method of command adopted by the American officers is infantile compared with that of the Japanese Army." Chinese soldiers were no better than bandits in official uniforms, and Russians resembled the clods of 1905.[45]

Allied intelligence evaluations of potential enemies were similarly shallow, particularly vis-a-vis the Italians and the Japanese, reflecting both ignorance and contempt. In the case of the Russians, problems of ideological hostility were aggravated by geographical remoteness. Roosevelt once reminisced about a day in the summer of 1933 when "his wife had gone down in the country to open a school, and on the wall there had been a map which there had been a great blank space. He said the teacher had told his wife that it was forbidden to speak about this

place, and this place had been the Soviet Union."[46]

Ignorance and misperceptions of friends and foes were perpetuated at tactical levels. Though ordinarily good at the technical level of interception and decrypting of messages, understaffed and poorly regarded intelligence organizations tended to be weak in handling human intelligence and target analysis. Logistical duty was also no plum in any of the interwar armed forces. By and large, operations was the favorite assignment in every army and navy, down to the unit level.

Tactical concepts, in many ways, had not progressed in armies since 1914, let alone 1918, and had not made the transition from the era of railway war to that of petrol war. Critics of British Army training and tactics insisted, as late as 1940, that "Charge of the Light Brigade thinking" still largely governed "drill, discipline, the aims and methods of commanders, and the attitude of the men commanded." The _Cavalry Training (Mechanized) Manual_ of 1937 continued to encourage officers to "hunt and ride across country" in order to develop faculties of quick action and rapid decision. While the Germans were being taught that "attack is fire that advances, defense is fire that counterattacks," British soldiers were still learning that infantry is the force that closes with the enemy with fixed bayonets. Why guard Whitehall with bayonets against paratroopers who would be armed with submachine guns, machine pistols, and grenades?[47]

French notions of armored usage evince a neanderthal quality at the tactical level. Packets of eight to ten infantry tanks (at best) were assigned to French infantry divisions, in the face of the 500-plus armored vehicles contained in a German _Panzer_ division. Six years after he had written _Vers l'Armee de Metier_ in 1934, De Gaulle was still pleading for the autonomous employment of tanks.

But Gen. Narcisse Chauvineau, in his ironically titled yet best-
selling *Une invasion est-elle encore possible?* (1939), derided mechanized
forces as "Sancho Panzas," too weighted down to fight. Chauvineau
likened armored columns to the cavalry raiders of old -- a passing storm
causing monetary alarm and some damage, but dangerously weakened by risks
and losses. The tank itself, a machine forced to stumble on relentlessly
"like the wandering Jew" until it ran out of fuel, "cannot be something
to fear." Offensive tanks had failed miserably; they were much too
expensive an investment in folly. If nations could not afford to have
swarms of naval cruisers, jeered Chauvineau, how could they possibly
afford to build useless thousands of land cruisers? Marshal Petain
applauded Chauvineau's supposed sagacity.[48] This was the dogmatic
atmosphere enveloping French tank crews at the tactical level on the eve
of World War II. The argumentation was not unrepresentative of
tacticians in other armies.

In general, it can be said that tactical leadership in armies was
best at the junior levels. For example, German combat veterans typically
called the middle rungs of the Soviet ladder of command "shaky," for
commanders of that rank feared their superiors more than they feared the
enemy. German depictions of Russian soldiery included "soulless
indifference...something more than fatalism," "extraordinary stolidity,"
"unquestioning obedience," and "susceptibility to surprise."[49] Peace-
time training and exercises at small-unit level were adequately conducted
by the Germans, British, Japanese, and Americans, though many shortcom-
ings were evident (especially in joint operations), and much was made of
spit and polish, except among the deceptively sloven Japanese.

Small-unit ground and air combat was experienced in the interwar
years, to varying extent, by French, British, and Italian tactical

elements in colonial areas; by the Germans, Italians, and Russians in Spain; by the Japanese in China; and by the Russians and Japanese along the Manchurian and North Korean frontiers. When suitably motivated, armed, and commanded, all of these forces fought satisfactorily, although foreign critics often cast aspersions on the performance of the Italians, Japanese, and Russians in particular. The United States armed forces fought no major operations during the interwar period; the Army was ranked No. 20 in size in the world as of 1939, smaller than the armies of Sweden, Switzerland, Portugal, and Greece.

Levels of peactime competence and innovation extended to high ranks among the naval powers, expecially the British, American, and Japanese navies. Air forces, being newer, without tradition, and perhaps more confused in terms of doctrine and material, took longer to develop sound commandship at all levels. The French never did. One air officer wrote that in an environment of "closed Venetian blinds, [there worked] only subordinates chosen for their deference and their ability to parrot doctrine." Ostracism resulted for "all those who, by experience or reasoning, did not share the official ideas." In practice, an abyss separated pilots from staff officers.[50] Indeed, even senior commanders in the Japanese Army Air Force typically had never served in an air crew.

Tactical effectiveness was more clouded in the realm of emerging technologies and weapons systems. Throughout the period, question marks particularly surrounded the roles to be played in a future war by aircraft, armor, submarines, and poison gas. As for specific armies and navies, objectively speaking, the least was known abroad concerning the Russians and the Japanese, which was the way they wanted it. For better or for worse, both of these military establishments would most astonish the world when "interwar" became "wartime" for them in 1941.

Notes

1. The Diet member was Yukio Ozaki. Sei'ichi Imai,*Taishō demokurashii*, in *Nihon no rekishi* (Tokyo, 1966), 23:338-58; Keijirô Ohtani, *Rakujitsu no joshō: Shōwa rikugun shi* (Tokyo, 1959), p. 14.

2. See Maj. Gen. Sir Frederick Maurice, "The Armies of Europe in 1925," *Foreign Affairs* (July 1925) 3: 611-23.

3. Brian R. Sullivan, "The Italian Armed Forces."

4. For recent treatment of the Kwantung Army's behavior, see the author's *Nomonhan: Japan Against Russia, 1939* (Stanford, 1985), Vol. I, chapters 1-5.

5. Wesley K. Wark, "British Intelligence and Small Wars in the 1930s," U.S. Army War College, International Conference, April 1986; citing Lord Chatfield, *It Might Happen Again*, Vol. 2: *The Navy and Defence* (London, 1947), p. 90.

6. *Foreign Relations of the United States: Diplomatic Papers: The Conference at Malta and Yalta, 1945* (Washington, D.C., 1955), p. 923; at dinner meeting, Yalta, Feb. 10, 1945 (hereafter *FRUS: Malta and Yalta*).

7. Col. M. Alerme, *Les causes militaries de notre défaite* (Paris, 1941), p. 16.

8. *Revue de l'Intendance Militaire*, Jan.-Feb. 1939, v. 46, no. 375, p. 88.

9. See Lt. Col. F.O. Miksche, *Attack: A Study of Blitzkrieg Tactics* (New York, 1942), p. 241.

10. Marshal Henri Pétain, _La bataille de Verdun_ (Paris, 1929), pp. 145-51.

11. André Malraux, _Tragédie en France_ (New York, 1940), pp. 62, 98.

12. Gordon Waterfield, _What Happened to France_ (London, 1940), p. 148; Gen. J.F.C. Fuller, _Armored Warfare_ (Harrisburg, Pa., 1943), p. 34.

13. B.H. Liddell Hart, _The Other Side of the Hill_ (London, 1951), pp. 122, 125.

14. Ibid., p. 69.

15. Wark, "British Intelligence."

16. Sullivan, "The Italian Armed Forces."

17. Wark, "British Intelligence," citing COS 150, 13 Sept. 1935, CAB 53/4.

18. Liddell Hart, _The Other Side_, pp. 122-23.

19. Gen. Duval, _Les lecons de la guerre d'Espagne_ (Paris, 1938), pp. 85, 127, 152, 182-86, 238, 240; Henri d'Estre, "Les lecons militaries de la guerre civile en Espagne," _Revue Hebdomadaire_, 1 May 1937, pp. 42-59.

20. Wark, "British Intelligence," citing COS 622 (JIC), 6 Oct. 1937.

21. _The Memoirs of Marshal Zhukov_ (New York, 1971), pp. 118-73, 180-89; Coox, _Nomonhan_, Vol. II, pp. 994-95.

22. Coox, _Nomonhan_, Vol. I, chapter 10; Vol. II, chapter 42; Alvin D. Coox, _The Anatomy of a Small War: The Soviet-Japanese Struggle for Changkufeng/Khasan, 1938_ (Westport, Conn., 1977).

23. Wark, "British Intelligence," citing COS 150, 13 Sept. 1935, CAB 53/4.

24. Major George F. Eliot, "To Get the Best," _Combat Forces Journal_, Jan. 1951, No. 1, pp. 24-25.

25. *A la recherche des responsables*, "Problemes francais," #10 (Algiers, 1943), p. 22.

26. From a June 1932 issue of *Voina i Revoluzia*, cited in *Christian Science Monitor*, 8 April 1942; Maj. Jacques Weygand, *The Role of General Weygand: Conversations with His Son* (London, 1948), p. 25; Heinz Guderian, *Erinnerungen eines Soldaten* (Heidelberg, 1951).

27. Brian Bond and Williamson Murray, "The British Armed Forces, 1918-1939."

28. Liddell Hart, *The Other Side*, p. 121.

29. Coox, *Nomonhan*, Vol. II, pp. 996-97. See Seweryn Bialer, comp., *Stalin and His Generals: Soviet Military Memoirs of World War II* (New York, 1969), pp. 138-51, 575-76.

30. Bond and Murray, "The British Armed Forces."

31. Coox, *Nomonhan*, Vol. II, p. 1023.

32. Pertinax [André Géraud], *Les fossoyeurs* (New York, 1943), pp. 5, 7; Maurice Gamelin, *Servir* (Paris, 1947), Vol. III, p. 34.

33. Bond and Murray, "The British Armed Forces," citing Liddell Hart.

34. Coox, *Nomohan*, Vol. II, pp. 1024-26.

35. Ibid., Vol. I, p. 350; Vol. II, p. 1024.

36. Lida Mayo, *The Ordnance Department: On Beachhead and Battle Front* (Washington, D.C., 1968), pp. 337-38.

37. Maj. Alexander P. de Seversky, *Victory Through Air Power* (New York, 1942), pp. 187, 191-92.

38. Maj. Pierre Barjot, *L'aviation militaire francaise* (Paris, 1938), p. 32; Let. Col. Louis A. Sigaud, *Douhet and Aerial Warfare* (New York, 1941), p. 119; J. Hébrand, *Vingt-cinq années d'aviation militaire (1920-1945)* (Paris, 1946), p. 145; Max Werner, *The Military Strength of the Powers*, transl. E. Fitzgerald (London,

1939), p. 217.

39. Coox, _Nomonhan_, Vol. I, pp. 273-76.

40. Cited by de Seversky, _Air Power_, pp. 342-43.

41. Hébrard, _Aviation militaire_, pp. 189-90.

42. Sullivan, "The Italian Armed Forces."

43. Col. Takayama Shinobu, _Kaikô_, March 1978, p. 8.

44. Mussolini, "Force and Consent" (1923).

45. Prince Kan'in, cited by Coox, _Nomonhan_, Vol. II, p. 1027; Kojiro
     Sato, _If Japan and America Fight_ (Tokyo, 1921), pp. 16, 82-93;
     Shunkichi Akimoto, _The Manchuria Scene_ (Tokyo, 1933), pp. 292-95.

46. _FRUS: Malta and Yalta_, p. 921; Yalta, Feb. 10, 1945.

47. Tom Wintringham, _New Ways of War_ (New York, 1942), pp. 15, 32-42.

48. Chauvineau, _Une invasion_, pp. 93-108, 131; Pétain, "Préface," pp.
     v-xiv.

49. Liddell Hart, _The Other Side_, pp. 335-37.

50. Hébrard, _Aviation militaire_, pp. 178-79.

MILITARY EFFECTIVENESS
IN THE GREAT WAR

Paul Kennedy
Yale University

It will be clear by this stage that the First World War was not a conflict which, in the annals of history, is synonymous with military effectiveness. On the contrary, it has offered abundant evidence for a whole host of studies of "military incompetence," whether in its phsychological, tactical or institutional aspects.[1] It bequeathed to posterity the searing image of millions of men engaged for years in a futile struggle through the mud to achieve niggling gains at immense cost. It discredited the professional military almost everywhere,[2] and the admirals fared little better. Within a short while after the 1919 settlement it was widely asserted that there had been no real winners; everyone had lost. Versailles had been a "Carthaginian peace," ultimately as dissatisfying to the victors as to the defeated. It has, understandably, been hard to get enthused about the military aspects of a conflict which, some 70 years later, is still being described as "the great seminal catastrophe of the century."[3] Since the legend of the years 1914-1918 is of near-universal ineffectiveness, what possible lessons could be drawn from it -- apart from the 1920s conclusion that such a war should be avoided in the future at all costs?

And yet as soon as that question about "lessons" is posed, of course, the importance of the First World War for the study of military

effectiveness becomes obvious. Because it was the first, all-out, mass industrialized coalition war of this century, it tested effectiveness at all levels -- political, strategical, operational, and tactical -- and usually found things wanting. For four years, many of the most talented and resourceful individuals on each side struggled to make their systems more effective, from the realm of grand strategy and civil-military relations to that of small-group tactics on the battlefield. Slowly, painstakingly, solutions to some of the problems began to emerge, the pace of improvements being very much affected by each belligerent's strengths and weaknesses in this sort of war. Yet, as the preceding chapters have shown, advances at one *level* of effectiveness could all too easily be vitiated by continuing failures at another: tactical incompetence could have repercussions upon strategy and politics; inadequacies of supply (e.g., shells) could severely affect operational outcomes; civil-military tensions could lead to one campaign gaining preference over another. Until one of the coalitions had a distinct superiority at all levels of military effectiveness, it was not possible to overcome the stalemate which was the First World War.

The fact that individual Powers evidently found it more difficult (or easy) to achieve effectiveness at one level rather than another is itself good reason for further investigation; for such differentiation not only suggests important points for later analysts seeking to understand military effectiveness *as a whole*, but also gives strategical and political historians useful insights into the institutions and national proclivities of the individual belligerent states. To take perhaps the most obvious example: why were the British usually much more effective in handling the strategical, political and diplomatic

challenges thrown up by the war than in grappling with its tactical problems, whereas in the German case the opposite seems to have been true? Since it was precisely those imbalances in the different levels of military effectiveness which repeat themselves in the Second World War, a careful comparative scrutiny of such a problem (and others which have become evident) may permit useful conclusions to be drawn about the strong and weak elements in each country's respective military systems.

With that in mind, the comments which follow are intended to point toward some of the more general conclusions which may be drawn from the chapters above, rather than to offer a factually inclusive summary which allocates equal space to the performances of each of the seven Powers. While there are also obvious practical reasons for such a decision,[4] the chief motive is to allow attention to be concentrated upon what turned out to be the key issues of military effectiveness in the First World War. For the same reasons, no space will be allocated to providing general background remarks (for example, on the pre-war mentalite of the offensive, or on the firepower revolution of the late nineteenth century), since they will have already emerged from a reading of the essays themselves.

Although the arrangement of those essays has moved from the general conduct of the war to the particular handling of small-scale encounters on the battlefield -- in other words, from the political and strategical levels of military effectiveness down to the operational and tactical -- there is a strong case for reversing that order when it comes to summarizing the First World War experience as a whole. For it seems worth claiming that it was at the tactical level in this war (much more than in the 1939-45 conflict) that the critical problems occurred. The

argument, very crudely, would run as follows: because soldiers simply could not break through a trench system, their generals' plans for campaign successes were stalemated on each side; these operational failures in turn impacted upon the strategical debate at the highest level, and thus upon the strategical options being considered by national policy-makers; which, _pari passu_, affected the consideration of ends versus means at the political level, the changing nature of civil-military relations, and the allocation of national resources. In a roughly similar (if less widespread way), the inability of the Admiralties to find an effective way of dealing with the new tactical circumstances facing big ships at sea, or with the challenge posed by the U-boats to merchant shipping, had repercussions upon operational possibilities, strategical options, and political priorities.

This is not to say there were no exceptions to the above pattern. Many of the campaigns fought on the Eastern Front, in Serbia, in Mesopotamia, and in Palestine, were _not_ checked by tactical paralysis and did therefore lead to important strategical and political results. Stalemate in the trenches did not impact upon American civil-military relations or strategical priorities. The results of the battle of the Falklands were clear-cut enough, at all levels, even while those of Jutland were not. Nor was it the tactical level which always dictated events: the German Army's tactics in March-June 1918 were fine, but they were vitiated by strategical uncertainty at the top; the Zeebrugge Raid was tactically and operationally stunning, but of little strategical consequence. Yet as soon as one begins to list such exceptions, the larger point reemerges. The Falklands battle was decisive precisely because it was the last one fought between surface fleets by gunfire

alone and without the cramping tactical effects induced by the mine, torpedo, submarine, and aircraft. The campaigning in eastern Europe, and in the Near East, could see spectacular breakthroughs occurring from time to time because the sheer distances involved had prevented the creation of a consolidated trench-line and altered the critical balance between firepower and mobility. And the Americans did not suffer from the consequences of tactical stalemate because they were not in the war long enough and, by the time that Pershing's force was engaged, that stalemate was at last being overcome by the armies of both sides. For more than three years of the fighting, however, the major combatants had generally been frustrated by their armed forces' ineffectiveness, which appeared all the more galling in the light of the pre-war forecasts of a swift victory.

To a very large degree, in other words, it was impossible for the Powers to achieve military effectiveness in the First World War without first finding a solution to a small but vital number of tactical problems: how to close with, and then overwhelm, the enemy's battlefleet; how to counter the attacks of the U-boats; how to open up a new strategical flank, through amphibious operations; and -- by far the most important of all -- how to break into, and then out of, an enemy-held trench system.

Some of these problems need only be mentioned in passing here, since following early failures, they were held to be so intractable that further attempts to solve them were abandoned -- and not taken up again until the Second World War itself. Thus, the possibilities of opening up a new flank by an amphibious landing on the enemy's shore were discarded, following the Gallipoli debacle, so far as Britain was concerned; and

that country was, in theory, the Power to whom peripheral operations should have come most naturally. For France, too, the inability of the Allied expeditionary forces to achieve a break-out from Salonika doomed any further amphibious ventures. Taking their cue, the Italian General Staff opposed all suggestions of a cross-Adriatic invasion after 1915, pointing 'o the tactical and operational difficulties. In the Baltic, the Germans did at least carry out the operations to the Aaland Islands and Finland in 1918, but overall very little was done compared with, say, the repeated invasions from the sea which had occurred in the Great Northern War. Apart from the Zeebrugge Raid, the North Sea was even more of a "dead" area for amphibious operations. One reason for this neglect was the overwhelming distaste expressed by all the General Staffs for committing their troops to watery ventures. A second, but associated reason was the growing awareness that land-power's mobility (railways) and punch (coastal-defense guns, offshore minefields, machine-guns) had reduced the advantages enjoyed by sea power; tactically and operationally, getting an army landed onto an enemy-held coast was now altogether more difficult than it had been in Nelson's day.[5]

A third reason was the general difficulty which surface warships, and therefore, battlefleets, had in the presence of the newer weapons of the mine, torpedo and submarine. For over 300 years, the big-gunned ship had, tactically (and therefore operationally and strategically) dominated naval warfare; yet in the 1914-1918 conflict admirals became wary of taking their massive Dreadnoughts into the North Sea or Adriatic out of a fear of being hit by torpedos or mines. Because the surface naval war became paralyzed (except for some exciting small-boat actions), the idea of carrying an invasion force across such dangerous waters was also

excluded. Instead of trying to work out how to solve these practical difficulties, naval staffs everywhere tended to bemoan -- but accept -- such new, cramping conditions. As compared with the Second World War, therefore, surface actions and amphibious operations after 1915-16 were like the Sherlock Holmes story of the dog which should have barked in the night; the fact that it didn't happen is the most interesting aspect of all. And that it didn't happen, because of unsolved tactical/operational difficulties, precluded a whole number of strategical possibilities which were only opened again after 1940.

On the other hand, what turned out to be the two most important tactical challenges of the war, that is, the containment of the U-boats and the penetration of an enemy-held trench-system, were solved, albeit slowly and at great cost. Doenitz's description of the tactical difficulties suddenly facing a U-boat commander when the Allied decision to convoy merchantmen was introduced, can hardly be bettered; even to get close to the enemy's ships, the submarine had to expose itself to all manner of possible counter-attacks. Since the convoys and their escorts now had the tactical advantage in the event of any encounter, the overall operation of bringing 30 or 40 merchantmen across the Atlantic or through the Mediterranean was also successful; and thus the Allied strategy of preserving command of the sea was upheld. It is even more instructive why that change took so long in coming: because it was mentally difficult for senior naval officers, brought up in the traditions of the big-gun battlefleet, to grapple with the unanticipated forms of warfare and newer weapons-systems; because there was little operational analysis, or "feedback" from those engaged in anti-submarine warfare (or from submariners); because it was difficult for innovative junior officers, or

even pushy politicians like Lloyd George, to influence the mind-sets of admiralties. Lacking an adequate staff system with an independent bent towards problem-solving and in close contact with the practical realities at the "cutting-edge" of war, the navies of the Great Powers were poorly equipped to defeat the U-boat challenge. As in so many other instances, the acid test of military effectiveness was whether one could handle, not the expected but the unexpected elements thrown up in war.

In such respects, the U-boat case offers many parallels to the problems which army commanders faced as they grappled with the unexpected tactical landscape of trench warfare after 1914. In the wisdom of retrospect, one can see that this conflict took place at a very particular period in the history of military technology and transport. In the first place, it occurred when the Industrial Revolution, through the railway system, had given armies the capacity to bring masses of men, guns and shells to the rear of the battlefield, but had not yet discovered the means (trucks, transport-aircraft) to transport those items forward -- if anything, the use of millions of horses to carry munitions where the railways ceased to operate simply compounded this problem, since their fodder needs were so enormous. Secondly, it occurred at a time when those same quick-firing guns whose demand for shell drastically complicated logistics, also made it impossible for infantry and cavalry to survive on top of the ground in the face of the vastly-enhanced firepower; and before the internal-combustion engine solved that problem as well, through the development of tanks and armored personnel-carriers. The firepower-revolution meant that troops had to dig deep to survive; the transport conundrum meant that the more that defensive trench-systems could be built up on an elaborate and massive

scale (in western Europe and northern Italy), the more difficult it was to penetrate them. If one attempted to punch a hole through the first line by prolonged bombardments, that surrendered the element of surprise and allowed the enemy to reinforce the second and third lines of trenches. Any advance took the troops further and further away from their logistical supplies and rear-commanders; fatigue merely compounded the problem. Whichever side moved forward had put itself *immediately* at a disadvantage. This was recognized to the extent that the experts called for the attacker to have a numerical superiority of, say 3 to 1; but in many ways that added to the inter-acting problems of supply and mobility. What was needed was not a change of ratios, but a rethinking of battlefield tactics.

In terms of drawing tactical "lessons" from the conduct of this war, therefore, the most interesting campaigns may be neither the wide-ranging strikes of Allenby and Lettow-Vorbeck, nor the stalemated horrors of Gallipoli, Verdun, the Somme and in Isonzo; but, rather those of the Brusilov offensive, Riga, Cambrai, Caporetto, and the March-August 1918 struggle along the Western Front, since all of those gave evidence that at last the military staffs on each side were beginning to overcome the tactical paralysis of trench-warfare and, in consequence, to open up once again both operational and strategical possibilities.

By no means, however, was this change of approach a uniform one, even if they all had their roots in the battlefield experiences of certain officers who were actively seeking to overcome the stalemate. Although it was probably Captain Laffargue who was the first to argue for the more flexible use of small units of infantrymen and for much less reliance upon lengthy, mass bombardments, these ideas were never adopted

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as doctrine by the French Army, many elements of which remained attached to linear advances and (after 1917, to reduce casualties) a heavy weight of shell. As Professor Porch argues, "Initiative, mobility, and surprise were absent from French training methods," and much the same appears to have been true of the Italian Army until the very last months of the war; yet, without those qualities, it was impossible to imitate the fast-moving, storm-trooper tactics. By contrast, Brusilov and his staff seem to have been very successful in bringing together all the necessary ingredients -- sharp, surprise bombardments at many places on the front, swift overrunning of the defender's lines, good coordination at all levels, commitment to keeping up the pressure -- when they overwhelmed the Austro-Hungarian Army in September 1916. The real problems for the Russian military (apart from the overstraining of the society and economy in general) were: could Brusilov-like methods be adopted by the army as a whole?; and, more important still, would they work so well against the formidable Germans, who were not only moving towards a loosening-up of their own offensive tactics but were also vastly improving their defensive battlefield techniques? By the end of that same year, the answers to those questions were becoming all too clear.

The British and German military organizations dealt with the newer tactical possibilities in very different ways. On the face of it, one might have thought that the former would have been the most advanced and enthusiastic in the search for improved battlefield tactics. They complained the loudest about the slaughter in the trenches. Their army had a lengthy "small wars" tradition which emphasized mobility. They had produced, by late 1917, both an array of intelligent officers who were emphasizing flexible, small-unit attacks, and a sophisticated artillery-

support system. Under the urgings of Churchill and others, they were furthest ahead in the production of tanks -- a revolutionary solution to the firepower-mobility problem, provided (as always) it was used in the proper way. Yet while improvements occurred at the divisional and regimental level, in a piecemeal fashion, the generally unimaginative and inflexible tone of the senior officer corps under Haig, plus the lack of adequate "feedback-loops" between front-line experiences and the staff at the rear, prevented the broad dissemination of the newer tactical doctrines. This is in glaring contrast to the Prussian General Staff under Ludendorff; even if it is difficult to believe that the dissemination and discussion of new tactical ideas proceeded all the time as smoothly as has been portrayed in Lupfer's account,[6] it is nonetheless clear that this was a system which was both much more open to advice "from below," and much more capable of inculcating newer methods throughout the military organization as a whole. It remains to this day, therefore, an important example of how to get an army to change its battlefield techniques.

Most of the other elements in the measurement of tactical effectiveness flowed from, or necessarily proceeded, this alteration in fighting habits. Intensive training, it has already been noted, was needed to accompany the newer methods; the latter also required a much less hierarchical set of relationships between officers, NCOs and rankers, and an emphasis upon unit cohesion and mutual support. Not surprisingly, the _Stosstruppen_-methods worked best amongst elite troops (like the Italian _Arditi_) or with forces whose social backgrounds did not cramp individualism (like the formidable Australian Corps); even the Germans, who threw great efforts in training the newer methods, only

managed to inculcate them into a select number of divisions by March 1918. All-arms integration, which obviously also required intensive training and tactical flexibility, was still chiefly related to an improved coordination of infantry and artillery, superior to the linear assaults of 1916; and there are only rare instances -- the French offensive in Champagne in July 1918, or the British "push" of August 8th, 1918 -- in which infantry, artillery, tanks, and aircraft worked together. It was also scarcely surprising that those late examples of all-arms warfare fascinated the post-1919 students of battlefield tactics and stimulated the early _Blitzkrieg_-style theories of Fuller and Liddell Hart.

This change in the tactical nature of warfare clearly had an important impact upon "morals." Given the very high level of conscious and sub-conscious patriotic indoctrination in all of the combatant societies prior to 1914, it would require repeated evidence of the horrors and futility of warfare to cause disintegration. By that measure, it is easy to see why the U.S. forces should appear so confident and strong when they first appeared on the Western Front; much less easy to understand why the Italians could be sent forward repeatedly into the Isonzo battles, and why the French could recover from the 1917 mutinies; and remarkable that the Russian Army did not disintegrate until 1917, and that the heterogenous Habsburg Army fought until the bitter end. Loyalty, discipline, fear of disgrace, together provided an effective cement; local and regional ties, and decent living conditions also helped. All that said, it seems clear also from the preceding essays that high morale was much more likely to be achieved in small, specialized units and in all services where a sense of purpose and the rationality of fighting were preserved. Where an attack seemed evidently futile and

suicidal, like Nivelle's offensive or the High Seas Fleet's intended operation of October 1918, unrest and disaffection occurred; where troops and sailors saw they had a chance of survival, and perhaps a victory, they always went forward. Such conclusions are not at all new; but they need to be re-learned in every war.

Operational effectiveness during the First World War was caught in a two-edged vice: on the one hand, potential operations were often constrained by considerations of policy, strategy, and geography; on the other, actual operations were all-too-frequently hampered, and undermined, by the tactical and technical problems mentioned earlier. One can think of literally dozens of successful operations in World War II which were both strategically relevant and tactically impressive. For the 1914-1918 conflict, one scratches one's head to make up even a short list -- the Falklands (perhaps), Tannenberg/Masurian Lakes, Lemberg, the German overrunning of Rumania in 1916, Caporetto (perhaps), Allenby's drive towards Jerusalem, and the combined Allied offensives of July-September 1918 on the Western Front. All of the other operations left something to be desired; many were unmitigated disasters.

The naval war was, operationally, anything other than a "Great War at Sea,"[7] for the reasons given above. Geography had 'bottled in' the German and Austro-Hungarian surface fleets, and allowed the Allies to retain command of the sea merely by staying on the strategical defensive. In view of their inferiority in battleship numbers, it would have been rash for the Central Powers to commit themselves to offensive naval operations. This mutual inertia was reinforced by the admirals' fear of the mine, torpedo, and submarine -- probably much exaggerated, if one recalls the important battleship actions in the later war (Narvik,

Matapan, _Bismark_ Chase, North Cape) despite the great advances in submarine and aircraft technology. Policy and diplomacy were also important constraints. The Italians wanted to preserve their fleet intact as a bargaining-counter at the end of the war (little wonder, then, that they had no _operational doctrine!_), and the same calculation prevailed in Paris and Vienna. For the Kaiser and his admirals, it was also politically important not to let the High Seas Fleet be eliminated.

All this restricted main-fleet operations to a few chance encounters, such as the Dogger Bank and Jutland. Those clashes, like the land battles, suggested that operational expertise had not caught up with the new technology. Internal-combustion engines could drive opposing battle-fleets toward (and away from!) each other at a combined speed of nearly 50 knots, yet the admirals did not possess the "command and control" technology to handle their own disparate squadrons, let alone follow the enemy's motives. Unlike trench-warfare, however, there was little oppor-tunity to test operational improvements among the battlefleets; and the focus of the naval struggle shifted increasingly towards the U-boat campaign against merchant shipping. Yet that was of its nature a very decentralized form of warfare, so that its operational success hung upon each side's tactical habits; when the Allies adopted convoy, the U-boats' operational chances declined dramatically. Far from having the desired strategical effect of bringing Britain and France to their knees, the actions of the German submarines were the major factor in provoking the USA to enter the war, thereby sealing the _Reich_'s fate.

Combined-service operations in this conflict were also caught in the two-edged vice, and thus conspicuous by their absence. Strategy and geography made them seem a distraction to most of the Powers, engaged as

they were in a land-based "struggle for mastery in Europe." Policy -- in particular, the lack of cooperation (and, in most cases, sympathy) between the army and navy staffs -- was a further constraint. And the one great Allied attempt at combined operations, Gallipoli, failed to overcome the many technical problems which such a complicated action would throw up, and thus became a glaring example of how not to conduct that sort of campaign.

Far from being unique, Gallipoli was but one of a number of operations conducted away from the standard European theaters -- Kut, Tanga, Salonika were others -- which failed because too little account was taken of the necessary underpinnings for such long-distance strikes: intelligence, supply, communications, medical services, and so on. If any real lesson emerges from these campaigns, it is that what we might nowadays term "out-of-area operations" were not cheap. Because such actions might involve an advance across hundreds of miles (compared with the hard-won 5 miles on the Western Front), good mobility and logistics were of the essence; but that in turn demanded a massive infrastructural investment -- light railways, new roads, river-steamers, telegraphs, hundreds of thousands of mules and camels to transport men, munitions, tents, field hospitals. At the end of the day, such operations were successful, and the careful planning which attended them paid off: the Russians blasted their way through the Caucasus, the British entered Baghdad, Jerusalem and Damascus, German East Africa did eventually fall, but all at a cost. "Sideshows," in other words, made their own operational demands, which armies neglected at their peril.

Nevertheless, the fact remains that it was much harder to achieve operational effectiveness across the trench-lines of the Western Front, northern Italy, and (in some places) along the Eastern Front, than

anywhere else. Here the two-edged vice restricted the chances for a successful operation in the most devastating way. For the tactical and technical reasons given above, one side began to lose its advantage as soon as it commenced an offensive against the other. The sheer difficulty of forcing a hole through an enemy trench-system _four miles wide_ (and to do it in time to reach the other side before his reinforcements were brought up) was such that all of the normally-expected indicators of operational success could give no guarantee of victory. An army -- say, Haig's before the Somme, or Falkenhayn's at Verdun -- could possess enormous stocks of guns and ammunition, command dozens of fresh divisions, have good morale, supply transportation, and so on; and yet to no avail. Operation after operation was therefore closed down, following appalling casualties, with the front-line changed by little more than a mile or two.

Even the more mobile and spectacular campaigns in the European theater eventually fizzled, or ended in disaster, because the technical and logistical problems proved insuperable. The fate of the Schlieffen Plan in August-September 1914 was an early example of that; for, as Professor Herwig shows, the faster that the leading German divisions moved, the further they drew away from their supplies, and the more the advantage tilted towards the French. This sequence of events was repeated in March-June 1918, by which time, interestingly, the German army had solved the tactical problem of how to break through an enemy trench-system; but it then fell victim to Ludendorff's lack of strategical purpose, not to mention operational 'over-stretch'. Exactly the same happened following those two other large-scale breakthroughs, the Brusilov offensive and Caporetto. Each, by using the elements of surprise, combined-arms, and tactical flexibility, not only cleared a way through

the enemy's trenches but then also advanced for 20, 30, even 40 miles beyond, driving the defenders back in confusion. Neither attacking army, however, had been properly prepared for a follow-up. The further they advanced, the more they strained their supply systems. Plundering consumed the troops' energies. As the defending forces fell back, their lines shortened; and Allied reinforcements appeared. In fact, no European-theater operation of the First World War, save perhaps the German counter-offensive campaigns of Tannenberg, the Polish salient (1915) and Rumania (1916), saw the successful army fully achieving its aim before being bogged down along a new front-line, which in turn needed to be built up; and even those three successes were actions intended to stabilize the front, not operations planned to bring a larger victory.

Since military operations did not normally lead to a decisive change in the battle-lines, it was perhaps not surprising that various commanders began to redefine their strategic aim: instead of going for an unattainable "breakthrough," they would aim instead at "attrition," wearing down the enemy's forces until the magic moments arrived when he buckled under. This was, notoriously, Falkenhayn's intention at Verdun, and had been Joffre's in the previous year; it was increasingly the raison d'être behind the many battles of the Isonzo; and by 1916 British generals like Rawlinson had also come to see it as the only plausible strategical justification for what they were doing on the Western Front. But this change brought fresh problems, which in turn could erode the prospects of "biting off" a chunk of enemy-held territory at a time. The first of these was the obvious effect upon soldiers' morale if they gained the impression that forthcoming attacks were merely part of an attrition strategy and not the "big push" to end the war -- witness here the

unprintable Australian reactions to Haig's euphemisms about making "methodological progress" in the Somme battles.[8] The second problem with this situational form of warfare was that, if an operation went better than expected, there had often been no preparations to exploit it. The British were probably the worst here -- neither in the blowing-up of the Messines Ridge nor the tank attack at Cambrai had any "follow-up" plan been worked out -- but this also occurred in most other armies except the German. Finally, a strategy of battlefield "attrition" always assumed that one's resources would ultimately prove superior, even while suffering the proportionately larger casualties that repeated offensives entailed; but that assumption rested upon factors (manpower reserves, industrial muscle, public morale) which front-line generals were not well equipped to measure objectively. That was the flaw in Joffre's and Falkenhayn's offensives, and in the falsely confident Russian assessments of early 1917; it was also evident, despite Lloyd George's objections, in Haig's own calculations. Ultimately, attrition warfare is likely to shift the focus of military effectiveness from the operational level to the strategical and political, as was the case with the Vietnam War.

Before moving to those levels, it may be worthwhile drawing attention to the very successful defensive campaigns of the First World War, since they include operational lessons not much studied by Western experts, whose image of this conflict is one of repeated failed offensives of 1914-1917 followed by a run of successful offensives in 1918. The French defense of Verdun owed much, not simply to the fact that for once it was Germany that was launching attacks across Western-front trenches, but also to the clever defensive tactics used -- digging deep, launching surprise counter-attacks to regain lost trenches, rotating the French

division frequently to preserve their morale, and so on. The Bulgarian
defensive campaigns at Salonika would also repay closer study, as might
the hand-to-mouth (and rather lucky) Turkish defense of the Dardanelles.
But the most impressive practitioners of defensive warfare were
undoubtedly the Germans. In this respect, their frequent slashing
counter-attacks on the Eastern Front -- usually to rescue their Austro-
Hungarian ally from disaster -- may be the less interesting if more
spectacular examples, since they flowed rather naturally from the German
advantages over Russia in terms of railway-communications, heavy
artillery, and field intelligence. Less well known was the massive
re-learning effort in defensive, situational warfare undertaken by the
German Army after its heavy losses in the front trenches during the Somme
bombardments. By abandoning rormal trench lines in favour of the elastic
defense of a much wider zone, with dozens of mutually supporting strong-
points behind the first scattered outposts, and with reserve divisions on
call in the rear, the Germans made an Allied offensive on traditional
lines more difficult than ever before:[9]
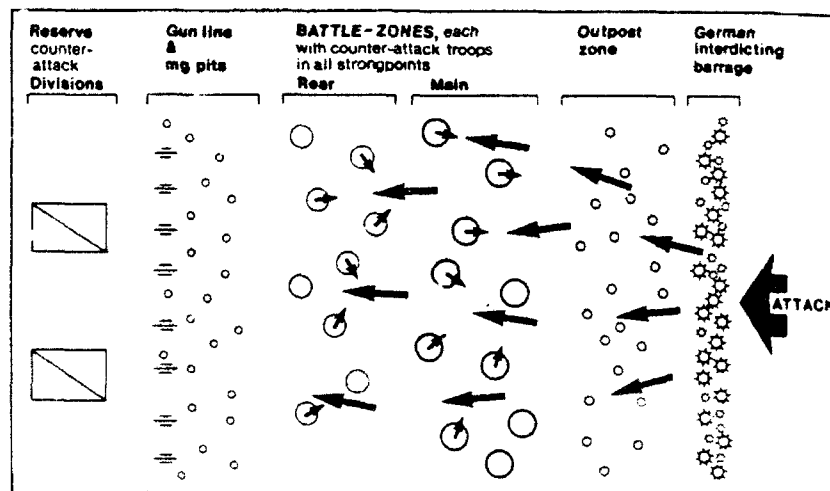
By inculcating this emphasis upon counter-attack, moreover, the German Army could recover even from enemy surprise assaults if the latter once relaxed their pressure, as their famous _riposte_ to the Cambrai tank operation amply demonstrated. Just how long that sort of warfare could have been continued, had Lundendorff not decided to switch to his own unlimited offensive campaign of March 1918 (and thus lose these operational advantages), is hard to guess. But that ought not to obscure the fact that, just as in the 1942-1945 period, the German Army was remarkably good in conducting defensive warfare.

At the strategical level, however, the Teutonic genius for war peters out quickly. Before examining that deficiency, it may be worth looking at those countries which found. it easier to be militarily effective in terms of strategy. Clearly, Japan had the lightest task; eliminating the German presence at Kiaochow and in Micronesia was not difficult operationally, and it fitted in nicely with Toyko's strategic aim of enhancing its own position in the Orient. At the same time, political prudence tempered territorial ambition, and the _genro_ (elder statesmen) made it clear that Japanese strategic decisions should not antagonize its allies unduly. Hence the retreat from the Twenty-One Demands upon China; the decision to send warships to the Mediterranean; and the waiting upon American approval of the Siberian intervention (even if the Japanese force sent there was much larger than Wilson desired). Professor Nish shows that each of those three strategical decisions aroused debate among the Japanese decision-makers. In all cases, a balance was reached between national ambitions and the need to maintain the good will of powerful allies. Japan acted neither obsequiously (say, sending a large army to the Western Front) nor over-aggressively (say, by

invading China, as in 1937); and reaped the strategical benefit from it.

American wartime strategy, too, was both logical and successful, given its 1917 decisions to intervene on the Allied side, to suppress the threat posed by German U-boats, and to compel the defeat of the German armed forces. Since the chief strategical threat at sea was that posed by the submarine, it made sense to redirect the U.S. Navy's energies into anti-submarine warfare. It was also vital, in view of the strain the war was imposing upon the French, Italian and British economies, to increase the financial and industrial support to those powers. Finally, although it had not been in Wilson's mind in April 1917, it was also wise to agree to the army's plan to commit an American Expeditionary Force to France. Any other theater would have been a distraction; _not_ to send an AEF might well have given Ludendorff his hoped-for victory in June 1918. Compared with these basic matters, the issue of what section of the front the AEF should occupy and whether it should be an independent army even in its early stages, were of much less strategic import. To some degree, the Americans were the beneficiaries of circumstance: Allied naval and land strategy had already been worked out, and they merely fitted into it; the defects in force size, equipment and training caused by the very rapid expansion of their army were masked by borrowings from Allies and being given time (not much) to learn about trench warfare; and they appeared on the Western Front just when the tactical deadlock had been unfrozen and Ludendorff had over-extended the capacities of his battle-weary armies. Operationally and tactically, when the American units went forward against German-held positions, they encountered the same difficulties as everyone else -- as they would do again at the Kasserine Pass and in Normandy. But by August 1918 that did not matter: despite the

resistance of individual German units, its line as a whole was breaking up and the Americans were ready with hundreds of thousands of fresh troops. That was an enviable strategical position to be in as the war whimpered to its close, even if it did not of itself guarantee the securing of Wilson's utopian dreams of a new world-order.

For the other main belligerents, however, the strategic demands of the war were much more severe. In many cases, there was really very little choice, at least so far as the theater of war was concerned. France, for example, was like a man whose shoulder was being torn off by a savage beast; in such a life-and-death circumstance, it was predictable that Paris had little time for the naval war and was skeptical (and suspicious) of British operations in the Near East. Gallipoli, with its promise to strengthen Russia's strategic position, was another matter; but the French were not operationally equipped to ease the British difficulties there, and even less willing than Sir John French or Sir Douglas Haig to divert troops to that theater. The Italian campaign was, increasingly, an irrelevance for the French. Essentially, all that counted was the defeat of the German Army in the field, and France's war effort and armed forces were properly concentrated upon that end. On the other hand, Professor Porch is surely right to deplore France's habit of applying "her strategy in such a wasteful manner" -- in her rash Plan XVII of 1914, the even more disastrous assaults of 1915 and 1916, and Nivelle's folly of Spring 1917. Not only did this ignore the tactical/operational difficulties of bursting through a German trench-system, but it was also strategical nonsense. Such assaults pitted French strength against even greater German strength; the more the French attacked, the faster they were running out of men. This was even

more remarkable when one considers the French unwillingness to wait until the British had built up their own army. Only with the 1917 mutinies, followed by Petain's decision to await "the tanks and the Americans," did France adopt a military strategy likely to bring her victory rather than defeat.

Italy's strategy combined the French folly of repeated mass, infantry offensives with the hubris of seeking to advance all the way to Vienna. Alternative strategies in the Balkans were abandoned, following the half-hearted Albanian venture of December 1915. Yet the task of driving along the unpromising route to Vienna reflected neither the Italian Army's tactical competence nor the country's infrastructural and industrial under-development. All it did was to demoralize an already unhappy army, produce growing strains in Italian society, and (after the Caporetto disaster) make the country increasingly dependent upon its richer and more technologically advanced Western allies. The improvements in battlefield tactics and weapons coordination which were at last occurring in 1918 suggest that the Italian Army's experiences need not have been so bloody; they do not make the chosen strategy any more plausible.

Once the war had broken out, Russia's strategical options (like France's) were severely restricted by the fact that part of its territories were threatened by the most formidable army in the world. But things were also complicated by the opportunities which beckoned on the Galician front against the far less formidable Austro-Hungarian Army (together with the need to give indirect support to the Serbs). They were complicated still further when Turkey entered the war, thereby opening up a southern, Caucasian front. In theory, the Russians would

have done better to have concentrated even more upon these southern and southwestern opportunities and to have avoided, so far as was possible, mixing it with the Germans. But there were two compelling objections to that strategy. The first was the political dislike of withdrawing from Russian Poland and the Baltic states, whose peoples would most likely oppose any later return. The second was the needs of Russia's allies, which St. Petersburg took very seriously, perhaps too seriously considering the disasters of 1914, 1916, and 1917. Nonetheless, there was a logic in putting pressure upon the German Army so as to help preserve France, just as there was a case to be made, by summer 1916, for an offensive to divert some of the Austro-Hungarian forces from the Italian front. The Russian strategy, of mobilizing millions of fresh recruits each season for renewed western offensives, was thus a very plausible one. It foundered, alas, on the harsh realities of operational incompetence, plus an awful array of organizational and infrastructural deficiencies in such a mass, peasant-based army. Against the Austro-Hungarian and Turkish forces, the Russians were repeatedly successful, sometimes brilliantly so; but those strategical actions in the southwest would have just overstretched their system when the Germans would come crashing in, with great speed and devastating firepower, to roll the Russians back again. With some rare exceptions, facing the German Army seems to have paralyzed Russian commanders. Ignoring the stunning, surprise tactics of the Brusilov offensive, losing the ingenuity displayed in the mountain campaigns against the Turks, Russian generals unimaginatively ordered their divisions forward against German-held positions, and watched them being slaughtered en masse in the marshes, or cut to pieces by explosively fast counter-attacks. Losing

heavily against the Germans was not a new element in Russian strategy, and one imagines that <u>Stavka</u> had gradually come to expect it; but by 1917 the new recruits were no longer the placid younger sons but the resentful second-category men. (e.g., those who were the sole breadwinners in a family, and thus traditionally exempt from conscription.) In such circumstances, repeating the offensive strategy of earlier years -- however "logical" in terms of Allied cooperation -- was fatal.

Having regard to Russia's repeated military disasters since the Crimean War, that result was at least not unusual. But it is ironic to see that the homeland of Clausewitz, the Elder Moltke and Bismarck was also unable to formulate a coherent strategy in the 1914-1918 conflict. That it was good at the tactical and operational levels of military effectiveness, whether fighting offensively or defensively, seems undoubted, and Professor Herwig's essay also details the way in which it could retrain its forces at those levels. Its basic flaw, which it repeated even more spectacularly in 1941, was to opt for strategical courses of action which, while having a certain military logic to them, undermined rather than secured the nation's larger political goals. In over-reaching itself to gain a victory in a specific campaign, it ran the risk of ensuring that it could never win the war as a whole.

It is true that the Germany of 1914 was a victim of geography, in a way that the USA, Japan, and Britain were not; but, as has been noted, France, Russia, and even Italy were also disadvantaged by their location (as were, even more so, Austria-Hungary and Turkey). Yet whereas the French, for example, enhanced their strategical effectiveness by clever alliance diplomacy, the German military mind preferred a quite different solution: escaping from their geopolitical bind by a bold offensive move

which while provocative to neutral Great Powers, would hopefully shatter their immediate foe and thus achieve the desired swift victory. Such a move might fail; and it might well bring another powerful nation into the enemy coalition. Convinced of its own military effectiveness, however, Berlin proved incapable of coldly weighing the balance of short-term versus long-term risk which was at the core of a truly Clausewitzian grand strategy.

The two most notorious German examples of making gratuitous enemies are, of course, the Schlieffen Plan and the 1917 decision to instigate unrestricted U-boat warfare. By the first action, Berlin not only brought Belgium into the war, but also Britain -- and, in consequence, the British Empire and (for its own good reasons) Japan; as well as influencing Italy's future course of conduct. Britain's entry sealed the fate of the German overseas empire, and of its merchant marine. It brought enormous financial reserves, and later a great army, into the Allied camp. It neutralized the High Seas Fleet -- which was the chief reason why the admirals began to favor using the submarine to carry out guerre de course (despite the fact, as Professor Nenninger points out, that the German navy really had very few boats to implement that strategy). The High Command's decision on unrestricted U-boat warfare (plus the Zimmermann Telegram) added to the list of Germany's foes the USA, by that time the industrial and financial powerhouse of the world, and a country also capable of producing a large, fresh army for war in Europe. Against the Dual Alliance of France and Russia, the Central Powers were somewhat superior in terms of industrial, economic muscle; with the British Empire and the USA becoming enemies, the balances shifted dramatically (even with Russia's demise) and made the German bloc

decidedly inferior.[10] Such was the narrow view of "strategy" that prevailed in Berlin that these larger points were never fully considered; nor, indeed, was there a forum in which to consider them, which may be the most significant negative lesson to draw from any study of German military effectiveness.

Strategic historians walk on very thin ice when they indulge in counter-factual and hypothetical arguments; but it seems plausible to claim that if the Central Powers had only been fighting against France, Russia, and Servia, they would have had a very good chance of winning outright. Both on land, and at sea, they would have been in a much better position. As it was, once the Germans had recovered from the logistical over-extension which was the Schlieffen Plan, they learned to utilize their central lines of communication to gain a good degree of strategical flexibility. Correctly assessing the advantages of staying on the defensive in the West -- confirmed by the futility of Falkenhayn's Verdun campaign -- the High Command concentrated on Eastern offensive, where it could exploit the army's speed and firepower. With Russia's military collapse in 1917, that strategy seemed the correct one. Yet the cost, in manpower and to the German economy, of conducting two major wars at the same time, was enormous; even the defensive strategy along the Western Front led to appalling casualties, especially at the Somme and Passchendaele battles. The improved defensive tactics described above slowed the bleeding, but did not stop the hemorrhage. Hence the temptation to cut France and Britain off from their vital transatlantic supplies, whatever the risk; and, when that had failed, to raise the gambler's stakes even higher with Ludendorff's "all or nothing" lunge of March 1918, before the odds swung even more against Germany. After four

years of unremitting struggle, however, even the German war machine could not keep going much longer; it had done astonishingly well to have managed so long.

Impetuous youths have boasted of taking on "the four corners of the earth in arms;" only the Germans have made a practice of it, twice in this century, and suffered the strategical and political consequences therefrom. This seems the more curious, given the openness and flexible manner in which tactical and operational innovations were discussed by the German Army staff, and then refined by empirical experience.[11] Yet a similar form of free-ranging debate was never permitted at the level of grand strategy, nor was there a body like a Cabinet for considering the longer-term political aims of the German nation. Why that was so cannot be examined further here. The traditional separation of the military and civilian spheres of government, the Kaiser's role as "Supreme War Lord," the Conservatives' fear that an open debate about war aims would open up a Pandora's Box of critical opinions, and -- last but not least -- the militarists' dismissal of both Britain and the USA as ineffective, non-warrior societies, all no doubt form part of the explanation.

It is at the level of strategy, and its relationship with politics, that the British system looks superior. Her world position was, to use Beloff's phrase, "more of a tour de force than that of her rivals."[12] Since she was much more of an imperial, extra-European power than France, Italy, Austria-Hungary, Germany and, in the last resort, even Russia, she felt it necessary to pay particular attention to preserving relations with the USA and Japan, to ensuring the unity of the Empire, to cushioning her substantial interests in the Middle East, Africa and the Indian sub-continent from the full reverberations of the war, and to

keeping her unique place at the center of a liberal, cosmopolitan, trained empire resting upon delicate credit and supply arrangements. On the other hand, since Britain was also much more of a European power than the USA and Japan, she therefore felt compelled to commit a far greater proportion of her manpower and wealth to the preservation of the continental, military balance-of-power, despite the appalling costs. Finding the right strategical middle-way between these two poles, and (again to quote Beloff) striking "the correct balance between the immediate requirements of the war and the long-term prospects of the country and Empire"[13] was an extremely difficult task.

On the whole, the British managed it reasonably well. The continental balance was upheld -- barely; imperial interests were preserved, in some areas considerably enhanced; and relations with all of the allied Great Powers were skillfully utilized to benefit Britain's complex strategical situation. Once again, there is no space in a summative essay to investigate the reasons for this in detail. In part, it can be explained by the fact that the British had been engaged in such a strategical/diplomatic juggling act for a very long time, and had been forced to evolve decision-making structures (e.g., Cabinet sub-committees, Committee of Imperial Defence) to deal with the working out of priorities -- if one examined their handling of the Crimean War, they would look less impressive. This process was aided by a university training for the elite which emphasized "judgement and facility in absorbing and rendering reliable opinions upon a complicated mass of factual material and devising a policy out of it."[14] Finally, and less flatteringly, it was helped by the fortunate fact that Britain was an island; as the French often pointed out, if Britain had had an enormous

German army encamped only as short a distance from London as, say, Canterbury or Brighton, they also would have found it difficult to divert troops to Baghdad and Tanganyika. More specifically, though, the British Islands enclosed the North Sea, thus reducing the strategical effectiveness of the High Seas Fleet and giving the Allies an immense strategical flexibility if they could find the means to use it. All this helped to ensure the success of British war aims.

This does not mean there were no problems. On the contrary, civil-military relations were far more controversial during this war than in the 1939-1945 conflict, to a large part because the strategical debate was far more divided and angry. The bitter memoirs of leading decision-makers which appeared soon after the war, and the polemical writings of Liddell Hart and others, are clue enough that many participants felt that British strategy had been _ineffective_. Seventy years later, the debate still rumbles on.[15]

Yet the more the subject is examined, the clearer it becomes that the problem was not about strategy so much as the _practical application_ of that strategy; that is, tactics and operations. This was true, it has been argued at the beginning of this essay, for all the major combatants; but the British case offers such a superb example of this because in so many other areas (geographical position, supreme direction of the war, assessment of priorities, reserves of economic and diplomatic strength) they were so advantaged. Yet none of those factors would be enough if battles could not be won. Strategically, the 'continental commitment' was the correct one; strategically, the strike at Gallipoli was brilliant in its promise; strategically, protecting the Allied sea-routes was quite vital and rightly given high priority. But the awful problem was that,

however correct in theory, those strategies did not seem to work in practice. The continental commitment, the peripheral strategy, the protection of merchant shipping, all seemed to be hopelessly flawed during the first three years of the war; only in 1917-1918 was the corner turned.

Why? In the first place, it has to be said again that this weakness was common to all the Great Powers. For most of the war, no one knew how to break through a strongly-held trench system; no one knew how to implement a large-scale amphibious operation; and no one knew how to deal with the U-boat menace. The refined Cabinet committee and decision-making system, so good at grand strategy, was ineffective here because "judgement is useless unless the material is in the briefs, and for what was needed in military matters once the lines of trenches to the sea were complete, or at sea with the coming of the submarine, was not in the briefs."[16] The split which had evolved between the civilian and military spheres of life in the Victorian political culture had meant that, while ministers were well equipped to deal with the political and diplomatic aspects of strategy, they paid little attention to military and naval details: that was for the experts. But neither the British Army nor the Royal Navy had, at this time, created an effective staff system to handle tactical and operational problems, to analyze empirical data, to experiment with new methods, and -- most important of all -- to encourage open discussion which would also include challenging received ideas about how best things were to be done. In this respect, the Prussian staff system was much more "liberal" and "forward-thinking" than that in Britain and the other western democracies, with the possible exception of the USA. Because Haig's army did not possess a system for

the frequent re-examination of tactical methods and operational doctrine, improvements in battlefield technique came slowly and piecemeal. Because the Admiralty had closed minds toward convoy, only a combination of pressures, chiefly external, forced them to experiment with it. Because neither service was enthusiastic about combined operations, little was done about them. All this impacted upon strategic possibilities in a very decisive, if negative way.

The preceding discussion of military effectiveness from a "tactics-upwards" perspective also allows us to understand more clearly the place of political factors in the larger equation. The term "political" as used in these essays has actually referred to two separate if inter-related aspects, the first being the availability of financial, industrial, technological, and manpower resources for the pursuit of victory; and the second being the willingness of the nation at large, and their political representatives in particular, to keep on supporting the war effort. Obviously, the former aspect depended upon the latter -- although there also were natural, absolute limits to a country's resources and manpower, if the war went on long enough. With a society which had over-strained itself, the level of morale both in the army and on the home front would become a vital factor in that country's continuing political-military effectiveness. Virtually all of the essayists report upon the massive economic and manpower resources made available to the military organizations once the war commenced, but this is hardly surprising. Pre-war animosities had stoked up military and naval arms races; the "mood of 1914" was patriotic and belligerent; and extraordinary sacrifices seemed justified to ensure the expected swift, decisive victory. When the early offensives ground to a halt, it still

seemed natural for each side to call for more intensive efforts, more conscripts, more munitions, although this frequently produced bottlenecks and massive inefficiencies until new organizations were created to handle them. This slide towards the total mobilization of the economy and society was accelerated by the reports from the generals that the *matériel* requirements of the conflict -- barbed-wire, cement, trucks, machine-guns, aircraft, artillery, and especially shells -- were fantastically larger than their earlier calculations; in 1915, virtually every belligerent suffered a "shell crisis."

The consequence of this was that, from 1915 onwards, munitions production in all these countries soared, creating new industries and thousands of new factories. The historians, of the individual war efforts have warmly praised such transformations,[17] yet the latter also are unsurprising. For all the laments of Liberals about the "burden of armaments" prior to 1914, only a small proportion of national income (4%, on average) was committed to that end. When "total war" raised that figure to 25% or 33%, it was inevitable that the output of armaments would rise dramatically. Given the powers of the modern bureaucratic state to float loans and raise taxes, there was no longer any internal fiscal impediment to sustaining a lengthy war, as had crippled eighteenth-century states. While this appeared to the shrinking band of traditional political economists to be mortgaging the nation's future, their voices were drowned out by patriotic assurance that the defeated enemy would pay. For the moment, all that was needed was to boost armaments production.

This in turn simply meant that fresh masses of guns, shells, and troops were heading to the front month after month, season after season

-- to be wasted and slaughtered and stalemated in the trenches because of the failure of the military organizations to solve the new tactical and operational challenges which the war had thrown up. In that sense, an ever-costlier armaments stalemate was interacting with an ever-bloodier operational (and therefore strategical) stalemate, so it was not surprising that generals grew baffled, politicians grew desperate, and the common public grew ever more resentful as the arms output meant little; what was more critical was how long each economy and society could meet these unprecedented demands when the prospects of outright victory for either side seemed to be fading away. This was where the coalition aspect of the First World War became crucial. Austria-Hungary, despite its repeated defeats by Russia, could be rescued and propped up by Germany; Italy, after Caporetto, could be militarily reinforced by France and Britain; France and Italy could be economically helped by Britain, which in turn could be financially assisted by the USA; the American Expeditionary force could obtain its tank, aircraft, artillery, and machine-guns from Britain and France; and the British merchant marine could transport these vast flows of men, munitions, grain, and coal.

None of the individual essays in this collection, by their very nature, can sufficiently cover the collective balance of forces which, following years of stalemate and slaughter, eventually decided the war. Significantly, Russia was the one Allied power which could not be sustained by its partners, as France and Italy could be; unable to protect itself from the German war machine, suffering rampant inflation, with its transportation system breaking down, and its latest round of conscripts disaffected, the country could take no more. It is astonishing, in retrospect, how long it lasted.

But the German triumph here was short-lived. By the fourth year of campaigning, its own manpower stocks had been bled away (the army's size peaked in June 1917, then declined), and even its enormous industrial base had been overstrained by the demands of war. The "Hindenburg Program" had unbalanced the economy, produced high inflation, reclaimed workers from the army, and ruined agriculture (and thus food stocks). At the same time, the High Command's inept policies had brought into the conflict a new enemy, the USA, with a manufacturing output at least two-and-a-half times that of Germany's shrinking economy, and with a massive manpower stock. It was in these unpromising circumstances -- with industrial output down to 57% of its 1913 figure, and the public grumbling at the lack of food -- that Ludendorff launched his great offensive of March 1918. Tactically and operationally, it was extremely successful in its early stages, and extremely mobile compared with Verdun, the Somme, and Passchendaele. but as Ludendorff's armies lunged first in one direction and then in another, his supply-lines became overextended and his casualties mounted. By contrast, American and British Empire reinforcements were at last giving the Allies the manpower superiority, and the flow of tanks, aircraft, trucks, and artillery giving them the firepower and mobility, to counter-attack the German trenches and then to maintain a steady advance. Curiously, the German collapse occurred at just about the same time as the Turkish, Bulgarian, and Austro-Hungarian. In this coalition war, the entire coalition cracked together.

Even with all the detail we now possess, it is difficult to relate this story of relative military effectiveness to the state of civil-military relations in each of the combatant countries. In this

enquiry, it is necessary to separate the USA and Japan immediately from the other Great Powers; for in neither country were civil-military relations a matter of deep political concern, possibly because war was not intense enough. That leaves for consideration two clusters of constitutional types: (1) the three liberal democracies of Britain, France, and Italy; and (2) the three autocracies, or semi-autocracies, of Germany, Austria-Hungary, and Russia. In all five examples covered in the essays -- and, of course, in the Habsburg Empire, too[18] -- the military leadership of the war was in frequent, and usually increasing tension with civilian leaders and political assemblies. In the case of western democracies, this tension primarily arose because the civilian governments, which de jure were in charge of the supreme direction of the war, feared that they had surrendered de facto control to Haig, Joffre, and Cadorna; that is, to generals who, unable to produce strategical successes, demanded ever larger sacrifices of men and munitions. As Dr. Gooch points out, while Lloyd George and Clemenceau eventually managed to re-assert civilian leadership, Italian politicians were less successful in controlling the Comando supremo, even after the disaster at Caporetto.

In those societies where the monarchs were the military heads of the nation, and in which civilian interference in military affairs was not permitted, the tensions were somewhat different. In the first half of the war, as in the other belligerent states, domestic criticism was directed at the incompetence of the military organization to produce the promised victory, and was not greatly focused upon constitutional reform per se (although the Duma's rise in influence was obviously due to those twin discontents). With the strain of the war intensifying, and with the

respective High Commands calling for ever-greater sacrifices from their populations without any evident sign of victory, it was predictable that cries would arise for a reform of the entire governing system, not to mention for social and economic compensations for the enhanced "military-participation ratio." Many of the same internal pressures were arising in the western countries -- Britain offers many examples of this[19] -- but they could be more easily absorbed into the parliamentary-democratic system than was the case in the military autocracies. More than that it is difficult to claim, since those Powers which did collapse internally (Russia in 1917, Germany and Austria-Hungary in 1918) were also the societies which had overstretched themselves militarily, where transport and food supplies were breaking down, and where it was not possible to secure external aid. Public disenchantment at the political aspects of the war therefore interacted with public unrest at social and economic deprivation, to topple governments and to bring the war effort to a halt. This, in the audit of Mars, was the ultimate test of a Great Power's military effectiveness.

There are no easy "lessons" to be drawn from the experiences of the military organizations and societies which fought in the First World War -- apart from such obvious platitudes as "make sure you solve your tactical problems," or "don't overstrain the economy too far." As these essays amply demonstrate, military effectiveness is a complicated, multi-layered phenomenon, and one that is unlikely to be attained by a few smart reforms here and there. Excellence can be secured at one level, only to have the results dissipated at another -- higher or lower -- level. Being good at all levels is very rare indeed, especially in the early stages of a conflict that is being fought under new

technological, economic, and geopolitical conditions; yet the evidence suggests that improvements can be made in the areas of identified weakness, if the system is flexible enough.

Clearly, not all elements which go to make up _national_ military effectiveness can be improved upon by the military organizations alone. The geographical location of a country, whether favorable or unfavorable to the conflict under way, is unchangeable. A backward, poorly-educated, peasant society cannot be transformed overnight by the order of a High Command suddenly realizing that it needs hundreds of thousands of trained technicians. Weapons-systems cannot be swiftly produced, if the necessary raw materials or industrial infrastructure is lacking. Certain forms of warfare may be impossible, or at least very difficult, due to the political culture of the country in question. Military organizations which try to deal with _those_ issues are likely to suffer Ludendorff's fate. On the other hand, while themselves understanding how such larger political, socio-economic, and geographical factors are likely to restrict certain strategical aims, the military _can_ and should inform the civilian leadership of the implications of those constrictions, in order to allow a reassessment to be made of the nation's political war aims. If an enemy cannot be defeated with the resources in hand and by the strategies available, the military ought to say so; and the political leadership should then consider seriously the alternatives to outright victory. When Clausewitz argued that the military point of view had to be subordinated to the political, because "policy is the intelligent faculty, war only the instrument," this also encompassed circumstances in which "policy" would be intelligent enough to win a war or to wind one down. If the military organization has done its best up to that point of

political decision, no one need reprove it.

That leads to the final, elemental point. More than anything else, the military organization ought to strive to get its own house in order before criticising outside factors. This is an easy thing to say; at this moment, Washington and other western capitals are surrounded by politicians, scholars, and "think-tanks" preaching the need for the reform of the military. If the above essays are any guide, it is that that endeavour, too, is a complex, multi-layered one, going all the way down from improving bureaucratic, inter-service structures to producing well-trained and motivated soldiers who know how to fight and who have the right weapons to do so. And that means building into the military organization at various levels some sort of self-questioning, problem-solving facility in order to deal with the as-yet-unforeseen difficulties which will arise. Perhaps it is impossible for any service-training to inculcate what one scholar has termed "that rare kind of imagination which enables men to plan not just for the exploitation of the existing state of their art but for its future developments also." Yet if the organization shrinks from encouraging "imagination -- the ability to see facts afresh without professional blinkers,"[20] it is unlikely to maintain its military effectiveness for long -- or even to be very effective in the first place.

Notes

1. I am thinking here not only of N. Dixon's _On the Psychology of Military Incompetence_ (New York, 1976), but also of the images of the senior officers which has come from the war literature of Blunden, Graves, Remarque, of "Oh, What a Lovely War," of Solzhenitsyn's _August 1914_, and so on.

2. D.C. Watt, _Too Serious a Business_ (London, 1975), is the most relevant work here .

3. G. Kennan, _The Decline of Bismarck's European Order_ (Princeton, N.J., 1979), p. 3.

4. It would be absurd, for example, to devote equal space to all seven navies; or to comment as much upon the Japanese Army tactics as upon German.

5. For a development of this argument, see P.M. Kennedy, _The Rise and Fall of British Naval Mastery_ (London/New York, 1976), chapters 7 and 9.

6. T.T. Lupfer, "The Dynamics of Doctrine: The Changes in German Tactical Doctrine during the First World War," _Leavenworth Papers_, no. 4 (July 1981).

7. The unthinking title of R. Hough's patriotic offering, _The Great War at Sea 1914-1918_ (Oxford, 1983), which blithely assumes the continued influence of sea power without ever appreciating that the major problem for the British was that the old navalist doctrines were not working in this war.

8. B.H. Liddell Hart, _History of the First World War_ (London, 1970), pp. 326-27.

9. Taken from P. Griffith, _Forward into Battle. Fighting Tactics from Waterloo to Vietnam_ (Chichester, Sussex, 1981), p. 78.

10. See the relevant figures in P. Kennedy, "The First World War and the International Power System," _International Security_, Vol. IX, no. 1, pp. 7-40.

11. Apart from Lupfer's work (see fn. 6 above), see also W. Murray, _The Chance in the European Balance of Power, 1938-1939_ (Princeton, N.J., 1984), pp. 338ff.

12. M. Beloff, _Imperial Sunset_, Vol. I, _Britain's Liberal Empire, 1897-1921_ (London, 1969), p. 180. Beloff's superb work asks many penetrating questions about 'effectiveness' in the larger sense; there is no equivalent study for the other nations.

13. Ibid., pp. 176ff.

14. Ibid., p. 179.

15. It is summarized in H. Strachan, "The British Way in Warfare Revisited," _Historical Journal_, Vol. 26, no. 2 (1983), pp. 447-61.

16. Beloff, _Imperial Sunset_, p. 179.

17. See, for some examples, C. Barnett, _The Collapse of British Power_ (New York, 1972), pp. 113ff, for Britain; N. Stone _The Eastern Front 1914-1917_ (London, 1975), especially chapter 9, for Russia; W.H. McNeill, _The Pursuit of Power_ (Oxford, 1983), pp. 318ff., for France.

18. A.J. May, _The Passing of the Habsburg Monarchy, 1914-1918_, 2 vols. (Philadelphia, Pa., 1966) is the most detailed account; but see also R.A. Kann, _A History of the Habsburg Empire 1526-1918_ (Berkeley, 1974), chapter IX.

19. See A. Marwick, _The Deluge: British Society and the First World War_ (Harmondsworth, Mddsx., 1967).

20. Beloff, _Imperial Sunset_, p. 179.

Military Effectiveness in World War II

Earl F. Ziemke

World War II was perceived as a moral and ideological conflict. The anti-Axis coalition regarded it as a defense of freedom and democracy. The Axis powers saw it as a racially and culturally dictated struggle for national self-fulfillment. Each side proclaimed a firm dedication to commonly held principles in the abstract and left its members free to construe them according to their own lights. In their announced war aims, the governments on both sides committed themselves to crusades: the United States, Britain, and the Soviet Union against fascism and militarism; Germany and its allies against communism; Japan against colonialism. The sense of a righteous cause and the promise of a "brave new world" to follow figured significantly in the military effectiveness of the Axis armed forces as well as those of their opponents -- and in the ruthlessness with which the war was fought.

The war's continuing to be regarded as having been just and necessary has tended to obscure its more fundamental and pervasive character as a continuation, an updated reenactment, of World War I. The political division was essentially the same: Britain, France, Russia, and the United States against Germany, with Japan and Italy, as they had in the first war, following their pure self interest. Although the war

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was thought of as global, the decisive theater was in Europe, and there the predominant strategic problem for both sides was again a two-front war. World War II was fought with the same weapons and technology as had been employed in the first war. Those were much improved in some but by no means all instances, and the weapons that could have radically altered the nature of the war, the atomic bomb and the long-range, liquid-fueled rocket, did not come along until after the issue had been decided. The political and military leaders derived their experience and their conceptions from World War I, as did a large part of the adult population.

Moreover, even before it ended, World War I had been regarded as militarily and politically an incomplete war. Germany had been defeated, but the Allies had not secured an indusputable victory in the field. The German military had not signed the armistice, and some were claiming before the ceasefire that they could have kept on fighting indefinitely had defeatist civilians not "stabbed the army in the back." The losers were excluded from the peace conference; consequently, the Germans regarded the Treaty of Versailles as a "_Diktat_," a contract signed under duress and, hence, neither, morally nor legally binding. Among the former allies, the Japanese and Italians saw the settlement as having been rigged against them; the French saw it as not sufficiently guaranteeing their future security; the British and Americans were reluctant to participate more than passively in its enforcement, the Americans to the extent of refusing to join the League of Nations; and the communist successor to the tsarist Russian Government saw itself as having been treated as if it were one of the defeated enemy states.

The European war of 1939, consequently, broke upon a continent and a world much more specifically conditioned than they had been in 1914 or were likely again to be after 1945. The mood among the belligerents was

distinctly somber. The excitement and near euphoria of August 1914 were nowhere in evidence. Doctrine in all armies assumed another prolonged stalement and the attendant costs in money, resources, and lives. Verdun, the Marne, and the Somme were not just memories but catastrophes waiting to repeat themselves. Each of the armies expected itself and the others to perform about as they had in World War I, which meant that neither side would have a decisive advantage, the dominant tendency would be toward equilibrium, and the final test would, more than anything else, be one of endurance. In those circumstances, it appeared that the war would follow much the same course to much the same outcome as World War I had. Those assumptions persisted at least until June 1941 and strongly affected the Polish and French campaigns and the initial phase of the German-Soviet conflict.

That the nature and course of the action proved radically different than had been anticipated separated the two wars in one respect (although not as completely has has sometimes been supposed) but cemented the tie between them in others. When the Western Front disappeared in May and June 1940, the illusion of another geographically limited, slow-moving close contest in which a _deus ex machina_ such as the United States had been in 1918 might eventually tip the balance crumbled. For Germany, Italy, and Japan, dreams barely admitted to consciousness in the first war -- complete hegemony in Europe, the Mediterranean basin, and East Asia -- became palpable objectives ready for the taking. For Britain, the Soviet Union, and the United States, the Axis Powers no longer were threats only to their weaker neighbors but to the continental and world orders. As a result, the issues and outcome of World War I acquired new and enhanced significance. The term "the Allies," revived and applied to Britain and France in 1939, attained such natural and widespread currency

that the official name for the anti-Axis coalition, the United Nations, was scarcely used in other than formal state papers. The Soviet Government saw nothing inappropriate in its calling for a British -- and American -- second front in the summer of 1941 and calling on Josef V. Stalin to affirm it, which he did. The Axis, having come into being already in 1936, appeared to constitute a community of interest stronger and of longer standing than that of the Allies. Both coalitions saw their missions as being to correct World War I's most fundamental shortcoming, its failure to mature into a genuine fight to the finish. In the Axis, the remedies taken were to be vision and determination and, above all, goals that would not merely promote national wellbeing but would positively guarantee it for all time. The Allies maintained that World War I had demonstrated the fallacy of allowing aggressors to escape the full military consequences of their behavior, and once it was corrected peace would automatically be permanently restored.

I. *Political Effectiveness*

Another of World War I's legacies was a trend toward totality. Although the conflict had begun and eventually ended as a cabinet war and exercise in power politics generated in the foreign offices and war ministries and carried on with an eye to price as well as profit, the price had begun to get out of hand already in September 1914 when the virtually unbreakable equilibrium developed and, by 1917 and 1918, had come to include nearly the whole of the belligerents' economic and manpower resources. The European war of 1939 can, without excessive license, also be classed as a cabinet war. Certainly none of the parties was ready for total war; and all were, if anything, relatively less ready than they had been in 1914. In it, however, the stage of equilibrium was not reached in six weeks or on the Marne River but at Moscow in December 1941. By then, both sides' commitments had vastly expanded, and the coincidentally simultaneous shift to world war was making total war inevitable. Concurrently, the military-political relationship, which always had been somewhat different in war than in peacetime, was profoundly altered in all of the involved nations -- and despite the ideological and political divisions among them, in remarkably similar ways.

The most striking and uniform changes occurred in the political sphere. Where independent legislatures existed, which was only in England and the United States, their voices in military affairs were muted. In the Soviet Union, where the legislative function had never

been more than ceremonial, Stalin, in 1941, created the State Defense Committee, a select body of Politburo members and specialists under his chairmanship, and gave its decrees automatic force of law. In 1942, General Hideki Tojo founded the Imperial Rule Assistance Political Association, to bring the parties in the Japanese Diet, which he had already packed with subservient members, under a single, fascist roof. The executive branches everywhere became the exclusive centers of political power and in them the power was vested in the chief executives. The latter, as the political war leaders and personifications of the national spirit, became active military leaders as well and personally exercised the constitutional functions as armed forces commanders in chief that had formerly been delegated directly or through ministers of war to the military professionals. Adolf Hitler, who had assumed the German president's powers as armed forces commander in chief in 1934, supplanted the minister of war as de facto commander in chief in 1938, named himself commander in chief of the German Army in December 1941, and for a time in the summer of 1941 took command of an army group on the Eastern Front. Stalin became supreme high commander of the Soviet armed forces, defense commissar (minister), and chairman of the Stavka (staff) of the Supreme High Command in July 1941, gave himself the ranks of marshal in 1943 and generalissimo in 1945. Both Hitler and Stalin had the absolute last word on strategy and routinely intervened in operational matters to the point of issuing orders in person to army group and army commanders. While neither Churchill nor Roosevelt came anywhere near taking the day-to-day control Hitler and Stalin did, Churchill, as his own minister of war, appointed and dismissed senior commanders and showered his chiefs of staff with advice; and Roosevelt kept the U.S. Joint Chiefs of Staff under his immediate control through

its chairman and his personal chief of staff, Admiral William D. Leahy. Benito Mussolini and Charles de Gaulle, although they possessed considerably less substance, adopted their foreign counterparts' style. Ironically, Tōjō, the only one whose political position was derived from a military base, was the least successful in establishing and maintaining his ascendency in military affairs.

The national war leaders provided a political-military bond that gave the armed forces direct access to the full resources of the state and generally assured fast response to their requirements. On the other hand, the armed forces lost autonomy in their own sphere. Being brought closer to the centers of political power, if anything, increased their subordination to it. The military profession rose -- proportionately to its ability to provide victories -- in the esteem of the political leadership, but the esteem in which the political leaders held themselves and which popular opinion accorded them was enormously greater. In total war nations wanted leaders with charisma and looked on military professionalism as a quality of a lower order. To take the most extreme example, it appears most probable that given a free choice, the German people would, from start to finish, have preferred Hitler to any of the generals as the supreme military commander. That World War II did not produce a Napoleon Bonaparte goes without saying. It also did not produce a Marshal Ferdinand Foch or the kind of military-political eminence gris General Erich Ludendorff had been in Germany during 1917 and 1918. General Dwight D. Eisenhower, as the supreme commander in the final assault on Germany from the west, was subordinate to the Combined Chiefs of Staff as commander of the allied forces and to the U.S. War Department and Army Chief of Staff, General George C. Marshall, as commander of American troops in the European Theater of Operations, and

his principal British subordinate, General Bernard L. Montgomery, never quite accepted that status. Most of the political leaders maintained a closer relationship with one officer than with any of the others, Roosevelt with Admiral Leahy, Churchill with General Hastings Ismay, Hitler with General Alfred Jodl, Stalin with Marshal Georgi Zhukov; but none of those had a deciding voice in military matters or any at all in political affairs.

Censorship, propaganda, and suppression of political debate were also determinative features of the military-political relationship. Where bona-fide party systems existed, which was only in the United States and the British Commonwealth, the opposition parties received junior partnerships in the governments in return for not raising publicly issues that could be detrimental to the war effort. The Soviet regime restored limited religious freedom and appealed to Russian nationalism. Censorship denied information to the enemy and kept disturbing or inconvenient news from the public. Propaganda sustained the causes and presented the governments and the armed forces as they wanted to be seen. That military and political leadership functioned in controlled climates of political and public opinion in World War II (which, by way of comparison, they did not do in the United States during the Korean and Vietnam Wars) worked to the advantage of both but more to that of the latter than the former. The military were obligated to put the political interest ahead of their own; the political leaders did not need to reciprocate beyond the limits of expediency. Hitler, for instance, took his share of credit for the German victories and gave the military both his and their shares of the blame for the defeats. In North Africa, Churchill used his senior commanders as whipping boys. Stalin kept the two marshals who could have created a true army high command, Zhukov and

Alexandr Vassilevskiy, although they were the first deputy defense commissar and the chief of the General Staff, in field assignments away from Moscow almost all of the time.

The coalitions added a dimension to the political-military relationship. For the armed forces, they constituted another political instance to be taken into account. Both coalitions were political arrangements instituted without particular regard for the members' abilities to mount and sustain war efforts; consequently, the United States, British, and German armed forces had to compete to various extents with their allies for shares in their own nations' war production, the British having to compete with the Soviet Union and China in the United States as well. In their origins certainly, lend-lease and the arsenal of democracy theory implied that the United States could more effectively employ its productive capacity by sustaining foreign armed forces than by building up its own.

The climate of total war not only altered the military-political relationship, it also virtually guaranteed the military's political effectiveness in terms of the measurements customarily applied. Non-war-related claims to shares in budgets ceased to be significant. In the second half of 1940, the defense share of the United States budget was 36 percent; in 1944, it was 93.5 percent. Overall, in the years 1940-1945, 90.4 percent of the funds in United States budgets went to defense, 77 percent directly to the armed forces. The German armed forces' direct budget share in the years 1939 through March 1945 was 74.5 percent.[1] Since the United States and Germany are usually taken to have been the two among the major belligerents least willing to impose austerity on the civilian sector, it can be assumed that the armed forces' percentages were as high or higher elsewhere. In any event, the

percentages do not show a great deal about the armed forces' abilities to meet their requirements because funding as such became an almost incidental concern. No government was disposed to economize on its war effort. Budgets were the most elastic of the sources from which the armed forces derived their support.

Readily expansible wartime budgets, on the other hand, did not as drastically diminish the significance of funding as an index of political effectiveness in all respects. If, as appears likely, the amounts governments appropriated came close to being the maximums that could be usefully spent, then the sums allotted to individual claimants could in some degree reflect their political standings. The armies' shares in the budgets, for instance, appear in several instances to have been less than commensurate with their roles in the war. In Germany, the Luftwaffe received almost 42 percent of the total spent on armaments. The British Royal Air Force's share was at least 50 percent and probably went higher. The Army Air Force absorbed over 36 percent of the U.S. War Department's expenditures for material. Over all in the war, for every $100 the U.S. Army spent, the Navy spent $85 and the Air Force $60.[2] In the United States budget, lend-lease competed strongly with the armed forces as a whole and the Army in particular. The approximately $50 billion total lend-lease allotment slightly exceeded one year's War Department appropriations at the highest (1944) level, and some $21 billions of it were spent through the Army Service Forces' procurement system.[3]

Access to industrial resources supplanted budgets as the dominant aspect of the military-political relationship. As in the case of funding, except possibly in Germany, non-war-related claims were a small to negligible part of the issue: governments and armed forces were

equally determined to maximize war production. The problem was that economic and industrial resources were less elastic than money supplies. They could be expanded, but there were limits on ultimately attainable capacities and, probably more importantly, on the rates at which expansion could be achieved. Even the United States could not increase production fast enough to keep pace with all of the war's demands as they arose. Consequently, industrial resources and the armed forces access to them had to be regulated.

Controlled economies had proved indispensible during World War I, and Germany, Japan, Italy, and the Soviet Union had maintained or reinstituted them during the interwar period. In World War II, economic policy stood alongside strategy as, in the words of the British official history, one "of the twin summits of the war."[4] Strategy set the course; the national economies provided the means. Without the latter, the best strategy would fail. The whole art was to bring the two into consonance, and it required the ultimate authority over both to emanate from a single source. That the political leadership would be the source was not in doubt except in Japan where the military had assumed the political functions. How coordination should be accomplished beneath the summits was much less certain. Custom and constitutions made the armed forces the executors of strategy but provided no guidance on the management of war economies.

To give the armed forces the same roles in both of the war's main aspects was a logical and symetrical solution, but one that would have had extensive political and military effects. In Germany, where the armed forces _raditionally regarded the conduct of war as their exclusive province and the idea of total war was firmly fixed earlier than elsewhere, the Economic Staff under General Georg Thomas established in

the _Reichswehr_ (defense) Ministry in 1934 and transformed into the
Economic and Armaments Office of the Armed Forces High Command in 1938
readied itself to take over the whole economy in the event of war.[5] The
U.S. National Defense Act of 1920 gave the responsibility for economic
mobilization to the Assistant Secretary of War, but in the early 1930s
the War Department decided that none of the permanent departments, itself
especially, should be the agency for imposing an economic dictatorship on
the country. The last (in 1939) of several War Department plans proposed
a temporary War Resources Administration under a civilian administrator
who would report directly to the President.[6] For the political war
leaders, the two summits posed a dilemma: leaving the middle and lower
reaches of both to the military would extend the already greatly expanded
military presence into an essentially civilian, hence political, area and
could foster military encroachments upwards; civilian economic control,
on the other hand, would split the war effort and would lodge a very
strong concentration of potentially political power in the economic
agencies.

Except in Japan, the political leaders opted for civilian control
over the war economies. For Stalin, the decision was automatic; the
transition from a peacetime to a war economy was built into the system.
Economic mobilization had been going on in the Soviet Union since the
First Five Year Plan in 1928. Hitler -- although Germany also had an
early start -- Churchill, and Roosevelt juggled the military interests,
the civilian-administered controls, and their own authority, improvising
new means periodically to keep all three in the air.

The war economies existed for the military's benefit, but as equal
and autonomous partners, they were also competitors. Their mission was
to perform feats of production matching those of the military on the

battlefield, and the political war leaders regarded themselves as the commanding generals in the war of production. As a result, the needs of the armed forces to a significant extent competed in the war economies with pressure to raise output for its own sake and with the political leaders' independently formed conceptions. The United States turned out more tanks than any of the others but struck a questionable compromise between effectiveness and producibility. Soviet industry built thousands of T-60 light tanks in 1942 even though they had by then been proved hopelessly outclassed. The Soviet Union manufactured several hundred thousand samll-caliber antitank rifles whose fire could not penetrate the armor of any German tank in use, and the United States brought out the Reising gun, an easily producible sub-machine gun that rusted fast and was incapable of aimed automatic fire. Germany, in part because Hitler had an affinity for mechanical things, put quality ahead of quantity but pushed conventional weapons to the detriment of its heavy rocket and flying bomb programs and eventually put the V-1 flying bomb into production ahead of the vastly more effective V-2 rocket because it could be brought off the assembly lines sooner.

The absence of an established military role, other than as user, in war economies left the political leaders free to construe their own roles as they saw fit. In England and the United States, legislative and public opinion imposed limitations that generally, and perhaps not entirely fortuitously, served the military interest. Against rising pressure in Parliament, Churchill ran the British war economy through the Defense Committee (Supply) and the subordinate Ministries of Supply and Aircraft Production until early 1942 when he created the Ministry of Production to coordinate the requirements of the three services, which he had previously insisted was his sole prerogative as Minister of Defense

and chairman of the Defense Committee (Supply).[7] Roosevelt, who had set up a congeries of boards and offices having to do with military production before Pearl Harbor, created the War Productin Board in January 1942 and told its first chairman, Donald M. Nelson, he would have "complete and absolute control over the production of all implements of war and related activities."[8] Nelson and his associates undertook to manage the war economy in strict accordance with business management practices. In May 1943, after controversies between the military departments and the WPB had boiled over into the Congress and the press, Roosevelt established the Office of War Mobilization, appointing James F. Byrnes, an experienced politician, to be its director and giving him a mandate "to coordinate the work of all the war agencies and federal departments."[9] Like his opposite numbers in the democracies, Hitler did not give his war economy coherent control until after the world war began. In February 1942, he appointed Albert Speer to be Reich Minister for Weapons and Munitions and thereafter tacitly supported Speer's efforts to bring all the military and civilian economic agencies, of which there were many great and small, under his supervision. Speer first denied General Thomas, who was his likeliest rival, access to the central planning board in the ministry and subsequently dismantled the Armed Forces Economic and Armaments Office.[10]

Although the military were often on the fringe of the economic decision-making, they were always very close to the effects. In his January 1942 State-of-the-Union message to Congress, President Roosevelt announced production goals of 60,000 aircraft and 45,000 tanks in 1942 and 125,000 aircraft and 75,000 tanks in 1943. Those figures and some similarly large ones for other items threw the War Department procurement program into turmoil for the better part of a year. The President had

given morale in the United States and abroad an enormous boost at the darkest time in the war and for months insisted his goals had to be met, but doing so would have totally unhinged the armament program.[11] Hitler repeatedly declared total war but out of early overconfidence and a lingering concern for his popularity with the German people, was the last of the war leaders actually to resort to it. During the first three years of the war, he kept the armed services on a hand-to-mouth regimen, cutting one's programs and advancing another's to meet the war's short-term demands; and he was slow to cut civilian consumption. The part of the gross national product going to the war effort in England reached sixty percent in 1941, in Germany not until 1943. From 1939 through 1943, forty-five percent of the German and fifty-four percent of the British gross national product went to support the war.[12]

The airplane exerted pervasive influences on the political leaders' management of the war economies and the individual armed services' access to them. It became probably the most politically potent weapon ever to have existed. It was the literal embodiment of national technological and industrial strength. While other weapons had been improved, its development had recently advanced in quantum leaps that dazzled the mind and challenged the imagination. The German and Japanese advances in Europe and the Pacific made the long-range heavy bomber the most promising means for coming directly to grips with those nations on their own territory and, possibly, for defeating them without the necessity of long and bloody operations on the ground. The airplane was also, in terms of industrial resources, by far the most expensive mass-producible weapon. In England, the United States, and Germany, the aircraft industry was the largest single war industry. In England, by late 1941, aircraft production drew so heavily on industrial resources "as

completely to outweigh the burden of other priority demands."[13] When the armed forces' total requirements exceeded productive capacities and programs had to be "balanced," air forces could generally rely on high-level political support for having their programs put at the head and the others balanced around them. In the fall of 1942, after the War Production Board told the Joint Chiefs of Staff that the armed forces' production objectives could not be met within a realistic time frame, procurement for the Army Ground Forces was cut twenty-one percent and the Army Air Force's programs were not touched.[14] The demands of all British production programs had to be reduced in late 1942, but as the official history states, "the reductions which the Ministry of Aircraft Production was expected to undergo were much less than those of other deartments."[15]

In a total war effort, access to manpower was crucial to both armed forces and political leaderships. Although its availability varied from country to country, it was a much more finite quantity everywhere than were money and industrial plant. Populations could be more intensively exploited, but they could not be expanded. Moreover, manpower was an economic resource as well as a military asset; the strengths of the fighting forces and the war economies were equally dependent on it; and armed forces' effectiveness involved utilizing as well as securing it.

In the area of manpower the political leaders' conceptions affected the armed forces' conduct of the war more pervasively than in any other. Stalin held to the principle that success depended on the ability of the rear to supply men and material to the fighting fronts in great enough quantity over a sufficient period of time to outdo the enemy. He was, from first to last, willing to contemplate a war of outright human attrition. Roosevelt and Churchill, who never really had to face the

problem of survival in as bald terms as Stalin did, put the cost in lives of their own people above all other considerations. They counted on substitutes: technology, primarily in the form of the airplane, and industry and on Stalin's readiness and ability to expend manpower. Lend-lease was devised to substitute Americans' industrial "know how" for their presence on the battlefield. For Churchill, to avoid another Dunkirk or battle of the Somme was an absolute necessity. Hitler knew to a certainty that the Germans were hopelessly outnumbered. His whole aim in the war was not to allow the enemy's manpower to come fully into play. The Japanese were probably more ready than any other people to give their lives in the national interest, but owing to the peculiarities of its situation, Japan could not exploit its military manpower potential to the full.

Although they were not the sole influences, the political leaders' conceptions were strongly reflected in the force development of their respective armed forces. The United States and Soviet peak armed forces strengths were about the same, 12.2 and 12.5 million; the German peak was 9.5 million, the Japanese 7.2 million, the United Kingdom 5.1 million. The Soviet military dead, reliably estimated at 13.6 million, indicate a total mobilization in excess of 26 million and clearly demonstrate that the Soviet military did indeed treat manpower as a major expendable resource. The German 3.5 million killed indicates that Germany mobilized about as many troops as the United States did and that the German military managed, on the whole, to reduce the effects of their enemies' numerical superiority. The Japanese 1.5 million, United States 292,000, and United Kingdom 262,000 losses probably do not by themselves reveal much other than smaller and shorter combat commitments than those of the Soviet and German armed forces, but other comparisons relating

particularly to the British and American forces can be made. In the Soviet peak strength the Red Army was 81 percent of the total and the Red Air Force including air defense forces was 13 percent. The German Army was 69 percent (with the Waffen-SS, 74 percent) and the Luftwaffe was 18 percent. The British Army was 56 percent and the Royal Air Force 23.5 percent (and 41 percent of the strength of the Army). The U.S. Army was 48 percent and the Army Air Forces 19.6 percent (40.6 percent of the strength of the Army). Although the only available figures on actual ground combat strengths are those for the U.S. Army, it can be assumed that the ratios of combat to service troops were relatively high in the Red Army and the German Army and higher in the former than in the latter. In the U.S. Army (less the Air Forces) the Army Services Forces had 53 percent of the troops, the Army Ground Forces had 47 percent, and the actual ground combat soldiers constituted about 37 percent cf the total. Out of a total strength (including the Air Forces) approaching 8 million in March 1945, the U.S. Army had slightly over 2 million in ground combat units, only about 100,000 more than it had had in December 1942.[16]

In the war economies (except in the Soviet Union where the German invasion produced a sudden catastrophic drop in plant capacity, particularly for iron and steel), manpower limitations were the first to arise and the most difficult to overcome and, hence, were persistent concerns for the armed forces and the political leaders. The political leaders' conceptions influenced the manpower allotments to the war economies as heavily as it did those to the armed forces, and the armed forces' demands for continuing increases in military manpower and in war production made them, in effect, their own most ruthless competitors. Direct amelioration could only be achieved in a few ways: by diverting

manpower from non-war-related occupations, by substituting women and children for men in the war economies, and by acquiring foreign manpower sources.

The Soviet and German situations were inherently the most difficult. Stalin and his generals discovered that their manpower resources did not automatically guarantee a capability to achieve steamroller effects against their opponents. The Soviet industrial labor force, which had been 31 million in 1940, dropped to 18 million in 1942. That and a simultaneous drop in steel-making capacity from 18 to 8 million tons per year necessitated a drastic reorientation to keep the economy afloat. Since Soviet industry had never been more than marginally oriented toward a civilian consumer market, diversions could only be made from what elsewhere would have been considered war production; consequently, the Soviet war economy concentrated almost exclusively on weapons and ammunition. Women and children accounted for 85 percent or more of the work force of 27 million reached in 1944; and the "Rosie-the-riveter" image prevalent in the West did not apply in the Soviet Union; there women mined coal -- and dug the entrenchments around Moscow in the fall of 1941. The Soviet Union acquired a foreign manpower (and steel) source in the lend-lease program sufficient to provide 410,000 motor vehicles, 2,000 railway locomotives, 10,000 flat cars, and other industrial products by the millions of tons.[17] Hitler and his generals knew that Germany could not compete on terms of sheer manpower. General Thomas's solution was to put the entire economy in military harness and thereby at least prolong the contest. Hitler's solution was to bank on his being able to resolve the contest without confronting the problem head-on. In Germany the reduction of the non-war-related work force was slow, just 15 percent from May 1941 to May 1944. Consumer

goods, which had been 30 percent of the gross industrial output in 1938, were 22 percent in 1944. In 1938, the German labor forces consisted of 24.5 million men and 14.6 million women. The male contingent dropped to 13.5 million by September 1944, but the number of women increased only to 14.9 million. Imported foreign workers and prisoners of war raised the toal work force to 35.9 million, 3.2 million less than had been employed in 1938.[18]

Whereas circumstances imposed the Soviet and German manpower problems, those of Britain and the United States -- and its own ways Japan -- were largely self-generated. In the British war economy, the aircraft building program, in which bombers predominated, absorbed close to 40 percent of the work force after 1941, and all other military production had to be balanced around it. That large item created a permanent manpower drought and necessitated an increase in the proportion of women in the work force to 39 percent and a 43 percent cut in non-war-related employment. Nevertheless, the British war economy probably could not have been sustained as it was structured without its access to foreign manpower through lend-lease.[19] In the United States, the manpower "crisis" came in late 1942 when the armed forces' projections brought the numbers of men they expected to have in uniform by the end of 1943 to 11 million and by the end of 1944 to over 14 million. The War Production Board and the War Manpower Commission protested that withdrawing the men to meet those demands would impair the war economy. The armed forces defended their exclusive right to determine their manpower requirements, but in late 1943, adopted the view that their decisions ought to take other than exclusively military considerations into account and accepted a 2 million reduction in the projected 1944 strength. For the United States, at worst, a manpower

shortage came within the range of possibility. Consumer goods production, except for automobiles and other mechanical and electrical items, was 16 percent higher in 1944 than in the last depression year, 1941. Women did not enter the war economy in significant numbers until the second half of 1942 and were not encouraged to seek war employment until 1943.[20] In its way, the Japanese manpower situation resembled that of the United States. From 1937 through 1943, the Japanese armed forces drafted 3.1 million men at a rate that hardly cause a ripple in the manpower pool. In 1944 and 1945 they took in another 3.4 million, which brought the total drain to just above half that which the roughly equal German population sustained. Consumer goods virtually disappeared in the last two years of the war but mainly owing to the bombing and a poorly organized distribution system. Employment of older and younger males and a modest increase in women covered the loss to the draft and added over a half million to the work force.[21]

On the whole, it appears that effectiveness in exploiting their nations' industrial and manpower resources in the sense of putting those to the most rational and economical uses was not an outstanding characteristic of the armed forces in World War II. The shift from limited access to near-monopoly of national resources did not result in commensurate increases in the armed forces' control over the development of their forces. The political leadership gave them what it believed they needed to conduct the war in accordance with its conceptions.

II. _Strategic Effectiveness_

The one almost universally accepted judgment on World War I was that it had been the consequence of national goals and strategies, not the instrument of them, that governments and the military alike had stumbled into it and through it. The results appeared to show the greatest shortcoming in the capacity to establish and realize appropriate goals: hence what were needed for the future were not just ad hoc war aims but comprehensive, long-term, constantly operating programs.

Mussolini provided the framework for such a program in the doctrine of fascism, which totally subordinated individuals and groups to the state for the purpose of enhancing the nation's will to power and supremacy and expressing its vitality in expansion. He regarded permanent peace as "neither possible nor worthwhile" and "war alone" as capable of "bringing all human energies to their highest pitch and ennobling nations."[22] Hitler added a strategic imperative, Lebensraum was essential for two reasons: because a people could not survive without space in which to grow and because space in and of itself determined a nation's stature in the world. Lebensraum, therefore, made the program open-ended. As Hitler put it, "Wherever our success ends, it will always be only the point of departure for a new struggle." Hitler's first and probably most influential advisor on geopolitics, the former Bavarian general staff officer Karl Haushofer, had based his theories in part on a study of Japan, which he believed had been following the program instinctively since the late nineteenth century.[23]

In the early 1920s, the fascist program was the pipedream of a fledgling dictator in a bankrupt Italy and his disciple in a defeated and disarmed Germany; less than twenty years later, it dominated the Axis strategies in World War II. The transition depended on many things but on none more than on the political and military acceptance of war as the preferred instrument of national policy. In Japan, the Army and Navy took the government in tow during the early 1930s although on somewhat divergent courses until after the end of the decade. In Germany, after January 1933, the armed forces enthusiastically supported the first phase of the program, rearmament, but the Army High Command resisted the thought of actual war when Hitler first officially introduced it in late 1937 and was -- ineffectually -- talking mutiny in August 1939. Mussolini flexed Italy's military muscle in Ethiopia in 1934-1935 and in the Spanish Civil War, 1936-1939, and signed a military alliance, the Pact of Steel, with Germany in May 1939 but excused himself from his treaty obligation when a real European war seemed to be brewing in August 1939. The German Army General Staff believed the offensive it planned against the Low Countries and France in the fall of 1939 on Hitler's orders was going to bog down on the Somme River. While the Germans were invading Poland, the Japanese Army was taking a severe beating on the Khalkin Gol River in Outer Mongolia at the hands of the Russians, whose expulsion from the Far East it had long regarded as the highest priority item in the Japanese program.

During the winter of 1939-1940, the war become almost a joke, the "Phoney War" in American newspapers, the _Sitzkrieg_ in Germany. Then, in the six weeks after 10 May 1940, the Germany Army did what it had not managed in the four years from 1914 to 1918, it defeated France and drove the British off the Continent. Mussolini plunged in at the finish to

claim a share in the victory. In late June, three weeks before Hitler first raised the possibility, the Chief of the German General Staff, General Franz Halder, one of those who had talked mutiny in 1939, ordered his operations branch to consider how the Soviet Union could be dealt a "military blow" that would "compel the Russians to acknowledge German hegemony in Europe."[24] The German victory in Europe also exposed the French, Dutch, and British colonial possessions in Southeast Asia and the western Pacific, opening a vista that quickly persuaded the Japanese Army to give up its preoccupation with the Russians and join the Navy in promoting a southward expansion. In September, Germany, Japan, and Italy signed the Tripartite Pact, which threatened the United States with a two-front war if it took military action against Japan.[25] The program had come into its own.

The anti-Axis coalition had two programs, one Soviet and one American. The Soviet program was attributed to V.I. Lenin, who predicted "a series of frightful clashes between the Soviet Republic and the bourgeois states" on the way to the worldwide triumph of the communist revolution.[26] Stalin had elucidated and expanded Lenin's thesis in 1927. War with the capitalist world, he said, was inevitable, as were also imperialist wars between the capitalist states. The Soviet mission would be to delay its involvement -- by "buying off the capitalists," if necessary -- until imperialist wars had made the capitalist world ripe for destruction.[27] In the Nazi-Soviet Pact and the Treaty of Friend-ship of August and September 1939, Stalin bought off Germany and opened the way for an imperialist war. A year later, after the fall of France, he was alone on the Continent with the most dangerous capitalist state.

The American program dated back to the World War I slogans "the war to make the world safe for democracy" and the "war to end all wars" and

to President Woodrow Wilson's faith in collective security, disarmament, and national self determination. Whereas the fascist and Soviet-communist programs justified war, the American saw it as having only one useful purpose, its own abolition. During the isolationist era of the 1920s and 1930s, the American program was regarded as having been something between a hoax and a tragic self-deception, and disillusionment with it strongly influenced the United States attitude toward European war until the summer of 1940. A year later, it reappeared in its entirety, including the "worldwide abandonment of the use of force," in the Atlantic Charter of August 1941, which the entire membership of the anti-Axis coalition reconfirmed in the United Nations Declaration of 1 January 1941.[28]

While the programs were purported to have renovated war in its political aspect, no similar claim could be made for military strategy. As of September 1939, the lessons and experience of World War I still dominated it. Twenty years' ardent search for ways to restore the war of annihilation had produced some new terminology, "deep operations," the attaque brusque and Blitzkrieg, but the war of attrition and the superiority of the defensive were the accepted strategic realities. The campaign in Poland appeared to show nothing about the potentialities of the Blitzkrieg. On 3 October 1939, General Wilhelm von Leeb, who was then the senior commander on the Western Front, told the Army Commander in Chief, General Walther von Brauchitsch, that an attack on France could not be conducted the way the one on Poland had been; it would be protracted and impose heavy losses and would not "bring the French to their knees."[29]

In general and particularly for the ground forces, mass was assumed to be the strategic determinant, the objective to be to outlast the

enemy, strategic surprise to be out of the question. Border fortifications, the Maginot Line, the German West Wall, the Stalin line, were expected to frustrate any attempt at a sudden attack. Besides, it was thought to be better to stand on the defensive and let the enemy take the punishment. On 3 October, Leeb and Brauchitsch hoped Hitler could be persuaded to do that, if he could not be brought to see the entire futility of the war. General Maurice Gamelin, the Allies' commander in chief, is said to have prayed for the Germans to attack and fall into the trap he proposed to set for them on the Dyle River in Belgium. To Andre Beaufre, then an officer in the French General Staff, Gamelin looked pleased and perfectly confident of the outcome on 10 May even though the German offensive begun that morning had come as somewhat of a surprise. On the German side that same morning, according to General Heinz Guderian, only three people who knew about it really had confidence in the plan, he, General Fritz-Erich von Manstein, who had conceived it, and Hitler.[30]

Naval strategy also derived directly from World War I. The battle fleets, consisting of battleships and cruisers, were the "mass," for the main naval powers, the United States, England, and Japan, floating Maginot Lines. Strengths were measured in battleships, which were considered to be the most powerful and most effective weapons in existence. The Japanese Navy believed it had achieved a decisive advantage over the larger U.S. Navy in 1937 when it began building the nearly 70,000-ton <u>Yamato</u> class battleships that were twice the internationally-agreed weight limit. The shift to heavier (and faster) battleships was taken to be the most revolutionary change in naval warfare since the launching of the <u>Dreadnought</u> in 1905. Germany had laid down two 50,000-tonners, <u>Bismarck</u> and <u>Tirpitz</u>, in 1936; and the Soviet

Union, which had not previously shown interest in having a battle fleet, began work in 1938 on three ships that would have topped 60,000 tons each if they had been completed. Aircraft carriers had become a mark of a first class naval power, but the navies did not quite know what to do with them and kept them in limbo somewhere between the battle fleet and the flotilla, the destroyers, submarines, and torpedo boats. As late as 1934, the noted British sea power theorist, Admiral Sir Herbert Richmond, suggested that the nations who had "indulged" in building carriers could have secured "a more serviceable return in war in the shape of surface flotilla craft."[31] In the United States, the "Two-Ocean Navy" Act of July 1940 provided for increases amounting to 420,000 tons in cruisers -- which were considered to have been particularly neglected in the past -- 385,000 tons in battleships, and 200,000 tons in aircraft carriers.

In the European war, both sides initially considered the navies to be the potentially most effective offensive weapon. The British Government reestablished the World War I-style naval blockade as "economic warfare," for which it predicted, publicly at least, early and decisive results against Germany. German submarines and two pocket battleships to act as commerce raiders put to sea before the war broke out; however, owing to its concentration on building a battle fleet and to Hitler's often expressed determination to avoid a war with England, the Navy only had 22 ocean-going submarines.[32]

Air power appeared to be faster acting than either land or sea power; and air forces could take to the offensive at less human cost to themselves than armies could and strike more directly at the enemy than navies could. Since late in World War I, the Royal Air Force's Bomber Command had, with considerable success in political circles, sustained a strategic bombing theory that gave it a claim to being the main and

possibly sole British offensive force in a continental war. In the early 1930s the U.S. Army Air Corps had acquired a coastal defense strategic bombing mission that in early 1940 came to include offensive action against hostile air bases. Germany (in 1936) and the Soviet Union (in 1939) stopped development of strategic bombing components in their armed forces. On the eve of the war Bomber Command promoted strategic bombing as the mainstay of economic warfare and itself as the potentially decisive force, predicting that it could bring Germany's war industry practically to a standstill within two weeks. Between September 1939 and May 1940, however, its plans encountered nothing but frustrations, not the least of them being that all of its planes designed specifically for strategic bombing had yet to make their first flights.[33]

In the year and a half between the French surrender in June 1940 and Pearl Harbor in December 1941, the members of both future coalitions committed themselves to the political and militry strategies they would follow into and through World War II. Germany and Japan believed the long shadow of World War I had finally lifted and they were on the verge of attaining full strategic freedom. The victory in France had brought the German Navy bases on the Atlantic coast; and the _Luftwaffe_ had gained airfields in France, Belgium, and Holland that put almost the whole of England within a hour's flying time and in effect reduced strategic bombing to operational proportions. The Army was convinced that with adjustments in scale, the _Blitzkrieg_ could be applied as successfully in the Soviet Union as it had been in France. On 31 July 1940, when Hitler announced his decision to attack the Soviet Union and defeat the Red Army by "dismembering" it in large encirclements and "strangling it in packages," none of the generals present objected. The Navy and the _Luftwaffe_ complained that the heavy additional commitment, particularly

of industrial production, would impair their strategic operations against England, but the military did not voice any of the profound doubts it had raised in the previous year.[34] In Japan on 27 July, a Liaison Conference decided to "settle the China Incident quickly and at the same time cope with the Southern Question." An Imperial Conference on 19 September confirmed the decision on the assumption that the Tripartite Pact about to be signed would give a fifty-fifty chance of avoiding a war with the United States.[35]

Although the French defeat was a tremendous shock to England, the Soviet Union, and the United States, it was not a revelation in the same sense that it appeared to be to the Axis Powers. It did not alter the prior assumptions pertaining to the nature of war. *Blitzkrieg* was taken to be primarily the effect of overwhelming mass in materiél and manpower applied to an unprepared and irresolute opponent. On the other hand, the German drive into western Europe (after the invasions of Poland and Norway and Denmark, the latter in April 1940), which seemed to demonstrate that Germany was following a comprehensive and exact timetable of conquest, spontaneously revived the Anglo-American component of the World War I coalition.

Churchill's various statements of righteous purpose and British determination to see the war through to a victory over Nazi Germany made in the dark days of May and June 1940 were the actual first step in the reactivation of the American program. At the end of June 1940, Roosevelt secured authority from the Congress to stop exports of strategic commodities and to release American military equipment to foreign armies (the basis of the subsequent embargoes against Japan and of the "destroyer deal" and lend-lease). The President was more enterprising at that point than his military advisors, who were working an RAINBOW 4, a "worst case"

plan for defending the Western Hemisphere, and had strong reservations about transfering military equipment out of the hemisphere or taking actions that might provoke a war with Japan.

By the end of the year, the Anglo-American partnership had become firm, and British strategic thinking had progressed beyond the problem of now to meet a German invasion. In the view of the Prime Minister and the Chiefs of Staff, the prospect of attacking the German main forces in the field of the continent had receded into the distant future and economic warfare had become the chief means of striking directly at Germany. The Prime Minister and Bomber Command were also coming to the conclusion that area bombing could destroy German civilian morale and possibly decide the war by itself -- this although the German aerial "Blitz" against England seemed to have demonstrated just the opposite, at least as far as British civilians were concerned. The American military, while they were wary of being tied to British strategy, accepted much of the British thinking in staff talks held during February and March 1941. A subsequent revision of RAINBOW 5, which had been concerned with employment of United States forces outside the hemisphere, incorporated the main principle the British had proposed -- that Europe "is the vital theater where the decision must first be sought." It also included the war plan as projected in the conference report (ABC-1) which established the following order of priorities: (1) economic warfare, (2) a sustained air offensive against Germany, (3) elimination of Italy from the Axis, (4) employment of land, air, and naval forces in "raids and minor offensives" against the Axis (5) resistance movements, (6) a buildup for "an eventual offensive against Germany, (7) capture of positions from which to "launch the eventual offensive."[36]

The shock of the German victory was, perhaps, greatest in the Soviet Union. The capitalist states were manifestly not going to wear each other out. Nikita Khrushchev wrote later, "The most pressing and deadly threat in all history faced the Soviet Union."[37] A study done in the Soviet General Staff Academy States, "The problem of preparing the country for war became supremely important.[38] In quantitative terms, the Soviet Union had never neglected preparedness, but the Red Army had done astonishingly badly in the Winter War with Finland that ended in March 1940. At a readiness conference in December 1940, Stalin decided the Red Army would need, at the minimum, another year and a half to overcome its deficiencies, and he redoubled his efforts thereafter to buy off Germany. The military, on the other hand, were confident that the strategic doctrine they had developed in the late 1930s -- and in part modeled on the French -- would work. The doctrine held that armed conflict between forces as large and well equipped as the Soviet and German would begin as "creeping war" in which the initial deployment would be slow on both sides. Surprise would not be possible, and the decision would be reached through a series of defensive and offensive encounters that would give the victory to the party best able to tolerate the ensuing attrition. The war plan contemplated meeting and defeating aggression "at the line of the state frontier," then carrying the war to the enemy's territory, and subsequently dealing him "a great defeat."[39]

Had Hitler and the German General Staff been in a position to recommend a strategy to the Red Army, they could have thought of none that would have suited them better. They were agreed that they had to trap and destroy the Soviet main forces and prevent the sort of strategic retreat Tsar Alexander I had resorted to against Napoleon in 1812, but they did not have the resources in manpower or material to engulf the

entire Soviet front. The General Staff believed a thrust north of the Pripyat Marshes toward Moscow would compel the Red Army to sacrifice itself defending the Soviet political and Russian national heartland. On that score, the Army's thinking and Hitler's diverged: its concern was to achieve a military victory, his was with the program, specifically, the _Lebensraum_ aspect of it. He wanted the victory, but he needed the agricultural land and mineral resources of the Ukraine and the oil fields in the Caucasus. In July 1941, when it appeared to the Army High Command that the final battles were about to take shape on the line of advance toward Moscow, Hitler called a halt and diverted armor to the south toward Kiev and the north toward Leningrad. That the Army was right in believing the war could be won in 1941 on the approaches to Moscow is by no means certain, that it was not going to be won there after a two months' lapse, by the advance Hitler ordered to be resumed in October, was proved in the first week of December.[40] By December, the _Lebensraum_ aspect of Hitler's program had also prevented the Army from exploiting indigenous anti-Soviet sentiment and had helped Stalin place himself at the head of a Russian national war. Hitler's continued insistence after 1941 that he was fighting the war for the benefit only of the Germans, not the Russians, led him to reject the Army's proposals to recruit a Russian anti-Soviet force from among the millions of prisoners of war and deserters in German hands.[41]

The German invasion of the Soviet Union impinged on the Japanese program as well. Although Japan was a Germany ally, the attack was more of a surprise to the Japanese Government than to the British, United States, or Soviet Governments, and it reopened the question of the northern and southern options. In deciding the question, the Japanese military entered on a series of miscalculations that would eventually

ensure their own and the German defeat. At the Liaison Conferences in late June 1941, the Foreign Minister Yosuke Matsuoko argued for striking north first because after the Soviet Union was eliminated the risks of the southern advance would be reduced. The Navy, as it always had, insisted on the south. The chance to settle scores with its old enemy attracted the Army, but in the first week of September, it too decided for the south. In the meantime, the American so-called "oil embargo" of late July had added urgency to the southern venture, and the decision was for war unless the United States accepted essentially all the Japanese demands beforehand. Having gone that far, the Navy went a step further. Knowing it could not outlast the United States in a prolonged war, it decided it had to do maximum damage at the outset and staged the surprise attack at Pearl Harbor on 7 December thereby committing the one act that could have brought the United States into war determined to see it through at any cost. Hitler compounded the Japanese error on 11 December by declaring war on the United States, an act in which he and some of his generals saw vague advantage in terms of encouraging the Japanese but which denied him the single advantage either of the Axis partners could have derived from Pearl Harbor, a possible heavy diversion of American effort to the Pacific.[42]

Remarkably, the events of December 1941 sustained all programs. To the President and people of the United States, Japan and Germany stood exposed as inveterate and wanton aggressors, and the destruction of their existing political systems and military strength became the key to permanent world peace. Stalin, who was about to expand his success at Moscow into a general offensive that he believed could end the war before summer, told British Foreign Minister Anthony Eden that he was now not in so great a hurry to have the second front he had been demanding and

insisted on having the territorial gains he had made through his pacts with the Germans confirmed in a projected Anglo-Soviet military alliance.[43] The Japanese "East Asian Co-prosperity Sphere" was taking shape with astonishing ease and speed; and Hitler could count on another summer's campaigning season in which to finish off the Soviet Union.

The German and Japanese _Blitzkriegs_ reached their height and ended during 1942, and the war of attrition began. The Battle of Midway in June terminated Japan's expansion into the Central Pacific and cost the Navy four of its six fleet aircraft carriers and a proportionate number of its most experienced pilots. From August through November, in the sea battles of Guadalcanal, the Navy inflicted heavier losses than it took but ones it could not afford and in December, it retired from the southern Solomons leaving the United States sea and land forces with a foothold inside the Empire's defensive perimeter.[44] Stalin's dream of an early Soviet victory evaporated in disastrous battles at Kh'arkov and on the Crimea in May and June and the German summer offensive forced him to permit a strategic retreat in the southern sector and to share the strategic decision-making power with his two best generals, Georgi Zhukov and Aleksandr Vasilevskiy. The Soviet retreat gave Hitler almost all the _Lebensraum_ he had insisted he needed but overextended the German forces while preserving enough Soviet strength for Zhukov and Vasilevskiy to begin the countermarch in earnest at Stalingrad in November.[45] American landings in North Africa and the British offensive at El Alamein also turned the tide in the Mediterranean Theater in November.

The Axis powers knew to a certainty after January 1943 that they could not win the war and the best option open to them was to defend the territory they had taken strongly enough to force a draw from which they might still extract some profit. Hitler set about relegating the mobile

warfare specialists among his field marshals and senior generals to the command reserve and replaced them with men who had shown promise in static defense. His own authority did not diminish: the majority of Germans had more faith in him than in any other political or military figure.

Had Hitler -- as he prepared after late 1943 to do -- managed to drive the Western Allies off the invasion beaches in June 1944, he might have prolonged the war indefinitely and could conceivably have altered its complexion. When he failed, he was reduced to keeping the military machine running and waiting (with the Ardennes offensive of December 1944 as an interlude) for a second "miracle of the House of Brandenburg," a split in the East-West alliance comparable to the one that had broken the Russia-French-Austrian alliance against the Prussian King Frederick the Great in 1763 and saved him from a devastating defeat.[46] In Italy, after the King had Mussolini arrested on 25 July 1943, the government and military succeeded elegantly at not quite surrendering unconditionally and almost changing horses in midstream, both directly under the Germans' noses.

Tojo lacked the national stature Hitler had accumulated during ten years in power and could not rely to the extent Hitler could on the political passivity of his military. In early 1943, the _jushin_, the former prime ministers and some personages in the Emperor's circle began looking for a way to remove him. After the Navy took a decisive defeat in June 1944 in the Battle of the Philippine Sea and the loss of Saipan in early July opened a breach in the Empire's inner defense line, the Diet turned against him and his military colleagues stood aside. Tojo resigned on 18 July, but his successor acquired the impossible mission of seeking a way out of the war without conceding defeat. Although the Army

no longer had a strategy to promote, it, through Tojo as its representative in the <u>jushin</u>, refused until the morning of 14 August 1945 to tolerate a surrender.[47]

As of January 1943, the Axis could not secure a victory on the terms its members had set for themselves, but its early defeat was far from being a foregone conclusion. Neither Germany nor Japan had suffered a disabling setback, and both had manpower and material resources they could still bring into play and the fruits of their initial successes to exploit. The anti-Axis coalitions had turned the Axis tide but had yet to raise its own.

At Stalingrad, the Soviet forces vindicated and reconfirmed the strategy with which they had entered the war. They brought the enemy to a halt -- after seventeen months of fighting a thousand miles deep in Soviet territory -- and began driving him back. While Stalin did not again indicate in an official way that he could get along without a second front, his Red Army Day (23 February 1943) order of the day suggested that the Soviet forces were quite capable of defeating Germany by themselves. Zhukov, as First Deputy Defense Commissar and Deputy Supreme Commander in Chief, became the first military professional to be installed in the chain of command above the operational level. The authority he wielded, however, was not inherent in the posts he held but dispensed by Stalin, who after the summer of 1943, kept him out of Moscow in field commands for the rest of the war and dropped him from the <u>Stavka</u> of the Supreme High Command altogether in February 1945.

Although they appeared enigmatic and sometimes capricious to the Western Allies, the Soviet goals and strategy were consistent and simple. The goals, in keeping with the program, were to expand the area of Soviet direct control as much as could be done without coming into a

confrontation with the Western Allies and, beyond that, to secure the greatest possible influence in the postwar restructuring of Europe and East Asia. As an offensive strategist, Stalin was cautious and thorough going, a believer in the broad, frontal advance who judged success by the amount of territory taken and regarded the occupation of territory as necessary to the relegitimization of the Soviet system within its own boundaries and to its extension abroad. After late-summer 1943 when he was sure he had the permanent strategic initiative against Germany, his main concern was to maximize the Soviet share in the victory.[48]

At the Casablanca Conference in January 1943, the Western Allies embarked on a second round of debate over the strategic premises set down in the then two-year-old ABC-1. In the weeks just after Pearl Harbor, at the ARCADIA Conference in Washington, the spokesman of the United States chiefs of staff, General George C. Marshall, had failed to persuade his British counterparts, or Churchill, or Roosevelt to abandon the open-ended, peripheral aspects of the strategy developed in ABC-1. The subsequent decision to expand the campaign in North Africa had scotched the American planners' hopes for a full-fledged second front on the Continent in the spring of 1943. When Marshall failed again at Casablanca and the political chiefs approved further operations in the Mediterranean, the prospect of coming to grips with the German main forces appeared to be receding into the distant future.

Casablanca, however, was the turning point in the Western Allies' strategy. The American's armed strength would soon outweigh the British in all respects; consequently, so would their voice in the partnership when they chose to make it heard. Roosevelt's announcement of the unconditional surrender formula was equally important for the further conduct of the war and perhaps more important in the longer range. It

gave the American armed forces the most unequivocal strategic objective possible in war and dissociated them and the United States Government from all military-strategic considerations not essential to the Axis' defeat. The total destruction of German and Japanese military power and of the political systems from which it derived, if not the whole answer to the problem of world peace and stability, would be all the American forces would be required or permitted to seek through military action. Consequently, the decision to mount Operation OVERLORD taken at the Tehran Conference in December 1943 terminated United States strategy making for Europe, and a year and a half later, when the war against Germany ended, the United States was not notably better prepared militarily or psychologically than it had been on eve of World War II to deal with the situation it then faced.

The war in the Pacific was predominantly an American concern and for that reason much more tractable strategically than the European war. Aside from imposing a strong, at times onerous, commitment to the Europe-first principle, the alliance functioned loosely there. The British primary interest was in the area of the Indian Ocean, the Red Sea, and the Persian Gulf, the American in the western Pacific. Had the Japanese skill and determination in individual engagements from Guadalcanal to Okinawa not been overrated as evidences of national endurance; had Nationalist China and the Soviet Union not been overvalued as potential allies; had the Army and Navy not insisted on maintaining separate shares in the enterprise; and had a less conspicuous figure than General Douglas MacArthur held the command in the subsidiary theater, the conduct of the war in the Pacific could have been a model in economy of effort. As it was, the American strategy in the Pacific accomplished the Japanese defeat more expeditiously than the combined strategy in Europe

did that of Germany.[49]

Advances in science and technology, the trend toward total war, and doubts about the battlefield as the arena in which conflicts could or ought to be resolved stimulated competition in World War II to obtain decisive results by means other than conventional strategies. The object, in short, was to develop superweapons capable of achieving independent strategic effects.

The United States industrial base was one such superweapon and, in the context of the war then being fought, the most effective of them all. It drove the Japanese Navy to the defensive in the Pacific and frustrated the German submarine offensive in the Atlantic, and it enabled the United States to maintain its own forces and support those of its allies around the world. It was an authentically powerful weapon, and ally and enemy alike perceived it as such, but it did not wholly vindicate the President's and its other advocates confidence in it as the ultimate weapon. The assumption that quantity must prevail left the American troops to fight with automatic weapons and artillery of late-World War I vintage and tanks embarrassingly inferior to the German and Soviet types. The preponderance of lend-lease production, the approximately three-fifths that went to the United Kingdom account, did not, as it should have done in theory, bring larger British forces into the field. It apparently, instead, enabled the British Government to devote more of its domestic industrial capacity to its own superweapon, the heavy bomber.[50]

The search for superweapons in the literal sense of the word dated back to the technological revolution of the late nineteenth century. During World War I, experience with chemical and submarine warfare and aerial bombing had shown that to qualify, a weapon had to be able to

inflict intolerable damage against which the victim could neither defend himself nor retaliate in kind. The submarine came close to meeting the requirement to do intolerable damage in both world wars but was itself vulnerable. The bomber, which could not be adequately tested in the strategic mode during the first war, received a full test in the second, in which it inflicted massive but not decisive damage. It turned out to be a less fast-acting offensive means than its advocates had expected, and the strategic premises governing its employment proved to have been overly optimistic on the scores of its capabilities and the enemy's vulnerability. The two weapons that could potentially have met all three requirements for superweapon status, the V-2 rocket and the atomic bomb came into the war after the issue had been decided, the V-2 as a result of having been persistently overlooked at the political level. Although the method of inducing nuclear fission was a German discovery, its military application was also neglected there, among other reasons one suspects, because unclear physics had been something of a Jewish scientific preserve.

It may be that the United States industrial base and the strategic bombing campaigns, nevertheless, performed a vital intangible function, regardless of the degree to which they fulfilled concrete strategic expectations, by giving credible visible evidence of power equal to the war's demands. In that sense, the Blitzkrieg and Hitler's war leadership would qualify as Axis' superweapons. Their dazzling successes in the early years gave the German forces an aura of invincibility; brought Italy, Japan, Finland, Rumania, Hungary, and Bulgaria into the war as German allies; and undoubtedly had much -- perhaps almost everything -- to do with keeping the German armed forces fighting until 1945.

III. _Operational Effectiveness_

That the war then begun was going to give a scope to operational art undreamed of in World War I was not apparent in September 1939. After twenty years of speculation on the potentials of mechanization and motorization, air power and armor, the defensive, which seemed to be the principal beneficiary of technological progress past and future, dominated operational thinking. On the very eve of the war, B.H. Liddell Hart, who was widely regarded as the world's outstanding authority on military affairs, wrote, "The dream of victory in modern war has nothing beyond mere speculation to sustain it. And it is faced by the hard fact of the long-proved superiority of the modern tactical defensive."[51] Professional military opinion refused to accept the idea of unwinnable war, and doctrine everywhere upheld the primacy of the offensive. The Soviet field services regulations of 1939, for instance stated, "If an enemy unleashes a war on us, the Workers and Peasants Red Army will be the most offensive minded of all the armies that have ever existed."[52] Nevertheless, for all commands and staffs the superiority of the defensive was indeed the hard fact, and all believed it would determine whether (or not) victory could be attained and how the war would be fought.

The operatioanl problems and prospects were taken to be the same for all parties. Mass armies and masses of material would create deep defenses; hence, offensive operations would also have to be deep, going to depths three or four times the greatest achieved in the late period of

World War I, which was about 35 miles. Movement would be sporadic, a matter of breaking through successive lines. Everybody would try to carry the war to the enemy's territory in order to impose the greater destruction on him; but where they existed, the border fortifications, the Maginot Line and the German West Wall, for instance, were expected to provide security against that. The fortified lines and the general superiority of the defense appeared also to have negated the old maxim "the thrust is the best parry" and to have conferred a positive advantage on letting the other fellow attempt the first blow.

Although the greatest single advance since 1918 was recognized as having been in the area of mobility, it, in the sense of being able to cover long distance at high speed, was taken to have more important applications off the battlefield than on it. Forces could be deployed and shifted rapidly, but once engaged, because of the infantry's preponderance, were expected to move at the infantry speed of four to six miles a day to which armor might add another three or four miles under optimum conditions. Sustained forward movement was hardly expected, and a reversion to outright positional warfare seemed to be about as likely as the war of maneuver all the armies wanted to fight. Maneuver would consist in the main of using lateral mobility to keep operations fluid. Since neither side could go very far or very fast as long as both were in good shape, the prudent commander would husband his forces' strength and waste the enemy's -- exactly as Gamelin, whose plan was an impeccable example of the then current operational doctrine, proposed to do in May 1940. On the German side, von Leeb had put it all in a sentence in his work on defense published three years earlier, when he wrote, "It accrues to operative and tactical defensives to exhaust the enemy, so as either to be able to resort to the offensive, or to prevent him from attacking

where he strives for a decision.[53]

Combined arms, accepted everywhere in principle, was in a state of doctrinal flux. The new weapons, airplanes and tanks, had proved difficult to integrate into predominantly infantry-oriented operational conceptions. Already during World War I, both had engendered pressures for their establishment in separate branches within the armed forces, which had brought the Royal Air Force in 1917, the French _Armee de l'Air_ in 1933, and the _Luftwaffe_ in 1935 into being on equal footings with the armies and navies. Armies saw infantry as the main and aircraft and tanks as support weapons on a par with or as substitutes for the principal traditional support weapons, artillery and cavalry. Air forces regarded themselves as much more than auxiliaries to the ground forces, and armor's proponents argued that it was the rightful main and infantry the support weapon.

Strategic bombing gave air forces a wholly independent operational sphere of their own but one in which the superiority of the defensive figured more importantly than in any other, for which none of them was anywhere near ready, and which would add a new dimension to a war that already threatened to leave nothing to spare from the ground operations. Bomber Command and the GHQ Air Force kept the strategic bombing option open in Britain and the United States. The _Armee de l'Air_ was subordinated to the ground forces commander at the outbreak of the war. The _Luftwaffe_, having restricted development to light bombers after 1936 (because they could be built faster and more cheaply), entered into operations as an equal partner with the Army by attaching -- but not subordinating -- "air fleets" to the army groups. The Soviet Union, which had the only heavy bomber fleet in existence and the only modern heavy bomber actually in existence, apparently following the French

example, attached and subordinated all of the Red Air Force's combat elements including the heavy bombers to the Army field commands at the army group and, occasionally, lower levels.

Combined arms as joint action by the armed forces was understood to be primarily a strategic conception. Land power and sea power, particularly, would jointly serve national policy, but each would operate according to its own principles in its own sphere. Navies had fewer doubts about their operational effectiveness -- provided they had the ships -- than either of the other services. Although the World War I "fleet-in-being" theory had raised a charge that battleships were to admirals as cathedrals were to bishops, namely, status symbols, the battleship dominated naval operational thinking everywhere. Everywhere, fleets were built or, as in Germany and the Soviet Union, being built around battleships. The German Navy's desire for open-water ports for the fleet it proposed some day to have was instrumental in producing the war's first joint operation, the invasion of Norway in April 1940, which, ironically, also began the surface fleet's decline. Whether carrier aircraft could have any more than a nuisance effect on battleships remained entirely in doubt until November 1940 when planes from the British carrier Illustrious sank three Italian battleships at their moorings in the Taranto harbor.[54]

After June 1940, the British, Soviet, and American armed forces assimilated the lessons of the French defeat without fundamentally altering their previously held operational conceptions. Blitzkrieg appeared to them to be no more than an effect of mass coupled with mechanization and motorization. Although the Allies had possessed manpower and matériel superiorities in France and Belgium and in Norway also, the defeats were taken to have demonstrated that they had sorely

misjudged the German quantitative lead. Since the disappearance of the Western Front had vastly strengthened the German position on the Continent, assured suprerior weight was thought to be the absolute prerequisite for future operations against them.

The British saw the interim requirements as being to rebuild and expand their forces, wear down those of the Germans, and under no circumstances risk another Dunkirk. ABC-1 converted the second into specific tasks, strategic bombing, the naval blockade, and operations on the European periphery, and, in keeping with the last, left a direct confrontation with the German main forces in abeyance. The British and American air forces believed strategic bombing was the fastest, most effective, and probably decisive means for bringing offensive mass to bear directly on Germany. The German failure in the Battle of Britain (August-November 1940), in their view, confirmed their respective theories of strategic bombing, which agreed in emphasizing weight in aircraft, armament, explosives, and effort.

The Soviet armed forces were ready by June 1941 to meet a German invasion on at least equal quantitative terms. The western frontier military districts, which would become fronts (army groups) at the outbreak of hostilities, had 2.9 million men, as many as 5,500 medium and heavy tanks, and at least 1,540 latest model airplanes. The German BARBAROSSA force consisted of 3.05 million troops, 3,350 tanks, and 2,770 aircraft. The Soviet figures do not include troops, tanks, or aircraft in or adjacent to the military districts but under Defense Commissariat control. A full third of the Soviet tanks were T-34s and KV-1s, more powerful types than any the German Army would have in the first eighteen months of the war. In accordance with the "creeping war" theory, the Soviet operational plans assumed a hiatus of up to three weeks between

the declaration of war and the first actual battles. During that interval, the forces in the military districts, as the first strategic echelon, would cover the border and prepare to repulse the enemy. Meanwhile, a second strategic echelon would form farther back and be ready to join in delivering "an answering blow" and carrying the war to the enemy's territory. The military commands believed they could neither be taken by surprise nor overwhelmed and movement would be slow in the prolonged war of attrition that would ensue. Stalin, who remembered that the Red Army had needed three and a half months to defeat little Finland and that a war game based on the operational plan run in January 1941 had resulted in a red (Soviet) defeat, would by far rather not have had the matter put to a test.[55]

The German High Command was convinced that Blitzkrieg had revolutionized operational art, allowing operations to be conducted on larger scales at higher speeds with smaller commitments in human and material resources than had formerly been imagines to be possible -- that, in effect, technique could be substituted for mass. A comparison of the forces and weapons allotted to BARBAROSSA with those employed in the 1940 campaign in the West graphically illustrates the change in German thinking -- and, of course, some other things as well, namely, a low opinion of the Soviet military capability and the limitations of German resources. The numbers of divisions deployed had been 141 in the West and were 210 for BARBAROSSA, an increase of about fifty percent in numbers but only a bare third in combat-effective strength because 24 of the BARBAROSSA divisions were security divisions composed of over-age and limited-service men who could not be used at the front. The number of panzer groups (armies) was expanded from one, in the West, to four and of panzer divisions from ten to seventeen, but the total tank allotment rose

only by 971. Consequently, the quadrupling of the _panzer_ groups was accomplished with a 70 percent increase in _panzer_ divisions, a 35 percent increase in tanks, and about a 20 percent decrease in the number of tanks per division.[56] The BARBAROSSA force had less artillery (7,146 pieces) than had been available in the West (7,378 pieces), and the Air Force assigned 357 fewer combat aircraft.[57] The German High Command apparently believed that the _Blitzkrieg_'s inherent potential would almost of itself be sufficient to sustain the shift from a regional to a continental scale.

Not recognized as such outside Germany, the _Blitzkrieg_ was, nevertheless, an authentic new operational form and would, even though it failed in the Soviet Union, prove to be the most sophisticated and effort-effective of those employed in the war. Although the official Soviet view holds the _Blitzkrieg_ to have been doctrinally unsound, a recent Soviet study states:

> The fascist forces' big strategic-operational successes
> in the early operations resulted from improvements in
> and new forms of offensive action. Generally speaking,
> these methods of action were not entirely new, since
> they had been dealt with in the military literature ... .
> But the application of them in practice on a broad
> scale and in close combination with each other took
> the countries on the defensive by surprise.[58]

True _Blitzkrieg_ did not actually come into being until BARBAROSSA. The Polish and French campaigns were transitional. The technique in both being that of the hammer and anvil, of a maneuver element, the hammer,

acting in conjunction with a solid, slower moving and holding mass, the anvil, to accomplish a single envelopment. In BARBAROSSA, there was no anvil: movement entirely supplanted mass. Concentration, coordination, economy of force, and maneuver combined to achieve mobility. The double envelopment, the _Zangenangriff_ (pincers movement), the employment of two maneuver elements to encircle the enemy, replaced the hammer and the anvil. The hallmark of the _Blitzkrieg_ henceforth was the _Kesselschlacht_ (battle of encirclement).

The encirclement in the form of the double envelopement had been recognized since the Battle of Cannae in 216 B.C. as the purest form of annihilation -- and the most difficult to achieve. Before World War I, the chief of the German General Staff, Count Alfred von Schlieffen, had studied the many attempts made in the eighteenth and nineteenth centuries and found only one to have succeeded, the Battle of Sedan (1870) in the Franco-Prussian War. Schlieffen had concluded that the encirclement would always be a rarity because it required the highest order of skill to execute but was so easy to evade or frustrate that the victim literally had to cooperate to make it succeed. It needed, he said, a Hannibal on the one side and a Terentius Varro on the other.[59] Schlieffen's own single envelopment attempted in 1914 had further demonstrated the spatial scale and degree of mobility required to make either type of envelopment operationally effective in modern war lay perilously close to the absolute limit of logistical capability. The German General Staff knew this to be nowhere more true than in a war against the Soviet Union.

In 1941, Stalin played Terentius Varro, tying the Red Army down in stationary fronts and therewith allowing the Germans to perform seven great encirclements: Bailystok, Minsk, Smolensk, Uman, Kiev, Vyazma, and

Bryansk. Those, however, were not enough to decide the war. By how much they fell short may never be known. In the last, the battle for Moscow, the one Stalin and the Russian people would certainly have considered the most likely to be decisive, the _Blitzkrieg_, delayed first by Hitler's August excursions on the flanks and then by the October mud, broke down in the -40° cold of December.

The _Blitzkrieg_ died in the summer of 1942. Stalin, in desperation, allowed his army groups in the Ukraine to retreat, and the German envelopments came up empty. Hitler, as he had the year before, changed his operational plan in mid-course. Canceling his original directive, which had provided for a phased offensive, he ordered simultaneous thrusts to the Volga River at Stalingrad and into the Caucasus. By August, his two forces were advancing out of the great bend of the Don River on diverging lines and outrunning their supplies. On the morning of 4 September, German Sixth and Fourth _Panzer_ Armies closed a ring around Stalingrad on the west and began a two-and-a-half months' battle the like of which had not been seen since Verdun in 1916.

The Red Army seized the initiative on 19 November 1942 at Stalingrad and held it, with the exception of an interval from February to July 1943, from then to the end of the war. The Soviet literature ranks the encirclement of German Sixth Army at Stalingrad as "the Cannae of the twentieth century" and as "the first example in the history of war of such a powerful enemy grouping, equipped with the latest technology, being encircled and totally liquidated." It also maintains that the double envelopment was the Red Army's "main form of maneuver" in the operations conducted from November 1942 to May 1945.[60]

As a prestige victory and in its psychological effects, Stalingrad can, no doubt, be compared with Cannae. It was, like the sea battles

around Guadalcanal and the landings in North Africa, a visible demonstration that the balance of forces had shifted against the Axis. Its ranking as a "first" in history is questionable, even if one accepts the dubious Soviet claim that most of the troops caught in the earlier German encirclements escaped. With Hitler's collaboration, the encirclement at Stalingrad was, in fact, elegantly executed; but the battle took so long to complete that it almost vindicated Hitler in his role as Terentius Varro. By 31 January 1943, when Field Marshal Friederich Paulus surrendered in Stalingrad, the German main forces in the Ukraine and the caucasus were in position to evade the worst of the follow-up blows the Soviet Command dealt them.

The double envelopment was not a reliable instrument in the hands of the Soviet forces. The plans for the winter of 1942-1943 proposed to use it in a <u>Blitzkrieg</u>-style offensive that was to have pushed the front in the south and center west to the Dnepr River and in the north, south and west to the Narva River-Lake Peipus line by March 1943. Of ten envelopments projected, three were completed, that at Stalingrad and two substantially smaller ones carried out against German Second Army and Hungarian Second Army in late January 1943. Four failed completely, and three made substantial territorial gains but also brought on reverses that restored the initiative to the Germans. To clear the entire area up to the Dvina River and Narva River-Lake Peipus lines took the better part of another year. During its summer and fall offensives in 1943, the Red Army did not attempt any envelopments. The <u>Soviet Military Encyclopedia</u> lists nine envelopments completed in 1944 and 1945, but all of those resulted from opportunities that occurred during operations in which they had not been planned, and one, the encirclement of German Army Group Center east of Prague, was executed after V-E Day.[61]

While the Soviet accounts frequently allude to the double envelopments as the Red Army's main form of maneuver and always claim a complete mastery of the technique, the envelopment actually appears only as an incidental feature of the operations they describe. From the summer of 1943 on, Soviet offensive operations were conducted on broad fronts, and the single or "salient" thrust was the main form of maneuver, a reversion, with more powerful and mobile forces, to the kind of deep operation developed late in World War I and incorporated into the standard pre-World War II operational theory. The object was to break into the enemy's front deeply enough to compel him to take all or a large stretch of it back. Envelopments that might occur as results of multiple thrusts interacting with each other would be incidental to the grand design, which was to repeat the sequence of breakthrough and advance until the enemy was exhausted or until, as in fact hapened, he simply ran out of space.[62]

The Western Allies' development of operational doctrine was more diffuse and discontinuous than either the German or the Soviet. Operational techniques on the ground were the predominant means by which the German and Soviet armed forces brought their strengths to bear against the enemy. The <u>Blitzkrieg</u> gave the German forces whatever chance it may have had for a victory, and the skills and experience it produced enabled them to stave off the defeat as long as they did. The Soviet forces conducted their defensive and offensive operations in ways calculated to exploit their quantitative advantages in manpower and matériel -- and to compensate for their shortcomings in other respects. Moreover, after 22 June 1941, the German and Soviet main forces were continuously engaged in conducting operations on a large scale.

On the other hand, the form in which operations were conducted was not *the* compelling consideration in the Western Allies' conduct of the war. For them, when and whether they came to grips directly with the enemy main forces was a matter of choice, not absolute necessity. They could look to alternatives. ABC-1, for instance, was nothing but alternatives. As late as the winter of 1943-1944, while OVERLORD assumed an opposed advance into Germany, the RANKIN plans contemplated other possibilities ranging from a partial to a total German collapse before the invasion, TALISMAN/ECLIPSE provided for a German collapse after the landings, and strategic bombing sustained a vision of victory by other means. The term "operation" also had a somewhat different meaning for the Western Allies than it did for either the Germans or the Russians. An operation was taken to be essentially an expedition, a salf-contained undertaking the most crucial parts of which were the build-up, the landing, and the secure lodgment, in effect a means of dividing the war into manageable pieces each of which cold be dealt with, after the initial requirements were satisfied, as its particular circumstances required. Furthermore, the Western Allies' operations were combined ventures in which national objectives, interests, sensitivities, ambitions, and weaknesses weighed so heavily that compromises were likely to prevail over technically more effective courses each of the partners advocated separately.[63]

In the Pacific war two conditions enhanced the United States armed forces' effectiveness: the absence of combined operational commands and the Japanese forces loss of mobility. After mid-1942, the Japanese ground forces were locked into a war of position in island fortresses, and the Navy's surface fleet, which was to have supported them, could not do that in the face of superior carrier and land-based air power. The

idea of unified command in operations requiring both land and sea forces was, moreover, entirely foreign to the Japanese Army and Navy. Neither the U.S. Army nor the Navy doubted the necessity of unified command, and even though they haggled ceaselessly over which of them was to exercise it, they managed, in the heat of that intramural contest, to keep the war itself in sight. In the Pacific as in Europe, compromises had to be made, but those mainly concerned questions of precedence and were arrived at within stable frameworks of national objectives and operational principles.[64]

During World War II, air power conclusively demonstrated its entitlement to operational coequality with land power and surface sea power. The _Blitzkrieg_ proved that in properly coordinated joint operations, autonomous air power substantially enhanced the effectiveness of both the air and ground forces. The British established air commands in North Africa in 1941. In May 1942, the Soviet Air Force began organizing the air elements attached to army groups into air armies modeled on the German air fleets. The combined commands in North Africa and the Mediterranean applied the British system also to American air elements, and the U.S. Army's FM 100-20, _Command and Employment of Air Forces_, published in July 1943, recognized air power and land power as "coequal and interdependent." Although, naval doctrine continued to regard the surface fleets as the main battle components in the war at sea, the Battles of Midway and the Philippine Sea showed that battleships could not seek a decision without air support.

On the other hand, a gap between strategic bombing theory and effective strategic bombing operations proved difficult to bridge. Theory required bombing to decide the war either by destroying the enemy population's will to resist or its ability to produce war material. The

Luftwaffe failed at both in succession in the *Blitz* against England in 1940-1941, raising questions on the score of the objectives' feasibility. The Royal Air Force Bomber Command and the U.S. Army Air Forces, assuming that a larger effort was required (see also second paragraph below), combined the two objectives in the "round-the-clock" operations begun in 1943 and conducted to the end of the war. German civilian morale withstood the assault on it at least well enough not to hasten the end. The German military's main concern after 1943 was the influence worry about their families was having on the troops in the field. The most effective period in the strategic bombing offensive came in the last year of the war, after the war's outcome had been decided on the ground. Even so, although German industry performed erratically after the spring of 1944, fighter aircraft production reached its wartime peak in September 1944 and armored vehicle output its in December. Economic collapse did not begin until late 1944 and did not become general before the spring of 1945. During that interval, it was no longer possible to distinguish between the operational effects of the strategic and tactical air forces, since nearly all German targets were also within the range of the latter. In the Far East, strategic bombing was relatively more effective. It may have enhanced Japanese susceptibility to the atomic bombs and therewith have undermined the Japanese will to stay in the war, but the blockade on the seaward approaches to the home islands undoubtedly did as much or more to cripple the Japanese war economy.[65]

The outstanding, most expensive, and last to be mastered lesson of the war in the air was that air superiority was the operational *sine qua non*. The concept, as old as air power itself, conflicted with air forces' offensive orientation, which required air power to be brought

directly to bear in some form on the ground. In its own element, the airplane was taken to be a defensive weapon incapable of achieving more than local and transient advantage over the enemy. Theory regarded the fighter as a necessary and useful weapon but always secondary to the bomber; air against air operations as a diversion preferably to be imposed on the enemy; and air superiority to be attainable as a byproduct of the bomber's direct action.[66]

The war experience, which in this instance the air forces were slow -- and reluctant -- to assimilate, showed that direct action was more properly to be regarded as a byproduct of air superiority and that air superiority by itself could be more effective than direct action. In 1940, the British and American Air Forces overlooked the root cause of the German's failure in the Blitz, the inability to get air superiority, and attributed it, in the first instance, to the Luftwaffe's bombers being too lightly armed and, in the second, to their inability to lift sufficient weight of explosives. The Germans, on their part, expended much effort throughout the war on retaliation as the answer to the strategic bombing against which they could have secured greater and possibly decisive success if they had brought thier fighter production to the level it reached in September 1944 a year earlier. As it was, the U.S. Army Air Forces' daylight offensive had to wait on the P-51 Mustang, and the whole strategic offensive did not become reasonably cost effective until the Allied air forces had near-total air supremacy. In the Pacific, air superiority counted more heavily in the Japanese Navy's defeat than direct action did, and the strategic bombing offensive benefited more from the Japanese Air Force's relative ineffectiveness by day and complete inactivity at night than from the B-29s improved armament.[67]

IV. *Tactical Effectiveness*

The aphorism that generals are always ready to fight the last war, although it gained considerable currency later, was only tangetially applicable at the outset of World War II. The military commands believed that tactically, as well as operationally, the war would repeat the World War I pattern on a scale that would make them, if anything, less rather than more able to manage it effectively. Deepened defenses would necessitate deeper offensives, but whether deep penetration could be achieved against ferro-concrete fortifications or even against entrenched infantry was totally in question. The Spanish Civil War (1936-1939), in which the Loyalists' untrained militia had fought the Spanish Foreign Legion and a good part of the Italian Army to a near standstill for almost three years, appeared to indicate that the answer was likely to be in the negative. Maneuver was the great desideratum; positional warfare appeared to be the greater liklihood. All tactical doctrine emphasized the offensive as the only way of securing a decision on the battlefield or in the war, but as a practical matter, the initial advantage seemed to lie heavily on the side of the tactical defensive and the most favorable progression to be from the defensive to the offensive -- after a certain and possibly sustained interval.[68]

Rearmament in the 1930s had centered on the rebuilding of mass, conscript ground forces, and armies ranked the infantry as the indisputable queen of battles. Air and armored forces continued as they had since late in World War I to seek coequality and tactical autonomy,

but only the German _Luftwaffe_ had fully succeeded -- mainly because its commander in chief, Hermann Goering, was also Hitler's designated political heir and he and his service, therefore, could not be subordinate to any other service command. All armies and/or air forces had experimented off and on with parachute troops, but only Germany and the Soviet Union had activated airborne forces. The U.S. Marine Corps, looking ahead to a potential war in the Pacific -- and at landing techniques the Japanese had used in the China Incident -- had developed an amphibious doctrine but lacked the landing craft to make it workable.[69]

Combined arms doctrine, as it had in World War I, designated the infantry as the main arm and the others as its auxiliaries. U.S. Army doctrine, in 1939, stated that "As a rule, tanks are employed to assist the advance of infantry foot troops, either preceding or accompanying the infantry assault echelon."[70] As late as April 1942, U.S. Army tactical air doctrine stated that "the most important target at a particular time will usually be that target which constitutes the most serious threat to the operations of the supported ground forces" and assigned the "final decision as to priority of targets" to the "commander of the supported unit."[71] Late in 1938, the German Army High Command had merged its armor, motorized infantry, and cavalry into an inspectorate of "mobile troops." Guderian, who was appointed inspector general, believed the High Command's purposes were to deny armor separate status; keep it available for parceling out to the infantry; and because he was armor's strongest advocate, exclude him from direct influence in war planning.[72] The Soviet 1936 Field Service Regulations, while alluding to some forms of independent "strategic" air and armored operations, had stated, "The infantry...decides the outcome of the battle. Therefore, othe types of

forces operating jointly with the infantry are carrying out their missions in the interests of the infantry." The 1939 revision of the Field Service Regulations gave the air mission as being solely to reinforce the ground forces "in the direction of the main effort."[73]

Armor's tactical status was vague. The German Army, which had activated three _panzer_ divisions in 1935, had completed only two more by the end of 1938 and had another half-built when the war broke out. The Soviet Army dismantled its large armored units, four mechanized corps, in August 1939 and reassigned their components to the infantry. The U.S. Army and the British Army were engaged, as they had been for several years with very limited means, in programs to create separate infantry-tank and mechanized cavalry forces.[74] The tank was accepted as indispensible as a confidence builder and source of fire support for the infantry and a more mobile and durable mount for the cavalry, but the antitank gun beclouded its future as an independent offensive weapon. Marshal Mikhail Tukhachevskiy, who had promoted the development of the Soviet mechanized corps in the early 1930s, had predicted shortly before his death in 1937 that armored forces would have to be prepared to sacrifice one or more tanks per enemy antitank gun and that single infantry men armed with small-caliber antitank rifles would be able to oppose tanks on equal terms.[75]

In the Polish and French campaigns, the _panzer_ division emerged as the key component in the _Blitzkrieg_ revolution and brought a new element onto the tactical scene: the self-contained combined arms team, which joined infantry, armor, and air power to achieve offensive mobility. The arms supported and enhanced each other by concerted exploitation of their individual intrinsic qualities, the infantry's staying power and capacity for close-in engagement, armor's battlefield mobility and firepower, the

dive bomber's ability to outrange the heaviest artillery while matching it in accuracy and effectiveness of fire. Existing doctrine -- German included up to the start of the final drive away from the Meuse River on 17 May 1940 -- had assumed that mobility, if it materialized at all, would take the form of pursuit in the interval between a successful breakthrough and the defense's recovery. The _panzer_ divisions achieved continuous movement and sustained their striking power over distances that were positively limited only by the durability of their equipment. During the campaign in the West, they revealed as well and equally importantly that against equal or superior forces not at the same level of tactical proficiency they could be maneuvered with sufficiently devastating precision and speed to control the battle after the breakthrough and thereby, in the envelopment, enormously enhance the damage inflicted.[76]

The German forces' mastery of tactical combined arms in a superior form enabled them to seize and hold the initiative against the Soviet Union in the summer campaigns of 1941 and 1942; but, as the Germany Army High Command knew very well it would if it were allowed to come fully into play, the Soviet space prevailed and by November 1942 pushed victory beyond the reach of tactical virtuosity. The same happened on a smaller scale in North Africa, and thereafter the German forces had to fight on their enemies' terms. Nevertheless, they retained greater tactical proficiency on the defensive than they had themselves encountered while holding the initiative. Consequently, to make the war winnable, their enemies in the East and West could not rely entirely on quantitative superiorities and had also to devise effective offensive tactics.

The Soviet problem was to make armed forces drawn from a predominantly nontechnonological society competitive in a technological

war. The industrial Five Year Plans of the 1930s had provided the technological means, but the capacity to put them to use had not kept pace. The Soviet Army, which called itself the Worker's and Peasant's Red Army, was in the great majority a peasant army. The Russian peasant was a stubborn and crafty fighter and, next to the Japanese, the least demanding soldier in the war, but in the millions, he and his fellows constituted an armed force with a low adaptability to the requirements of technological warfare. Twenty some years' intensive effort had brought a Communist officer corps into being and a body of doctrine, some quite advanced for its time most notably in the areas of deep operations and its tactical counterpart, deep battle. On the other hand, even before the military purge that began in 1937 and continued into 1940, foreign observers believed high professional competence to be a comparative rarity in the Soviet officer corps. The Soviet Government had the same conclusion brought home to it almost simultaneously with the outbreak of the war in Europe. Zhukov staged a neat double envelopment against a small Japanese force on the Khalkin Gol River in the late summer of 1939, and the Leningrad Military District thoroughly botched the war against Finland in the fall and winter. In the spring of 1940, the armed forces and the party launched an intensive campaign to stimulate initiative, flexibility, independent judgment and decision making, self-confidence, and imagination in the officer corps; but those were traits the Soviet system did not normally tolerate in its citizens, hence, ones which each officer knew could in specific instances very well be considered criminal.

After 22 June 1941, in part of necessity, in part by choice, which in this instance as in most others was Stalin's, the qualities of the troops and the leadership determined the Soviet tactics. In the higher ranks, the war revealed which officers were competent and which not and

the proportion of the former increased: the best soon mastered the lessons the war had to teach. But the mastery did not extend to the middle and lower commands. They generally could not be relied on to put sophisticated plans into effective execution. The Stalingrad offensive, for instance, which was the kind of operation Germany army groups handled routinely, required two and one half months' advance preparation that drew almost the entire Red Army High Command into the field. The same was true of the two other great show-piece battles, those at Kursk in July 1943 and against Army Group Center in July 1944. The troops provided sustained numerical superiorities but declined progressively in quality after 1942 as replacements had to be drawn from the over-age and under-age groups and from the non-Russian-speaking peoples, who often also did not share the Russian national dedication to the war.

Although Zhukov, Vasilevskiy, and some others perhaps preferred the double envelopment, the Red Army's tactical capabilities found their most effective as well as frequent application in the salient thrust, the _rassekayushchiy_ _udar_ (literally, cleaving blow). It required repeated frontal assaults and breakthroughs, usually did not prevent the enemy from salvaging the better part of his troops and equipment, and probably on the average cost the attacker more heavily than the defender. But it also gave opportunities for mass employment of infantry, armor, and ground attack aircraft and did not require precise timing or coordination; and it sometimes benefited enormously from Hitler's insistence on a rigid defense, which on several occasions transformed what should have been just losses of ground into encirclements. The _rassekayushchiy_ _udar_ was not failure-proof; Zhukov's attempt in April 1945 to break through the Oder River line to Berlin conclusively proved that; but it did not expose tactical shortcomings in the way less than completely successful

envelopments generally did -- as the German escape from the Falaise Pocket in France in August 1944, for instance, did -- and it always accomplished something. Consequently, it served the Soviet strategic interest in two equally important ways: it provided the setting in which the Soviet forces could perform at the highest level of tactical effectiveness they could consistently maintain, and it enabled them to create an illusion of military prowess comparable to that which the Wehrmacht had enjoyed in the heyday of the Blitzkrieg.[77]

The Western Allies and the Japanese were less continuously and compellingly concerned with perfecting land-battle tactics than the Germans and Russians were. Their and their main enemies' territories were not contiguous; and they were sea powers, which, on the one hand, gave them a form of mobility and means of bringing offensive strength to bear that neither the Germans nor the Russians possessed and, on the other, tended to check the evolution of their tactical doctrines. Six months into the war, the Japanese no longer had any choice other than to fight a war of position in isolated strong points, which suited their preference for close engagement but reduced their offensive capability to zero. In June 1944, the British and Americans had to plunge into a war in which, for the previous three years, they had been virtual bystanders basing their preparations on limited direct experience and somewhat hazy analyses of German performance. Moreover, neither they nor the Japanese had expected the outcome either in Europe or in the Far East to depend in the main on their forces' performance in land battles. The British had counted on air and sea power, the Americans on industrial power, and both on the Soviet forces to weigh more heavily against the Germans; and the Japanese had relied on their navy to decide the Pacific war.

The Americans in the Pacific and they and the British in Europe combined land, sea, and air power to stage amphibious assaults on island and continental mainland targets that gave a compelling display of ability to exert military power at will on a global scale. The distances and speeds sometimes achieved over water also lent a Blitzkrieg aspect to their amphibious operations, one, however, that as often as not terminated at the beachhead. Outnumbered and outgunned enemy outfought the landing forces briefly at Salerno, for three months at Anzio, and for the better part of two months in Normandy. In the Pacific, at Tarawa, Peleliu, Iwo Jima, and Okinawa, tremendous superiorities in all arms could not keep the Japanese from calling the tactical tune on the ground and imposing what in a longer term and on a larger scale would have been prohibitive casualties.[78]

Mobility was the common goal of all World War II tactical doctrine, the war's outstanding contribution to military art and most durable legacy. It was the principal combined arms achievement and, after June 1940, the first consideration in tactics and operations. By 1945, the Soviet forces and those of the Western Allies had matched the German rates and depths of advance. On the other hand, the German, Soviet, and American experience indicates that the impressive performances all parties eventually gave are, perhaps, not the most significant indicators of military effectiveness in the development and conduct of mobile warfare during World War II.

The panzer division, as a combined arms team of armor and motorized infantry, was the main German mobile component throughout the war. In the Blitzkrieg phase, the Luftwaffe air fleets added air superiority in the zone of operations and their Ju-87 dive bombers functioned as a third element in the combined arms team (which they continued to do with some

regularity on the Eastern From until late in the war). Germany also initially possessed the only fully organized and transportable airborne force, which appeared in Crete in May 1941 to have added a new dimension to mobility but did not subsequently figure again in a major operation in its designated role.

After December 1941, as the German hold on the initiative progressively weakened, the panzer division underwent a forced conversion into a defensive weapon of last resort. In the character of a "fire brigade," it exercised its mobile capability increasingly in lateral moves behind the front from one hot spot to another, and its armored elements frequently became intermingled with regular infantry in Kampfgruppen (battle groups), less than division-sized groupings set up to fill out the front line. Moreover, the appearance in steadily growing numbers of the heavily armored Soviet T-34 and KV tanks and the impotence of the German infantry's antitank weapons against them necessitated mounting higher velocity guns in the German tanks, which made them tank destroyers and tended to further disperse the panzer divisions since, as one German report put it, "... everybody had to have a share."[79] In the summer of 1943, Soviet air power, demonstrated in and after the Battle of Kursk, Anglo-American landings in Sicily and Italy, and the strategic bombing offensive against the Reich burdened the Luftwaffe's fighter arm to the point at which it could henceforth no longer make good a bid for air superiority anywhere.

General Guderian, whom Hitler appointed Inspector General of Armored Troops in February 1943 and who held the post until he became chief of the Army General Staff in August 1944, believed in the mobile defensive. He proposed to reassemble the panzer divisions; rebuild them to strengths of 400 tanks, more than they had previously ever had; and to

reserve them for employment in the defensive equivalent of the _Kesselschlacht_ (encirclement), the _Panzerschlacht_ (tank battle) in which they would force the enemy armor into decisive confrontations. Hitler approved the _Panzerschlacht_ in principle but demanded a rigid defense as well, and that kept the _panzer_ divisions tied to the front and consumed tanks as fast as they came off the assembly lines. The Commander in Chief, West had seven _panzer_ divisions in northwestern France in June and July 1944, enough to stage a _Panzerschlacht_ in Normandy; but those close to the beachhead were committed piecemeal to stabilize the front; and even if Hitler had permitted it, Allied air superiority would have frustrated an attempt to reassembled them and bring the others forward. The two _panzer_ armies Hitler committed to the Ardennes offensive in December 1944 showed that the enemy at his worst was then no longer vulnerable to the 1940-style _Blitzkrieg_.[80]

The Soviet mechanized corps, which had been the approximate equivalent of the German _panzer_ division, was out of existence from August 1939 to late 1940, when it was reconstituted in much heavier form (with somewhat over 1,000 tanks apparently on the assumption that the _panzer_ division's effectiveness depended on weight of armor) only to be disbanded again in July 1941. At the December 1940 war readiness conference, the deputy chief of the General Staff had objected to the whole idea of large armored formations. The Red Army was organizing five airborne corps when the war broke out in June 1941 but was just beginning, under license, to build a transport fleet of American DC-3s. A large part of the airborne force was subsequently converted to infantry, and the one parachute drop attempted in a mobile setting -- in the Bukrin Bend of the Dnepr River in November 1943 -- was an organzational fiasco and a tactical disaster.

The Red Army's mobile forces began to assume their definitive wartime shape in the spring and summer of 1942 with the activation of tank and mechanized corps and tank and air armies. The tank corps had three tank brigades and one infantry brigade; the mechanized corps, three tank brigades. The number of tanks in each was about the same, around 200. The tank army's normal complement was two tank and one mechanized corps. The air armies raised tactical air command to the army group level but in a subordinate, not like the German air fleets, coordinate status; and close ground support remained the Red Air Force's predominant role. In the entire war, over 90 percent of the air missions were flown within 30 miles of the front line, 80 percent within 6 miles.[81]

On 4 August 1943, southeast of Kursk, where the German ZITADELLE offensive had collapsed three weeks earlier, the First Tank and Fifth Guards Tank Armies opened the mature phase in the Soviet conduct of its World War II mobile operations. Passing through a gap the infantry had broken in the German line the day before the tank armies, running shoulder-to-shoulder, headed south past Belgorod and Kh'arkov toward Poltava. Simultaneously, infantry armies hit the German line to the south and east, and where it gave way, tank and mechanized corps went through. By early September, after a major effort by a whole army group had launched the Third Guards Tank Army and several tank and mechanized corps toward Kiev, the two Germany army groups south of the Pripyat Marshes could not close their line anywhere east of the Dnepr River. Subsequently, the German armies and the Soviet armor raced each other to the Dnepr, which was supposed to have been a major segment in a German "East Wall" but was already riddled with Soviet bridgeheads when the Germans completed the crossing in the first week of October. By December, the Soviet infantry, artillery, armor and air contingents were

redeployed and ready to begin the cycle again.

The Soviet technique reduced mobile operations to a standard pattern of breakthrough, exploitation, and pursuit that allowed the forces and the several arms to be employed incrementally and the combined effects of all arms to be secured with a command system that did not possess the ability to conduct a reliably effective fully integrated combined arms effort. With practice and against a weakened enemy, it could even perform in the Blitzkrieg range: the 200-mile advance to the Dnepr took 3 months; that from the Vistula River to the Oder River in January 1945 covered 280 miles in 14 days.[82]

The wartime development of American mobile forces began in the aftermath of the recent German victory with the creation of the Armored Force in July 1940 and an authorization to initiate studies on tactical employment of parachute troops and air-transported infantry. The Armored Force, which appeared to be set on the course toward status as an autonomous arm that the Air Corps was taking, activated two armored divisions in 1940 and three more in 1941, the only actually new divisions created before Pearl Harbor. Its share in the 1941 Victory Program amounted to no less than a projected 61 divisions. The Army Ground Forces authorized two airborne divisions in March 1942 and eventually activated five.

After Pearl harbor, the Armored Force's course changed; it became a component of the Army Ground Forces in March 1942. A year earlier, General Lesley J. McNair, then Chief of Staff, GHQ, subsequently Commanding General Army Ground Forces, had written an "Evaluation of Modern Battle Forces" in which he concluded that against infantry armed with antitank guns, "armored legions quite conceivably might emerge...an almost total loss."[83] In November 1941, at exactly the time the German

Army was becoming convinced that infantry antitank weapons were insufficient, umpires at GHQ maneuvers had ruled virtually all the tanks of two armored divisions out of action, 91 percent owing to antitank guns. On the other hand, the German experience in 1941 and 1942 was taken to demonstrate that the lighter _panzer_ divisions used in the Soviet Union and the _Kampfgruppen_ were an all-around improvement in the means of employing armor. In October 1943, the Armored Force consisted of 16 armored divisions (of which General McNair contemplated inactivating 6), each a third lighter in armor than the 1942 divisions had been, and 75 nondivisional tank battalions, 11 more than were in the divisions. The armored divisions' combat commands were ready-made _Kampfgruppen_. With regard to the forthcoming Operation OVERLORD, General McNair told the Assistant Secretary of War in February 1944 that "whether armor will pay its freight remains to be seen."[84]

The Army Ground Forces' approach to mobile warfare entered its final stage in June 1943 when the Armored Force became the Armored Command with barely a vestigial claim to autonomy. A month later, an order eliminating "type" commands above the division level terminated four armored corps headquarters that had been formed and established all army and corps headquarters as combined arms commands. Thereafter, although armor could still potentially have been employed in massed formations, the principle of "balance," of infantry, armor, and artillery operating in close tactical association with each other, prevailed; and it was extended to the small unit level after June 1944 when tank battalions became parts of the infantry divisions' normal complements. The airborne divisions narrowly missed being incorporated into the balance in the summer of 1943 (as infantry divisions) and those assigned to the European Theater went on to become part of an ad hoc "type" army,

the First Allied Airborne Army, which staged the largest airborne operation of the war, MARKET, in September 1944, but did not exert significant tactical influence. FM 100-20 upset the balance by removing the air support elements from the combined arms commands' control and by giving third priority to the air and ground forces' combined effort in the battle area -- after air superiority and interdiction. The air forces looked on the tactical effort in all three forms as a diversion from their strategic main mission; and the ground forces believed they received too little direct support; but the ground operations were carried out from D-Day to V-E Day under an air umbrella the like of which had not yet been seen in the war; and that leaves in question the general effectiveness of balance as a means or achieving mobility through combined arms.[85]

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55. On British and American strategic bombing doctrine in 1940 see Craven and Cate, *Army Air Forces*, Vol. I, pp. 97-116. On Soviet armed forces and operational doctrine see *IVMV*, Vol. III, pp. 334-

39, 442: Ivanov, _Nachal'nyy period_, p. 208; I. E. Krupchenko, et. al., _Svetskiye tankovye voyska_ (Moscow: Voyennoye Izdatel'stvo, 1973), p. 21; _IVOVSS_, Vol. I, pp. 427-74; V.D. Sokolovskiy, ed., _Soviet Military Strategy_ (Third Edition) (New York: Crane, Russack & Co., 1975), pp. 122, 232.

56. The Army's change of heart on the _Blitzkrieg_ had not yet extended to armor. Until the _panzer_ groups became _panzer_ armies later in the year, their commanding generals were _Befehlshaber_, not _Oberbefehlshaber_ as full-fledged army commanders were, and the panzer groups were attached to and technically subordinate to armies.

57. _Reich and Weltkrieg_, Vol. II, pp. 281-83, Vol. IV, pp. 270, 312.

58. Ivanov, _Nachal'nyy period_, pp. 224f.

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60. I. Kh. Bagramyan, ed., _Istoriya voyn i voyennogo iskusstva_ (Moscow: Voyennoye Izdatel'stvo, 1970), pp. 205, 479; _IVOVSS_, Vol. III, p. 65, Vol. VI, p. 235; S.P. Platonov, ed., _Vtoraya Mirovaya Voyna_ (Moscow: Voyennoye Izdatel'stvo, 1958), p. 867.

61. _IVMV_, Vol. VI, maps 2, 10, and 11: Ministerstva Oborony SSSR, Institut Voyennoy Istorii, _Sovetskaya voyennaya entsiklopediya_ (_SVE_) (Moscow: Voyennoye Izdatel'stvo, 1976-1979), Vol. VI, pp. 37, 494-96.

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490-22; Omar N. Bradley, *A General's Life* (New York: Simon and Schuster, 1983), pp. 309-17, 338-40; B.L. Montgomery, *A History of Warfare* (New York: World Publishing Company, 1968), pp. 256f.

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68. Foertsch, *Kriegskunst*, p. 126f; Wilhelm von Leeb, *Defense* (Harrisburg, Pa.: Military Service Publishing Company, 1943), pp. 115-20.

69. Air Ministry, *Rise and Fall*, pp. 32f, 48; F.O. Mische, *Paratroops* (New York: Random House, 1943), pp. 8-21; Alan R Millett, *Semper Fidelis: The History of the United States Marine Corps* (New York: McMillan, 1980), pp. 319-43.

70. Mary Lee Stubbs and Stanley Russell Connor, _Armor-Cavlary_ (Washington: Government Printing Office, 1969), Part I, p. 51.

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72. Heinz Guderian, _Panzer Leader_, p. 62.

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78. The U.S. Marines sustained more casualties on Iwo Jima than the Japanese did and did not echieve decidedly better results at Tarawa or Peleliu. On Okinawa, two and a half Japanese divisions and some Kamikazi pilots inflicted 75,000 casualties on the U.S. Army, Navy, and Marine Corps, as many as twenty-eight German divisions did in the worst American setback of the European war, the Battle of the Bulge. Millett, _Semper Fidelis_, pp. 395, 431, 438; Pogue, _Supreme Command_, p. 396.

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82. Ziemke, _Stalingrad to Berlin_, pp. 143-73 and _passim_.

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CHALLENGE AND RESPONSE

AT THE OPERATIONAL AND TACTICAL LEVELS

1914-1945

Lieutenant General John H. Cushman, U.S. Army, Retired

Introduction

"War is the great auditor of institutions." So Correlli Barnett has written in his _Swordbearers_.[1] The historians whose work is collected in these volmes have audited the performance of seven national military institutions in two world wars and in the long period between those wars. Only two nations, the United States and Great Britain, were victors in both wars. One, Germany, lost in both. Russia emerged defeated in the first and as a victor in the second. Italy and Japan were on the winning side in the first, then lost in the second. France won its first war, collapsed after ten months of the second, and then with new forces raised abroad and at home after liberation by Anglo-American forces could claim to be a "victorious" power at the end.

Each of the three periods was a time of _challenge_ to national military institutions on one hand and of _response_ by those institutions

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on the other. For these nations and their military institutions, the two wars were exhausting, terrible, life or death audits. What can we learn from the manner in which these military instituions responded or failed to respond to the challenge of war and of what was, in the perspective of history a period of two decades of preparation for war? And perhaps even more important, how can we apply what we learn, to our current American military institutions?

* * * * * * *

Our twenty-one authors assessed the _political_ effectiveness of military institutions according to three criteria, the _strategic_ effectiveness according to seven criteria, the _operational_ effectiveness according to six, and the _tactical_ effectiveness according to seven. Although the political and strategic direction of national military forces and those forces' effectiveness in the operational and tactical spheres each have their effect upon the other, this summative essay will address primarily the _operational_ and _tactical_ spheres. These two fields make up the military professional's fundamental line of work. They comprise the realm in which the people of a nation and their political leadership have a right to expect professional military competence.

Appreciating the difficulties as well as the limitations involved, we asked the authors to give a subjective "grade" to the performance of the national military institutions, which they had surveyed, for the

period covered. While some were reluctant, each finally did so.*

Reviewing the authors' texts and the ratings in the operational/ tactical areas, I credit the contributing historians with rating fairly and well. The results as to _tactical_ performance were as follows:

Two "A"s   Germany in 1919-1940 and in World War II

Seven "B"s   Germany in World War I

Japan in World War I and (based on the first

years in those periods only) in 1919-1940 and

World War II

The Soviet Union in 1919-1941 and (eventually) in

World War II

The U.S. in World War II

Four "C"s   The U.S. in 1919-1941

The French and British (eventually) in World War

I (both "F" initially)

Russia (overall) in World War I (composite of a

mixed bag of ratings until the late-1917 collapse)

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*Some words of caution are in order. Among them: Ratings are highly subjective. They encompass _all_ a nations forces, land, sea, and air. Each rating is an average; in most nations' audits and for most periods, major deviations can be cited from that norm. The period of 1919 to 1939 or 1941 was for some nations (Italy and Japan) in large part of a time of actual fighting; for others (e.g., the U.S.) this was a time of no combat whatever and the test came at the outbreak of war; for others (e.g., the Soviet Union and Germany) there was during this period the combat experience of the Spanish Civil War.

Four "D"s   Italy in 1919-1939

                   The U.S. in World War I

                   Great Britain in 1919-1939 and World War II

Four "F"s   France in 1919-1939 and through its June 1940

                   defeat in World War II

                   Italy in World War I and World War II

The distribution of grades as to <u>operational</u> performance was about the same:

One "A"   The U.S. in World War II

Nine "B"s   The U.S. in 1919-1941

                   Germany in all three periods (with an "A" only in

                   the first phases of World War I and World War II)

                   The Soviet Union in 1919-1941 and (eventually) in

                   World War II

                   Japan in World War I and (again, based on the

                   first years in those periods only) in 1919-1940

                   and World War II

Five "C"s   The U.S. in World War I

                   Great Britain in 1919-1939 and World War II

                   Russia in World War I and (again, a composite

                   until Russia's collapse)

                   Italy in 1919-1939

Four "D"s   *Great Britain (overall) in World War I (rated F/D*

initially, rising to C/B)

France (overall) in World War I (like Britain,

F/D intially, rising later)

Italy in World Wars I and II

Two "F"s   *France in 1919-1939 and World War II (first ten*

months)

Thus, in the spheres of operations and tactics, where military competence would seem to be a nation's rightful due, the twenty-one "auditors' reports" suggest for the most part less than general professional military competence and sometimes abysmal incompetence. One can doubt whether any other profession in these seven nations during the same periods would have received such poor ratings by similarly competent outside observers.

Why should nations wish for a high order of operational and tactical performance? Is performance in these areas essential for success in war? One might assume that success in war requires an order of operational and tactical performance at least equal to that of one's enemy. However, the verdict is considerably mixed. In World War I, victory came to neither Britain nor France until their operational and tactical performances finally reached what their respective historians called a "B". The same was true for the Soviets in World War II. On the other hand, one must note the suprisingly low ratings given to Britain in World War II.

These audits clearly underline that high quality operational and tactical performance is not enough (see twice defeated Germany, highly

rated in operations and tactics but whose political and strategic direction received an "F" in both wars). Moreover, Japan's "B"s in operations and tactics early in World War II were nullified by her failing performance in the political and strategic spheres.

Leaving aside whether effectiveness in operations and tactics is essential for victory, it is clear that first-rate operational and tactical performance is a <u>virtue to be sought</u> by those who are responsible for military forces. One must recognize that competence on the battlefield saves time and conserves lives.* These are the kinds of things military institutions are supposed to do right. Yet, from these auditors' reports, most national forces failed to achieve a high performance in either category. We need to understand how and why this happened. There well may be lessons in these accounts that are useful for those charged with seeking operational and tactical excellence in our own military institutions.

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In analyzing the performance of military institutions one must speak of <u>challenge</u> and <u>response</u>. One dimension of an individual's or institution's response is that of "insight". How well did individuals

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*For one example, see how superior German effectiveness in the operational/tactical spheres paid off in speed of decision and cost in lives against the British and French in May-June 1940.

responsible in a situation perceive reality? How well did they understand the nature of the challenge that confronted them? The other dimension of response is that of "execution". Understanding the situation in whatever way they did, how well did those in positions of responsibility bring about the measures that they saw as necessary to meet the situation? In other words, how well did they adapt to what Clausewitz called "real war" as opposed to war on paper?

One can portray these two qualities on a two-dimensional chart with each dimension scaled from 0 to 10.

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10
E
X
E
C
U
T
I
O
N

0                           10
     I  N  S  I  G  H  T
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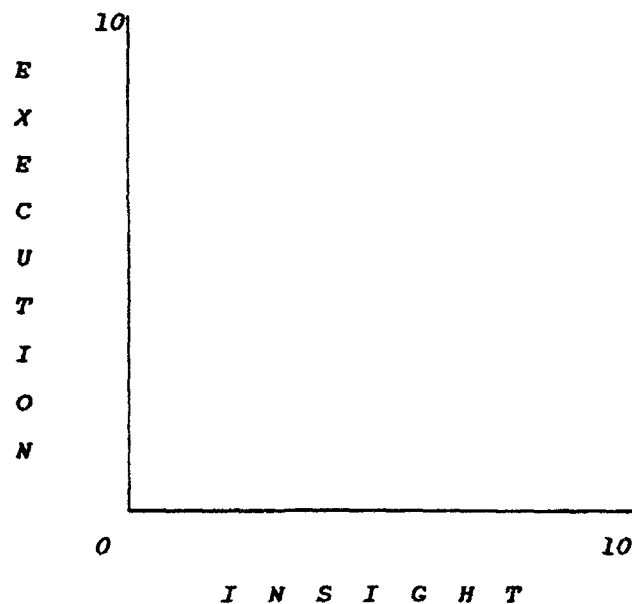
From these volumes, we can conclude that for the highest quality of response to challenge, military institutions and individuals must have a high rating in both "insight" and "execution".

Let us apply this method of portrayal to one of the major successes in this series of audits -- that of Field Marshal William Slim in Burma, from spring 1942 when he arrived "to help pick up the pieces," to 1944 and 1945 when the corps and divisions in his command were among

the most effective of rld War II.[2] First of all, "insight" is surely there; Professor Murray describes how Slim grasped the essentials of his situation _and_ saw what needed to be done. Second, and equally important, Slim's "execution" left little to be desired. His program took time, but its organized, systematic, and consistent pursuit brought success.

Slim's achievement encompassed the full range of tactics and operations, including logistics and administration. Especially noteworthy, moreover, was his independence of thought and action within a common scheme that he instilled in his senior commanders -- a _sine qua non_ for true tactical and operational competence in a military organization. We can plot Slim in Burma:

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10|
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X  |
E  |
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I  |
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N  |
   |_____
0                                10
    I  N  S  I  G  H  T
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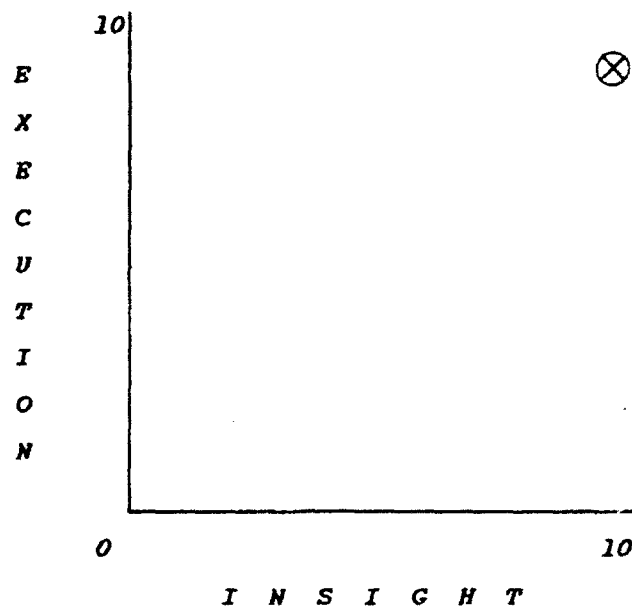
In his performance Field Marshal Slim followed the basic approach which holds true for successful leaders at any level of command -- from the tank company and infantry battalion, or naval ship, or fighter squadron, on up. In the simplest terms, it is this:

a) *Take responsibility for the command.*

b) *Diagnose the situation accurately and set the objective.*

c) *Develop an appropriate action plan*

d) *Execute the plan well.*

Slim was a major field commander, far from the base that generated his resources. He had relatively little influence on what was provided to him. His genius lay in making extraordinarily good use of the human as well as material resources which were provided. Wise enough to know that the kind of change he sought would take time, he made good use of that time through a consistent, insightful, and orderly program of action.

In his description of the 1917-1918 performance of Admiral William H. Sims, U.S. Navy, Professor Nenninger gives a similar example, except that Admiral Sims' influence extended deeply into determining the kind of resources provided.[3] In 1916 the United States had adopted a naval building program to create by 1925 a fleet of 60 capital ships. Nenninger points out that upon America's entrance into the war, the Navy sent Sims to London to determine naval requirements and eventually to become the American naval commander in Europe. The admiral quickly realized that German submarines were the greatest threat to our strategy and recommended that the U.S. concentrate on building antisubmarine craft and merchant shipping. Although other naval leaders continued to push for the 1916 program, the Administration accepted Sims' recommendation and postponed capital ship construction.

As the destroyers and antisubmarine craft arrived, Sims as operational commander deployed and employed them effectively to escort convoys as they passed through the most dangerous U-boat zones. In this

case, the insight and execution which led to the U.S. Navy's successful response to challenge were in large part a cooperative accomplishment, shared by Sims overseas and the naval establishment in the United States.

The accounts in these volumes suggest that success in meeting the operational and tactical challenge demands both insight and execution. One without the other will not do. For example, Professor Knox describes how Italy's Army Chief of Staff in 1941 assessed the abilities of that Army's junior officers.[4] General Roatta underlined their deficiencies as follows:

1) *Insufficient capacity for command (lack of authority ... , timidity ... , uncertainty ...).*

2) *Inadequate knowledge of the mechanical side of weapons.*

3) *Limited knowledge of small unit tactics.*

4) *Rudimentary knowledge of communications equipment and organization.*

5) *Insufficient knowledge of how to read topographic maps, and little understanding of the compass.*

6) *Insufficient knowledge of field fortifications.*

7) *Inadequate conditioning for long marches.*

8) *Total administrative ignorance.*

Although, from Professor Knox's account, General Roatta may have deserved

an "8" or so in insight, the institutional actions to correct the conditions diagnosed among its junior leaders seems to have been little better than a "3;" consequently, the Italian Army suffered from inadequate junior officer leadership until its 1943 surrender.

Likewise, without the appropriate insight -- that is, without an institution's leadership understanding the situation confronting the institution -- any plan of action, however systematically developed and vigorously carried out, will succeed only by accident and will generally lead to disaster.

Examples of lack of insight abound in these volumes. Perhaps the classic is that of the leadership of the French Army in the 1919-1939 period, described in telling fashion by Colonel Doughty.[5] Doughty's analysis is devastating. He concludes that, although between the wars "the French had paid close attention to the tactics, organization, equipment, and training of their forces, ... France failed to prepare a military force as effective as that of her enemy". In 1939, "France was prepared to go to war with a system that was supremely logical and closely coordinated ... " However, the army had tragically "come up with the wrong formula." The French nation perished in 1940 because its military leadership in 1919-1939 performed at something like level "2" in insight, even though they may have deserved perhaps an "8" in the execution of the action plans stemming from that faulty insight. With great efficiency, France's army built the Maginot line, trained its infantry and artillery systematically in the wrong tactical conceptions, and prepared for the next war with a self satisfied assuredness that it possessed all the answers.

* * * * * * *

In this full period, 1914-1945, perhaps the most stirring success in "challenge and response" on the part of a major operational force and by the home base that generated and supported it is that of the Royal Air Force's Fighter Command. From 1936 when Britain first formed Fighter Command to the Battle of Britain which began in July 1940, the RAF created a fighting organization that saved the British people and nation from invasion.

Professor Murray's mention of this performance is brief,[6] but other sources tell the full story.[7] The scene was grim indeed in the mid-1930s. Having seized power in 1933, Hitler was rearming Germany and building a mighty air force. Fact, such as the Japanese bombing of Shanghai in 1932, and fiction along the lines of a series of novels predicting catastrophic air attacks had combined to terrify the public. Indeed, near-panic was beginning to appear, which directly contributed to British appeasement policy of 1938.[8]

The British had thus far neglected air defense; they had built the Royal Air Force on the doctrine that "the bomber will always get through". The founder of the RAF, Marshal of the Royal Air Force Sir John Trenchard, said in 1923, that "Fighter defense must ... be kept to the smallest possible number ... in a sense only a concession to the weakness of the civilians, who would demand protection ...". Prime Minister Stanley Baldwin said in Parliament, in 1932, that "The only defense is offence, which means you have to kill more women and children more quickly than the enemy if you want to save yourselves".

Unprotected by a fighter force, in the mid-1930s the British Isles lay open and exposed to air attack. Fifty years later, it is still instructive to study how a "small number of dedicated men" from 1934 through 1939, managed to prepare "the aircraft and the air force that

would be required for modern war". Among these men were Lord Swinton, Secretary of State for Air, 1935-1938; Chief of Air Staff Sir Edward Ellington, 1933-1937; aircraft designers such as Reginald Mitchell at Supermarine and Sydney Camm at Hawkers; and scientists such as H.T. Tizard, P.M.S. Blackett, and R.A. Watson-Watt.

Also among them was Air Chief Marshal Hugh C.T. Dowding, who in 1936 moved from his position as research and development chief of the RAF to take command of the newly formed Fighter Command. In the face of strong institutional opposition within the RAF itself to air defense, his task was not easy. Yet, in November 1935 the Hawker Hurricane made its first test flight. The Supermarine Spitfire's maiden flight came four months later. These two superlative fighters, each with eight wing-mounted machine guns, went quickly into production. Four years later, in the hands of RAF pilots, they won the Battle of Britain.

In the meantime, under the cloak of deepest secrecy, British scientists developed radar, an invention that revolutionized the conduct of air defense. And the manner of its development in the closest harmony with the airmen and the organizations that would depend on it reached a standard for military-technical cooperation in command and control systems development that has probably not been equalled since.

In this mileau, Hugh Dowding established Fighter Command's organization and concept of operations. In July 1940, after Dunkirk's evacuation and despite the loss of the fighters sent unavailing to the continent, Fighter Command stood as Britain's sole defense against the Luftwaffe. Brilliantly using and conserving both fighters and pilots, supported by a maintenance organization that performed miracles of aircraft repair, linked by communications installed by the British Post Office, receiving reports from radars and from ground observers on

hilltops and rooftops along the air routes into England from the Continent, and directing the battle hour-by-hour and minute-by-minute from control centers that they had designed and built, Dowding and his command won the Battle of Britain.* The British political-military air establishment; especially Dowding, his staff, and his commanders, deserves "10"s in both insight and execution.

Notwithstanding that it encompasses the base that generated and supported the operational forces as well as the operational forces themselves, this Fighter Command case also illustrates the basic, fundamental requirements of leadership.

1) Take responsibility for the command.

2) Diagnose the situation accurately and set the objective.

3) Develop an appropriate action plan.

4) Execute the plan well, adapting to conditions.

However, in this case the effort was a collective endeavor, with several changes in key personalities over a five or six year period, with no identifiable single leader either in charge or fully accountable for failure, and with a "rolling" action plan, the details of which evolved as the situation developed.

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*With displays and photographs, the Battle of Britain exhibtion at the RAF Museum at Hendon in northwest London vividly tells the story. The text at the photograph of Hugh Dowding says, in effect, that in any list, however short, of military men of whom it can be said that "he saved the nation," Dowding's name must be included.

The very nature of large military institutions, such as a nation's army, or navy, or air force, or its armed forces as a whole, makes it difficult to have anything other than a collective, or shared, responsibility. Unlike the shaping of an infantry battalion, or combat ship, or fighter squadron, which a keen commander can carry out effectively in a matter of months, and even unlike the bringing of a major command to a high state of effectiveness (as Slim did in Burma over a two to three year period), the improvement of such large military institutions as a nation's army, or navy, or air force involves a very long period of time -- one that stretches out for half a decade or more and includes the terms of office of two or more chiefs of staff.

* * * * * *

As in any walk of life, the competence of a military organization is a function of its leadership from the top down to the bottom of its chain of command. Gay Hammerman and Richard G. Sheridan have given us a striking example of the significance of leadership in the tatical sphere.[9] They compare the effectiveness of 24 representative divisions of the European theater in World War II -- twelve German, five British, and seven American. Using comparative techniques, they rate these divisions in order of battlefield effectiveness. With only one exception, the 88th Infantry Division of the U.S. Army, the first ten divisions are German.

In their study, Hammerman and Sheridan investigate why the 88th Infantry Division was such an exception to the performance of the other

American and British units. They researched such factors as the quality of manpower, the strength of the division's cadre, the division's stability, the length and quality of training, the administrative support provided by higher headquarters, and the fashion in which replacements were introduced into the division in combat. Each of these factors had an effect, but in none did the 88th Division differ in any significant fashion from the other American divisions studied whose performance by no means matched the of the 88th. The essential difference discovered was the *quality of the division's top leadership*.

In scores of interviews with veterans of the 88th, Hammerman and Sheridan sought the specific characteristics of top leadership. What they found was

> strict discipline, courage, aggressiveness, personal presence in the front lines, insistence that *every job* be carried out properly, efforts to build esprit de corps, prompt relief of any subordinate who could not or would not do his job, and professional competence. In training, strict discipline was the most prominent characteristic; in combat, courage and personal presence in the front lines were most prominent (emphasis in the original).[10]

The study provides compelling profiles of the division commander, Major General John E. Sloan, the assistant division commander (and later division commander) Brigadier General Paul W. Kendall, and of the three regimental commanders, Colonels Joseph B. Crawford, James C. Fry, and Arthur S. Champeny.

To conclude that "quality of leadership" is decisive is no profound discovery. From time immemorial, and around the world's military forces today, we know that superior battalion, squadron, and warship commanders and their seniors in the chain of command can take ordinary people and produce extraordinary results. What is of interest to us is the answer to the question: "How can military institutions generate leadership at the operational and tactical levels that is for the most part, and in general, superior?" One cannot rest satisfied with the explanation that Slim was an exceptional case, or that the 88th Infantry Division was one of a kind. Those who are responsible for generating our military forces have the _obligation to seek such standards as the normal level of professional military performance_.

On what does the generation of such a quality of leadership depend? How do those who govern military institutions go about building in peacetime (and in war, should war come) a pattern of highly competent battle leadership? In the accounts in these volumes, Professors Ziemke[11] and Jessup[12] describe the methods that Josef Stalin used from the mid-1930s through the end of the Great Patriotic War. Ziemke describes how Stalin first destroyed the Red Army's officer corps and then rebuilt it. Believing that its officers represent a threat to him personally, to the Party, and to the nation, in that apparent order, Stalin carried out a program of extermination of national military leadership unequalled in its scope and ferocity in modern times, and perhaps in history. In 1937-1938, Stalin saw to the execution, exile, or disappearance of the chief of the armed forces General Staff, the commanders of the air force and the navy, the inspectors of artillery and armor, 13 of 15 army commanders, 57 of 85 corps commanders, 110 of 195 division commanders, and 220 of 406 brigade commanders. In all, more

than 35,000 officers were liquidated or removed, a number that included 90% of all generals and 80% of all colonels.

Having destroyed those officers who showed _any_ independence of thought and silenced those younger officers with talent who might not toe the mark, Stalin then brought to high level command and staff positions officers who were more remarkable for their political loyalties than for ability. Rightly enough, Jessup says that "Stalin's greatest skill was in terrorizing those around him". Although Stalin's purge dealt the Red Army a body blow, Jessup goes on to say that "Even so, [Stalin's] ability to select highly competent personnel to direct the war both on the batttlefield and on the home front is a tribute to his leadership ... ."

This was "leadership" of the most ruthless kind; those senior commanders who did not produce satisfactory results on the battlefield were done away with, encouraging a kind of fear-driven competence on the part of those who remained. To produce the necessary junior officer leadership, the Soviet Army in 1942 instituted a program of training officer candidates in a three month course at the field army (later front) level. Ziemke points out that:

> some 540,000 platoon level officers were produced in this manner. Mid-course in the war, when the issue of (national) survival became less immediate, officer training was extended to one year for infantry officers and 18 months for specialists. Although these officers, and most of their superiors, were generally rated inferior to their German counterparts, they were obviously successful enough and were in large enough numbers to win the war.

Win the war the Soviet Union did, with a herculean effort at terrible cost which among other accomplishments produced operational and tactical performance at a "B" level. What this 1937-1945 experience and the forty years since means as to the quality of Soviet officer leadership from top to bottom today may be uncertain, but it gives no grounds for complacency.

Now, let us take a look at Germany. Under the personal command and under the strategic and indeed the operational direction of a dictator equally abhorrent as Stalin, the German Army's officer corps in World War II rendered a battlefield performance that was, in general, measurably superior to that of any of the armies with which it fought.

That this is so seems no longer a matter of dispute. We have the testimony of senior commanders who fought the Germans, like Field Marshal Sir Michael Carver, who has said that:

> There is no doubt that the Germans, of all ranks, were
> more highly professional as soldiers than the British.
> Their knowledge and practical application of the weapons
> available to them was in almost all cases superior ... .
> They were tough, skillful, determined, and well-disci-
> plined soldiers.[13]

We have historians' judgments, Russell F. Weigley among others. In the epilogue to Eisenhower's Lieutenants, Weigley sums up his comparison of relative military performance in Europe from D-Day in 1944 through the end of the war:

> *Pitted against the German army, the United States Army suffered long from a relative absence of the finely honed professional skill of the Germans, officers and men, in every aspect of tactics and operations ... . [The German Army] remained qualitatively superior to the American army, formation for formation, throughout far too many months of the American army's greatest campaign.*[14]

Trevor N. Dupuy, in his <u>Numbers, Prediction, and War</u> has convincingly laid out measurable evidence of German superiority.[15] Dupuy's comprehensive and methodical analysis of scores of division-level actions in North Africa, Italy, and the Western front from the Normandy landings to the war's end has established a twenty to thirty percent combat superiority on the part of the Germans whenever they faced British and American troops in equal numbers -- meaning that roughly 80 German troops were the battle equal of 100 British or American. This German battle-field superiority was a product of, on the whole, superior combat leadership on the part of the German Army's officer corps.[16]

What made the Germans so good? One can simply say that even though its officer corps expanded some sixty times from 1934 to 1944, the German army had thoroughly indoctrinated its officers in how to fight well, and that these leaders behaved in battle as they had been trained.

But how did this come about? Professor Foerster writes that this behavior "was heavily shaped by cultural traditions dating back to Imperial Germany."[17] The officer corps of the German Army in 1939-1945 was partially the product of a tradition of battlefield excellence reaching back to the early 1800s when Scharnhorst, Gneisenau, Clausewitz,

and others instituted fundamental reforms in the Prussian army. In turn, successive generations of senior Prussian and German leadership perpetuated those reforms. The German officers in the field in 1939-1945 were the products of a system of schooling and unit training that for a century had developed and preached a consistent doctrine of battlefield leadership, and a chain of command that uniformly practiced what it preached.

To define in the simplest terms the essence of what German officers were taught and what they practiced, one can go to a document published in 1953 by the Historical Division, Headquarters, United States Army, Europe (USAREUR).[18] In 1949, the U.S. Army had published a new edition of its _Field Manual 100-5, Field Service Regulations, Operations_. This comprehensive revision of its basic operational doctrine was in essence the U.S. Army's description of its way of fighting based both on its traditions and on its World War II experience. The USAREUR Historical Division gave this field manual to a panel of German officers, consisting of Generaloberst Franz Halder* and four generals and two colonels selected by him. The Historical Division described the panel as "distinguished members of the former German General Staff who had had extensive experience in the preparation of training literature, particularly that dealing with tactical doctrine, and who had proved their worth as commanders in combat".

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*General Halder had been Chief of the German Army General Staff from 1938 until 1942 when, according to the biographical summary in the USAREUR text, he was removed by Hitler "owing to differences of opinion on matters of strategy and ethics, and because of alleged obstructionism". In July 1944, the day after the attempt on Hitler's life, the Gestapo arrested Halder and he spent the rest of the war in prison.

Halder and his fellow officers were asked for "a critical analysis and evaluation" of this 1949 version of FM100-5. Their 156 page report begins by describing succinctly the "main objectives in training in leadership" as seen by the German army. These were:

a) A great capacity for independent action on all levels of command;

b) Adherence to the mission; that is a moral obligation to act at all times in the spirit of the assigned mission;

c) Avoidance of a fixed pattern of action;

d) The ability to make "complete", that is clear and unambiguous decisions and, in carrying them out, to establish a definite point of main effort;

e) A constant concern for the welfare of the men and the conservation of their combat efficiency.[19]

Read these ten lines. Absorb their meaning. They sum up almost everthing there is to say about how to fight. And the point is that <u>this is not simply what the German field manual said; this is what German officers generally did</u> on the field of battle.[20]

Among other trenchant comments, the Halder report has this to say about the U.S. Army's 1949 version of FM 100-5:

[W]ar is full of imponderables and surprises. Only a commander who can depend on his own ingenuity and that of his men will be able to make the improvisations dictated by the moment and master situations not

> described in the manuals. True, in order to do this, he
> will have to know exactly what it is he wants to do ... .
> The attempt to find a recipe for every single situation
> with which the lower echelons may be confronted,
> occasionally results in a cut-and-dried "recipe" far
> more detailed than is needed.[21]

If the achievement of an equivalent level of skill in the battle leader-
ship of the American Army were simply a matter of rewriting the doctrine,
there would be few problems -- but to bring about the actual application
of doctrine, in practice, there's the rub.

How did the Germans do it? One commentator argues that the secret
to the German Army officer corps' performance was not a matter of genetic
superiority, or an inherently superior German military ability, or a
product of German culture, but rather a matter of Germany's "more
effective military institutions" in particular "the Prussian General
Staff, which later became the German General Staff".[22]

We should examine that thesis. Even recognizing that for more than
a century the Prussian, then German, officers operated within the
framework of a Great General Staff, we need to ask if that particular
mechanism is the only way today to bring about the institutionalizing of
operational and tactical excellence in an officer corps, and in
particular in the American officer corps. What the "German General Staff
system" provided was, in essence, the following:

1) Very high standards of performance.

> 2) A school system which with historical and other study and thought developed and fostered the spread of those standards, and indoctrinated the officer corps with what those standards meant in practice.
>
> 3) A chain of command which understood what these standards meant and saw to it that they governed what officers did in units and on staffs.
>
> 4) A system of selection for responsible positions which insured that those selected met the standards and screened out those who did not.

Does that require adopting the German General Staff concept? One would think not.

Now, for a troubling aspect of the 1939-1945 German performance. Professor Foerster writes that, not only was the German army's battle leadership heavily shaped by its Imperial German roots, but that it also derived from "the amalgamation of National Socialism and German soldierly tradition."[23] Foerster (whose opinion, incidentally, of Halder's ethics is not high) says that "the ready acceptance of [Hitler's] racial goals by the military establishment and most of the officer corps should not be overlooked." He alludes to "the deep-seated hositility to 'Russian bolshevism' which permeated the officer corps throughout the Weimar period" and says that when Hitler, in planning the attack into Russia, made known his determination "to convert the Wehrmacht into an instrument of extermination alongside the SS, ... [i]t was the Wehrmacht's senior officers and their legal advisers who cast Hitler's ideological intentions into legally valid form." In Foerster's words, "Professionalism and ideology went together well."[24]

Later, Foerster quotes Field Marshal von Brauchitsch saying in the winter of 1940-1941 that "there could be not the slightest doubt about the fact that the training of the soldier to a determined and aggressive fighter could not be separated from a lively education in the National Socialist sense." Foerster describes how the German company commander was expected not simply to "forge the company as a compact unit and both lead the individual man into and keep him within the battle-community (Kampfgemeinschaft)" but was also tasked with the ideological training of his troops toward "an emotional 'instinct' of the Volksgemeinschaft's needs and a staunch belief in the Fuehrer."[25] (Volksgemeinschaft translates roughly into "people's community" and connotes the sought-for common identity of the German people and their Army.)

It is repugnant to think that Hitler's evil notions had anything to do with the high quality of German operational and tactical performance in 1939-1945. But, as Professor Foerster writes, "[d]ifficult though it is to discuss the ideological bond between Hitler and the military within the framework of (military) effectiveness ... ", it is necessary to do so.

Foerster's thesis bears on fundamental issues of motivating troops and their combat leaders in battle. Conduct of battle is not simply a matter of "doctrine" and "training." Effective unit performance in this most stressful of human experiences is above all a matter of personal character and of leadership in all its dimensions and intangibles.

"Effective" the Nazi motivation method for the German Army may have been -- and, likewise, effective Stalin's and his successors' own brands of motivation may be for the Red Army. While we must be aware that our opponents may well utilize such methods of motivation as were used by Hitler and Stalin in World War II, these are not the methods for the American soldier. The challenge for America is to produce, in our own

way, battle leadership like that of the 88th Infantry Division -- as exemplified by Generals Sloan and Kendall and Colonels Crawford, Fry, and Champeny -- and to do it in every combat formation.

* * * * * *

However, for superior military effectiveness in the operational and tactical realms, military forces require more than superior troop leadership. Also needed are the right tools for war. This means:

1) *Good weapons that are commensurate with the need and are in the right mix.*

2) *Having those weapons in the hands of well organized military formations.*

3) *A fighting style in which both leaders and troops are indoctrinated and that is right for the conditions.*

The desired combination is this: material that is right; organization that is right; and ways of operating that are right -- all for the here-and-now time and place -- plus superior troop leadership.

These studies underline that the combination is rarely achieved. For example, in his treatment of the American military in the inter-war years, Professor Spector says that "a general appraisal ... tends to suggest that the Army overemphasized the central role of foot infantry and neglected the role of tanks and mechanization; that the Navy

overemphasized the big-gun battleship at the expense of aviation, anti-submarine, and amphibious warfare; and that the semi-autonomous Army Air Corps tended to overemphasize bombing at the expense of air defense and ground support roles. Only the Marine Corps, with a narrowly defined mission, totally dependent on the larger services for support, appears to have emphasized a balanced all-arms approach to combat.[26] Professor Spector might have gone on to say that for the United States the between-the-wars period ended with the Pearl Harbor disaster. Here, the audit of war revealed the most fundamental flaws in the American approach to multiservice operational command in the field.

What went wrong? What caused things to turn out this way, in 1919-1941, in the American operational and tactical realms? And what must our military institutions do today to prevent the audit of war at some future time from making an equally damning assessment? Putting it differently, how do a nation's military institutions generate the right mix of people, organizations, weaponry, and ways of operating? Does it just "happen that way"? Is that how the Roman legions came about? Or the Royal Navy of Lord Nelson's time? Or the mobile armies of Genghiz Khan? No, it's not "chance" that creates superior military institutions and their forces, but men. When results are superior, there are guiding hands. When results are inferior, there are hands that should have guided but did not. There is also "process," but not a simple self-executing process, or a process that anyone can carry out. A high order of institutional and individual insight -- coupled with plain, ordinary efficiency -- is needed for successfully carrying out the process.

Today the Congress by law has assigned the responsibility to "organize, train, and equip" effective forces to the four services

themselves (Army, Navy, Air Force, and Marine Corps) under the three military departments (Army, Navy, and Air Force). For bringing the four services together so that they function as a single coordinated team, the responsibility belongs to the Secretary of Defense, assisted by the Joint Chiefs of Staff, and to those who hold unified command in the field. Far more complex and amorphous than leading a division or corps, this process depends on collective institutional action. In the American Army today it has become the work of an immense multi-layered mechanism called "combat developments," with processes within processes.

To a degree, the mechanics of the process are important. But concentrating on the process risks losing sight of the substance. And ordered or not, guided or not, the process takes place -- in each service and in their multiservice composites wherever they may be. For the enlightened development of forces, the basic sequence is the same as in field command. Someone, or some group of people, has to:

1) Take responsibility

2) Diagnose the situation accurately and set the objective

3) Develop an appropriate action plan

4) Execute the plan well, adapting to changing circumstances

Obviously, leadership is linked to all this. Like troop leadership, it is a combination of insight and execution -- but it is exercised at the collective, institutional level. The personal insight and executive ability of the most senior officers is the decisive component.

Thus it was, when time was short and the danger great, with the

Soviet Army from mid-1940 to June 1941. In June 1940 Hitler had just swept Britain from the continent and forced France to her knees. The German _Blitzkrieg_ had been awesome; Stalin feared that the USSR would be next. But in the winter of 1939-1940, fighting the Finns, the Soviet Army had shown grave weaknesses. Professor Ziemke describes how Stalin, his Communist party chieftains, and his generals played for time and _urgently coped_. They got less time than they wanted, but when Germany struck in June 1941 enough had been done to prevent total disaster.[27]

The usual problem is not one of short-term urgent change but rather of longer-range evolution; war, although always possible, is usually not imminent. Here, consistent wise leadership must be exercised over a long period of time. These histories indicate that this process was difficult enough forty to seventy years ago. How much more demanding it is in this age of nuclear weapons and microchips, smart missiles and spacecraft, night vision and robotics, not to mention "low intensity conflict." The very range and complexities of combat that are open to our current military forces suggest that the future wars that we fight may well not be the war for which we have prepared. And we will have to adapt to the real conditions, not to what we had expected to find.

* * * * * * *

In this essay, we have looked at the operational and tactical dimensions of military institutions in three levels:

1) *The level of the fighting formation -- the U.S. 88th Infantry Division, for example, and its division and regimental commanders.*

2) *The level of the major force -- Field Marshal Slim in Burma, and Air Marshal Dowding of the Fighter Command.*

3) *The level of the higher military insitution -- the German and Soviet armies, and the American military services.*

In all three, we have said that <u>leadership</u> is indispensable to superior performance. And, in all three, we have said that an essential component of leadership is <u>insight</u>: <u>understanding the situation</u>.

Insight might be highly personal at the level of the division or even at the major force. Insight will of necessity be collective, or institutional, at the level of a nation's services and often with a major force such as Fighter Command. Since I have emphasized "insight;" permit me to introduce here a personal aside. In January 1972, as I left Vietnam for the third and last time, I wrote the required tour-end report for senior officers. It had this to say about "the need for insight":

All too often insight is gained too late, and through adverse experience. I believe that great costs could have been saved in the Vietnam experience if our individual and collective insight had been better as things were developing ... .

... Intellect alone does not guarantee insight. Soldierly virtues such as integrity, courage, loyalty,

and steadfastness are valuable indeed, but they are often not accompanied by insight. Insight comes from a willing openness to a variety of stimuli, from intellectual curiosity, from observation and reflection, from continuous evaluation and testing, from conversations and discussions, from review of assumptions, from listening to the views of outsiders, and from the indispensable ingredient of humility ... .

... while insight is the secret of good generalship in any situation, it is even more a requirement among the intangibles, nuances, and obscurities of a situation like Vietnam. Certainly the responsible officer must be a man of decision, willing to settle on a course of action and to follow it through. But the reflective, testing, and tentative manner in which insight is sought does not mean indecisiveness. It simply raises the likelihood that the decided course of action will be successful, because it is in harmony with the real situation that exists.[28]

In his recent book on Vietnam, General Bruce Palmer, Jr., U.S. Army, Retired, has described how the United States could have "done things differently ... " in "probably ... a more feasible alternative" to the war of attrition that American forces pursued. Palmer writes that we should have used American troops only in the northernmost part of South Vietnam. We should have deployed them (with South Vietnamese and South Korean divisions) along the 17th parallel's demilitarized zone and into Laos, blocking the Ho Chi Minh trail so as to cut off overland

infiltration of support from North Vietnam. And we should have relied on the Vietnamese civil authorities, armed forces, and militia -- with U.S. adv e and assistance -- to take care of the pacification of their own countryside.[29]

These retrospective insights of General Palmer were available in 1965. To some, they were evident at that time; I was one of that number. In 1964-1965, I was a lieutenant colonel student at the National War College. I had just returned from a year as a division advisor in Vietnam's Delta, where my tour had convinced me that the Vietnamese countryside was no place for American troops, and that, if we could stifle outside support to the insurgents, the Vietnamese could, with our help, master the processes of regaining the countryside from the Vietcong.

My experiences had also convinced me that it was essential to stifle the infiltration of outside support. During my student year, I made an analysis of 14 insurgencies since World War II, seven of them successful and seven unsuccessful.[30] From this study I offered the following principle:

> In order for a counterinsurgency to succeed, there must
> be both an internal effort substantially superior to
> that of the insurgents, and an effective restriction of
> (or an absence of) external support to the insurgents.
> Neither action alone is sufficient to success. Both are
> necessary.

Furthermore, I wrote that:

> *Revolutionary war being a social, rather than a*
> *physical, phenomenon, there may be exceptions to this*
> *general principle. However, this examination of 14*
> *cases indicates that a defender against insurgency would*
> *disregard the general principle stated above only at*
> *very substantial risk to his eventual success.*[31]

On file today in the National War College library, still classified Top Secret because it quotes JCS documents, is my 1965 student research paper.[32] It recommends, in essence, the strategy and operational employment described by General Palmer above, and for the same reasons. So, correct insights at the time are not all that hard; even lieutenant colonels can have them. The problem is how to arrange the nature of American military institutions so that the senior generals in charge of affairs will arrive at correct insights -- and, having so arrived, will possess the skills to affect the systematic effort for which those insights call. And one must recognize that the obstacles to insight are many: one's own propaganda; accepting the conventional wisdom; superficial thinking; blindness to reality; self-satisfaction; complacency; arrogance.

Professor Boyd describes some of these characteristics and the consequences for the Japanese Navy in 1919-1941. He notes the "fleet-versus-fleet duel" mind-set of the Japanese Navy in 1919-1941 that derived from that Navy's successes around the turn of the century. He cites "the vested interests of most tradition-minded admirals" and says that, " ... in the areas of convoy escort and ASW, the Japanese Navy became a victim of its previous rigid thinking." He then writes that a "high price would be paid (for this rigidity) for during the Second World

War U.S. Navy submarines accounted for the destruction of about fifty-five percent (1,314 vessels, 5.3 million tons) of all Japanese naval and merchant vessels lost ... .[33]

Doughty describes what happened in France, 1919-1940: the inexorable logic once certain assumptions were made, yet the failure to objectively examine those assumptions; the fixation on total mobilization as the only response; the fundamental misunderstanding of the kind of war for which Germany was preparing; the misconception of the role of armor and of movement in war; a fixed image of how the war would go; the stifling effect of senior officer self-satisfaction. Even to the time of the German attack in May 1940, the French, and the world, saw the French Army as a formidable military force. Yet it was hollow, in decay within. The consequence was the defeat of France in less than six weeks.

Obstacles to execution are equally abundant: inefficiency; poor organization; vested interests; lack of resources; lack of interest; lack of determination; laziness; acceptance of the status quo. Both Italy and Britain between the wars provide examples of the difficulties of "execution," assuming that the insights were present (which they were, to some degree). For Britain, there were the pervasive horror of the Great War, the demands of imperial defense, and the unwillingness of the political leadership to spend money on military forces. For Italy, there was, among other factors, sheer and complete ineptitude in the management of resources and manpower.

As to Vietnam, General Palmer faults the _insight_ of senior American military leaders in the 1960s, and in particular the collective insights of the Joint Chiefs of Staff. Whether, with superior insight, the execution would have been adequate is another question. At least there would have been a chance for success.

Our histories tell us that -- whether it be through lack of insight, or of execution, or of both -- the consequence, in sum, is military folly and failure. In the Vietnam case, a riveting memorial at the west end of the Mall in Washington, bearing the names of some 58,000 Americans who deserved better of their military instituions symbolizes the consequences. The consequence has also been a legacy of distrust of national leadership in matters military, not to speak of a society which has yet to recover from its psychic wounds.

* * * * * * *

How to arrange our American military institutions so that they meet the imperatives at the operational and tactical levels -- so that they do not fail when put to the test but rather succeed? The primary answer, above all: Those who are responsible for our military insitutions have to concentrate on developing leadership of the right kind. This is self-evident; "leadership" should be an objective. But not self-evident is the "kind" of leadership -- or how to go about assuring superior leadership of that kind.

The American military must develop its own standards, but it could do worse than to start with those listed by General Halder and cited earlier in this essay:

a) A great capacity for independent action on all levels of command.

b) Adherence to the mission; that is a moral obliga-
tion to act at all times in the spirit of the
assigned mission.

c) Avoidance of a fixed pattern of action.

d) The ability to make "complete", that is clear and
unambiguous decisions and, in carrying them out, to
establish a definite point of main effort.

e) A constant concern for the welfare of the men and
the conservation of their combat efficiency.[34]

Then ways must be found to bring about conditions that produce the
desired quality of operational and tactical leadership. We neither need
nor want to reproduce the German General Staff system, and we must insist
on a far higher performance by our military in the political and
strategic realms. But we might best begin with the characteristics of
the system that produced generations of superior German performance on
the field of battle:

1) _Very high standards_ of performance.

2) _A school system_ which with historical and other
study and thought developed and fostered the spread
of those standards, and indoctrinated the officer
corps with what those standards meant in practice.

3) _A chain of command_ which understood what these
standards meant and saw to it that they governed
what officers did in units and on staffs.

4) _A system of selection_ for responsible positions
which insured that those selected met the standards

and screened out those who did not.

The fundamental issue is: What kind of leadership is our high command interested in? The top military echelon of each of our military institutions (each Service and the Joint Chiefs of Staff) must decide the kind of leadership it wants and the basic standards of acceptable performance. Then all subordinate institutions must fall in line -- field commands and schools alike -- to foster development of that kind of leadership, and to ensure that those selected for responsible positions meet those standards. _The schools especially must be positive influences for excellence_. Indeed, they are the critical component of the second essential: an _insight-producing climate_ that encourages -- and derives from -- open, honest, and reflective thought.

This cannot be thought that generals and admirals generate and prescribe from the top down. This is thought that also, even mostly, comes up from below -- stimulated by the experience and intellectual effort that officers go through in the field and by their research and thought in schools. Among other duties, the duty of generals is to observe, to think, and to _listen_, even to majors and colonels.[35] Break down the compartments -- wherever they exist -- of Service parochialism, of "turf," of hierarchical layering. Let insight evolve from an atmosphere of open, shared thought.

I cannot speak of the other services, but I have come to know the Army rather well. Somehow, in the last twenty or thirty years, our Army has developed a habit of thinking in terms of fads. Buzzwords have become a substitute for thought. The buzzword of the 1960s was "counter-insurgency" -- which as our Vietnam experience proved we completely failed to understand. We have also become a "process-oriented" Army, in

which the "process" may well be followed but the "product" -- formed without the essential ingredient of insight -- turns out to be self-evidently deficient. How else, other than following a process without insight, can one explain the Army's arriving in 1982 at a "Division 86" which amounted to more than 20,000 men (a product later corrected at considerable travail)? How else can one explain the G3 (operations) section of a light (light, mind you) infantry division which today has a strength of 36 people -- two or three times the operations section of Rommel's _Afrika_ _Korps_ -- at a time when a favorite buzzword is _Auftragstaktik_? How else, other than through process-orientation without institutional insight, can one explain the production in the last dozen years of more field manuals on operations and tactics than the troops can possibly read, including three different versions of the "capstone manual," Field Manual 100-5, that is supposed to be the basis for them all? How else can one explain a pervasive obsession with hardware-oriented "command and control systems" based on stereotyped perceptions of how commanders make and execute decisions in battle -- systems that leave out the all-important human element -- the commander himself and his true operational style?

Insight also stems from honest audits, in the absence of the audit of war. Whatever ideas emerge from the process for developing forces and their ways of fighting, the composite must be tested and subjected to an experience that closely resembles that of war. An honest audit of current and programmed systems for command and control of multiservice forces would reveal them compartmented, data-clogged, slow, and vulnerable. Ways are emerging for achieving an honest audit. With intelligently designed computer support, we should be able to provide commanders and staffs as well as their communications links a practical

experience in the conduct of warfare. The most telling lessons are those of experience, of history in which one has actually participated. Such simulations for commanders, of warefare, can let them experience "military history written in advance."

Finally, there is plain, ordinary efficiency, essential for converting insight into concrete results. One major step toward efficiency would be to cut back drastically on the bloated, yet still "overworked," headquarters in the Pentagon and in stateside provider commands, and to find the time to address the real business of preparing for war. It does not take an immense doctrinal and combat developments establishment to generate superior insight. Indeed, such an establishment suffocates insight. Better to do away with half of it or more, and let an open, enlightened, research-oriented -- as well as instruction-oriented -- school system and the open participation of multiservice field commanders come up with the insights. Nor does it take an immense materiel establishment to convert the products of American industry into weapons and other gear to be used by troops. In this vein, we could do worse than to adopt the recommendations emerging from the Packard Commission.

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In 1986 the military institutions of the United States will begin a process of fundamental change. It is clear that the Congress will pass, and that the President will sign, legislation which will not only permit and encourage the development of multiservice professional expertise but

which will mandate its manifestation in the Joint Staff, in the joint schools and colleges, and in the unified commands.

The new institutional alignment, which will establish a Deputy Chairman of the JCS, second in rank to the Chairman, and which will make the Joint Staff responsible directly to the Chairman, will hopefully make possible the emergence of responsible, objective, independent, coherent, continuing, responsive multiservice military thought. A key feature of this new environment will be that unified commanders will have authority and influence, and the means to exercise that authority and influence. This will realign, in favor of the commands, the relationships between those who employ the forces and the Services which provide them. In doing so, it can among other effects bring efficiencies in the evolution of command and control systems and make possible the achievement for multiservice commanders of an insight of twenty years ago: "The major problem today in the design of a command and control system is how to bring the commander and staff into the decision-making process."[36]

In 1958 (yes, 1958) the Army's Chief Signal Officer wrote:

> On the battlefield of 1962, tactical commanders will have increased command control of their firepower and mobility through new communications and automation. The battle group commander will be able to use a small, mobile computer and associated parts of the automatic data processing system to calculate enemy concentrations ... collate intelligence, calculate march tables, and perform other tasks ... . Automatic data processing equipment at division level will consist of data recording and storage devices and small-capacity mobile

computers ... . Data introduced in the division system will be transmitted to the mobile computers through the Area Communications System. This data will help the various commanders review the situation; it will help them analyze the probable results of various courses of action (both friendly and hostile) and thus will expedite decisions. The equipment will also be used to compile essential reports -- daily personnel summaries, requisitions by units, strength reports, projections on a schedule basis -- the mass and unwieldy flow of which have always been a problem to combat echelons. Similarly, the intelligence staff will be able to obtain current information more quickly.[37]

Only now is General O'Connell's quarter-century-old concept about to come to pass. But it is being realized in a data-clogged, hardware-oriented form which fails to take into account the essentials of operational style. This in turn stems from lack of institutional insight as to how to match technology with the commander's operational style and, then, how to place that technology into the field.

Almost fifty years ago, Hugh Dowding and his Fighter Command, working with P.M.S. Blackett, R.A. Watson-Watt, and others and the miracle of radar, showed us how to marry, with great speed and efficiency, technology and operational style. If our military institutions had but possessed in the 1960s and 1970s the sense of history and the insight to see how to do Hugh Dowding's equivalent in the 1960s and 1970s, how different things would be today. But they did not see it then, nor do they seem to see it now.

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One can hope that, as the military institutional reforms to be legislated are carried out over the next few years, the matters of leadership, of a climate which fosters insight, and of efficiency will receive from the senior military professionals in positions of responsibility the emphasis which is their due. One can hope that, in their wisdom toward the achievement of insight, those senior military professionals will unleash the creative thought and energies of their (especially the joint) schools and colleges, toward an understanding of the lessons of the past and the meaning of these lessons for the present -- and that they will involve the operational commanders themselves.

The twenty-one authors of these histories have given us a good deal to think about. Now it is up to the senior American military leadership to present the American people with the combination of execution and insight that nations have the right to demand from their military institutions but which they have rarely gotten. If they do not, future historians will judge them deficient when their product is audited by the test of war, and the results of that audit may be even more disastrous than was the Vietnam War.

Notes

1. Correlli Barnett, *The Swordbearers, Studies in Supreme Command in the First World War* (London, 1963), p. 10.

2. Williamson Murray, "British Military Effectiveness in World War II," Vol. III, pp. 232-35.

3. Timothy Nenninger, "American Military Effectiveness in World War I," Vol I, pp. 255, 268-69.

4. MacGregor Knox, "The Italian Armed Forces, 1940-1943", Vol. III, pp. 321-22.

5. Robert Doughty, "The French Armed Forces, 1918-1940," Vol. II, throughout.

6. Murray, "British Military Effectiveness in World War II," Vol. III, p. 221.

7. See John Terraine, *The Right of the Line; The Royal Air Force in the European War 1939-1945* (London, 1985); and Derek Wood and Derek Dempster, *The Narrow Margin, The Battle of Britain and the Rise of Air Power 1939-1940* (New York, 1966).

8. See Williamson Murray, *The Change in the European Balance of Power, 1938-1939* (Princeton, 1984) and Wesley Wark, *The Ultimate Enemy* (Ithaca, 1985).

9. Gay Hammerman and Richard G. Sheridan, *The 88th Infantry Division in World War II: Factors Responsible for its Excellence* (Virginia, 1982).

10. Ibid., p. 35.

11. Earl Ziemke, "The Soviet Armed Forces in the Interwar Period," Vol. II, pp. 4, 25-26.

12. Jessup, "The Soviet Armed Forces in the Great Patriotic War, 1941-1945," Vol. III, pp. 507-9.

13. Michael Carver, _Tobruk_ (London, 1964), p. 255.

14. Russell F. Weigley, _Eisenhower's Lieutenants; The Campaign of France and Germany 1944-1945_, (Bloomington, Indiana, 1981) pp. 729-730. For the performance of the German army, heavily attrited on the Eastern Front after three years of combat, see also Max Hastings, _Overlord_ (Greenville, NC, 1984).

15. Trevor N. Dupuy, _Numbers, Prediction and War: Using History to Evaluate Combat Factors and Predict the Outcome of Battles_, (Fairfax, Virginia, 1985).

16. See in particular Martin Van Creveld, _Fighting Power_, (Westport, CT, 1982).

17. Juergen Foerster, "The Dynamics of _Volksgemeinschaft_: The Effectiveness of the German Military Establishment in the Second World War," Vol. III, p. 351.

18. Generaloberst Franz Halder, et al., _Analysis of U.S. Field Service Regulations_, Historical Division, United States Army, Europe, 1953.

19. Ibid., p. 7.

20. See Williamson Murray, "German Response to Victory in Poland: A Case Study in Professionalism," _Armed Forces and Society_, (Winter, 1981).

21. Halder, _Analysis of U.S. Army Field Service Regulations_, pp. 8-9.

22. Trevor N. Dupuy, _A Genius for War; the German Army and General Staff, 1807-1945_, (Fairfax, Virginia, 1984), pp. 300-302.

23.   Foerster, "Dynamics of *Volksgemeinschaft*," p. 351.

24.   Ibid., pp. 382-83.

25.   Ibid., pp. 402-3.

26.   Ronald Spector, "The Military Effectiveness of the U.S. Armed Forces, 1919-1939," Vol. II, p. 162.

27.   Ziemke, "Soviet Armed Forces," pp. 48-53.

28.   Headquarters, Delta Regional Assistance Command, "Senior Officer Debriefing Report of General John H. Cushman, RCS CSFOR-74, 14 January 1972, p. 2.

29.   Bruce Palmer, Jr., *The 25-Year War: America's Military Role in Vietnam*, (New York, 1985), pp. 183-188.

30.   John H. Cushman, Appendix 1 to National War College Individual Research Paper (unpublished), 1965.

31.   Ibid.

32.   John H. Cushman, "External Support of the Vietcong; an Analysis and a Proposal" (Top Secret), National War College Individual Research paper, 1965. A sanitized version minus the quotations from JCS documents has recently been downgraded to unclassified and is available in the NDU library.

33.   Carl   Boyd,   "Japanese   Military   Effectiveness: The   Interwar Period," Vol. II, pp. 289-90.

34.   Halder, "Analysis of U.S. Field Service Regulations," p. 7.

35.   See particularly Timothy Lupfer, *The Dynamics of Doctrine, The Changes in German Tactical Doctrine During the First World War* (Leavenworth, 1981), pp. 8-9 for an outstanding discussion of how the senior German leadership *was willing* to listen to the captains and majors who were waging the front line battle along the Somme in order to reform and improve German tactical doctrine.

36. Dr. Eugene G. Fubini, "We Must Improve Control of Tactical Forces," _Armed Forces Management_, July 1965, pp. 52-57.

37. Major General J.D. O'Connell, "Command Control Capabilities, _Army Digest_, February 1958, pp. 6-10.

THE POLITICAL AND STRATEGIC

DIMENSIONS OF MILITARY EFFECTIVENESS

Russell F. Weigley
Temple University

War in the twentieth century is no longer the extension of politics by other means.[1] It is doubtful whether the aphorism affirming that war is such an extension of politics was ever true enough to warrant the frequency with which it has been repeated. War once begun has always tended to generate a politics of its own: to create its own momentum, to render obsolete the political purposes for which it was undertaken, to erect its own political imperatives. In the twentieth century, as the present collection of essays attests, the hypertrophy of war through war's assuming global dimensions and almost unlimited destructiveness has led most emphatically to the emergence of war not as the servant but as the master of politics.

Twentieth-century warfare sets its own purposes. A war begun to quarantine the Austro-Hungarian Empire against the seditious activities of little Serbia among the empire's Slavic populations generates so much military and political momentum that it cannot end until all the great powers of Europe have been so completely defeated or exhausted that four centuries of European political hegemony over the rest of the world are ended. A war precipitated by American economic sanctions intended to

punish Japan for her military occupation of a remote corner of southeast Asia leads to the shadowing of the globe by the threat of nuclear destruction.

In consequence of this assumption by war of its own momentum and purposes, the questions to which the papers in this collection have addressed themselves regarding the political, strategic, operational, and tactical effectiveness of armed forces have become increasingly difficult to answer. It is a tribute to the skill and insights of the writers of the papers that they have produced nevertheless a series of essays to which students of military organization will turn for reference during many years to come. But to answer the question whether an institution is effective, we must first ask the further question: effective in pursuit of what purposes? And to try to measure the various dimensions of the effectiveness of armed forces involves, because of the self-generated momentum of modern war, a measurement of effectiveness in relation to a continual kaleidoscopic shifting of purposes. Measuring effectiveness becomes almost impossible when the goals to be effected are incorrigibly protean.

Questions about the political, strategic, operational, and tactical effectiveness of armed forces could be dealt with much more satisfact- orily if we were considering European warfare in the eighteenth century and before the French Revolution. Then war was waged within a state system in which the members of the system shared sufficient common political and social values that they could usually limit the purposes of war -- they could usually curb war's tendency to create purposes of its own -- by mutual understanding. In particular, the monarchs who guided the principal members of the state system could usually agree that war should never become so unlimited that it might threaten to topple any of

their number from his throne; if one of them were toppled, all would be in danger. (The determination of Prussia's enemies, particularly Russia and Austria, to destroy that state's great-power status in the Seven Years War is a partial exception to these generalizations.) Usually, all the eighteenth-century powers could feel secure in the knowledge that while rivals might seek territorial gains, fortress acquisitions, or marriage alliances at each other's expense, none would pursue another's complete downfall.

The twentieth century's loss of this mutual understanding about the limitation of the aims of war is illustrated by nearly every paper at hand, perhaps most notably Paul M. Kennedy's "Britain in the First World War." Although Great Britain has been less addicted to the more extravagant war aims of our century than many, perhaps most, of the great powers -- increasing awareness of the relative modesty of her resources reinforcing a tradition of political moderation -- the British government decided in World War I, as Professor Kennedy shows, that British security depended on containing German power in Europe -- but with the corollary that it was difficult to envisage how the German capacity to upset the European balance could be contained without a virtually total defeat of Germany. At the least, Great Britain and her allies must be able to defeat Germany completely enough to permit intervention within Germany after the war in order to democratize the regime. The sense of community and mutual forbearance that had characterized the European states in the eighteenth century had eroded almost completely even in Britain by 1914-1918. And in two critical respects, the British experience in the First World War went on to demonstrate how the loss of limitations upon purpose in war has also eroded away the criteria for measuring the effectiveness of military forces.

In the first place, as Professor Kennedy goes on to remark, the total defeat of Germany probably never offered Great Britain the measure of security she sought from it, no more in 1918 when so complete a defeat was not attained than in 1945 when it was. The total defeat of Germany always implied the creation of a power vacuum in central Europe that would be likely to invite the advance of dangers from Russia not much if any less threatening than those that Germany might pose. The policymakers who guided eighteenth-century wars had usually recognized that the total defeat of one's enemy is all too likely to redound upon oneself; somehow, by the early twentieth century even Great Britain had lost much of this insight.

In the second place, Britain's quest for the total defeat of Germany undercut the effectiveness of the British armed forces by imposing upon them strategic, operational, and tactical demands beyond any they could well afford to meet. The quest for the total defeat of Germany assured the prolongation of deadlock on the Western Front. If total German defeat were the object of British policy, then strategy, operations, and tactics had to seek the destruction of the German Army. Nothing less would bring about Germany's complete defeat. And the only way to pursue the destruction of the German Army in 1914-1918 was to engage it in a war of attrition on the Western Front.

In fact, I believe that the inordinate ambitiousness of British war policy in 1914-1918 locked the British into the slaughterhouse of the Western Front more inextricably than Professor Kennedy concedes. He argues that the real issue in British policy during World War I was not the degree to which the military leaders could influence policymakers to seek militarily logical national goals -- one of the fundamental issues to which these papers are to address themselves -- but rather the degree

to which the policymakers could influence the military to pursue strategic goals by practicable means. Unfortunately for the British, there was no truly practicable means of pursuing the strategic -- and policy -- goal of the virtually total defeat of Germany. The only available means was to fight on the Western Front, a means that Professor Kennedy among many others shows was ultimately impracticable in that the costs were hugely disproportionate to the policy objectives.

Altogether, there was no way in which the British armed forces in World War I could be politically, strategically, operationally, and tactically effective, as long as the policy goal was the destruction of German power. Politically, the pursuit of this goal imposed strains on British economic resources and social cohesion that undermined not only Great Britain's very status as a world power -- to enhance which the British thought they were fighting -- but the deepest well-being of British society, the social contract itself. Strategically, the pursuit of total victory left no escape from concentrating the British Empire's principal military effort on the Western Front, to try to destroy the German Army. Operationally, the concentration on the Western Front left no alternative to the Somme, Passchendaele, and similar offensives. Since between the late summer of 1914 and the spring of 1918 the Germans would not take upon themselves offensive operations against the British, London's goals left no choice but to accept the initiative that the Germans eschewed. Tactically, Britain's policy and the corollary of the Western Front strategy left no alternative to costly infantry assaults, because the military technology of the time offered no substitute for hurling human bodies against the enemy's barbed wire, maching guns, and artillery.

This lack of tactical options given the political, strategic, and operational imprisonment of the army on the Western Front has to be underlined. The tanks of the era broke down too readily to be a decisive weapon. As various of the papers addressing themselves to World War I tactics indicate, it is doubtful that the infiltration tactics employed by the Germans in their 1918 offensives could have appreciably changed the outcome if the British and French had introduced such tactics in their own, earlier offensives. Infiltration tactics might have bought somewhat more ground at somewhat less cost; against a still-vigorous and skillful German army, they would not have been likely in 1915, 1916, or 1917 to have overturned the strategic and operational balance.

The other papers on the major belligerents who fought throughout the First World War, certainly Douglas Porch's on the French military and Holger H. Herwig's on the Germans, point to the same conclusions. The earlier European sense of mutual interests shared by all the powers had so broken down, and all the Continental powers except Italy pursued policies so ambitious, that political, strategic, operational, and tactical effectiveness of armed forces in service of governmental policy was all but impossible. Policy demanded the payment of military prices so high in the exhaustion of manpower and resources that the effectiveness of the armed forces was bound to be disastrously eroded, if not nearly destroyed. The issue was not the degree to which policymakers could influence the military to seek strategic goals by practicable means, because no practicable means could achieve the desired goals.

To be sure, the military themselves had all too consistently abdicated their responsibility to influence policymakers to establish militarily attainable national goals. All too consistently, the military conspired in setting up policy goals in quest of which no strategic,

operational, and tactical means could be truly practicable or effective. The conduct of the German military leaders in resisting such efforts as _Reich_ Chancellor Theobald von Bethmann Hollweg initiated toward a compromise peace, insisting instead that some such operational means as unrestricted submarine warfare could produce the total defeat of the _Reich_'s enemies, offers the most conspicuous case in point.

If the armed forces of any of the major World War I belligerents are to be distinguished from the others, in fact, for superior effectiveness according to any of the criteria at hand, it might well be the often-maligned French. With many of the richest industrial departments of their country occupied by the enemy throughout most of the war, the French had less choice than the Germans or the British about the extent of their war aims. They could not very well settle for less than the enemy's complete evacuation of their northeastern departments if France were to remain a great power. They had little choice also but to insist on the restoration of the full independence of Belgium. Given these conditions, they could scarcely pursue any strategy except that of breaking the deadlock on the Western Front, or any operations or tactics except those that offered a hope of contributing to that end. As Douglas Porch indicates, however, in operational and tactical matters the French were at least marginally more innovative and flexible than the British. Once Henri Philippe Pétain, _général de division_ (eventually _général d'armée_ and _maréchal de France_) rose to the command of their army, his operational scheme of limited, local attacks and his waiting for more tanks and for the Americans were appropriate adjustments to the circumstances.

If France, often maligned for military ineffectiveness in the Great War -- the shadows of 1870-1871 and 1940 no doubt distorting our perceptions of 1914-1918 -- emerges relatively creditably from a comparison with the other principal World War I belligerents, Holger H. Herwig in contrast leaves the German reputation for exceptional military effectiveness in tatters as far as the Great War is concerned. Professor Herwig's paper is a salutary corrective to recent tendencies among American military historians to make the Prussian and German armies after 1866 appear as veritable superarmies. Perhaps less acutely needed, but also useful, is Professor Herwig's corrective to any lingering scholarly remnants of Samuel P. Huntington's depiction in The Soldier and the State of Prussian-German political-military organization as an ideal type of civilian control of the military.[2]

Out of a tangled web of interlocking civil and military institutions calculated not to foster but to frustrate civilian control, and indeed to prevent any reasonable civil-military communication and understanding as well, came Generaloberst Alfred Graf von Schlieffen's famous plan that shaped at the outset German participation in the First World War. Schlieffen as Chief of the General Staff and therefore chief adviser to the Imperial Supreme Commander had devised an operational plan that was inconsistent with both the policy and the strategic interests of the German Empire on the one hand and with the logistical and tactical capabilities of the German Army on the other. As for policy, while Bethmann Hollweg knew about the plan before the war began, its nature was never adequately communicated to the political authorities; in it the Army unilaterally developed a scheme that was almost certain to add Great Britain to the list of Germany's adversaries in a war against France and Russia, and that would also be detrimental to the defense of Germany's

principal ally, the Austro-Hungarian Dual Monarchy, whose officials were also inadequately informed. As for strategy, the Schlieffen Plan failed to take appropriate account of the Russian threat either to Germany herself or to Austria-Hungary. As for the logistical and tactical capabilities of the German Army, the plan practically assured an advance that would outrun the limited transport facilities of the Army beyond railheads -- outrunning particularly the capacities of the Army's limited truck transport -- and thus assured also a tactical crisis when the Army would have to fight a climactic battle for Paris at the very time when its logistics were stretched to the breaking point.

The response of the German military leadership after the failure of the Schlieffen Plan in 1914 had left the war deadlocked was also even less conducive to military effectiveness than the French response to the same situation of deadlock. The muddled German constitutional arrangements for civil-military relations permitted the Supreme Headquarters of the Army (Oberste Heeresleitung) in effect to take control of the whole government of the empire, practically besieged by opponents on the west, east, and south. This military usurpation stultified German political life, with the further effect of stifling the efforts of Bethmann Hollweg and other politicians to find a negotiated peace. The absolute supremacy of OHL also discouraged operational and tactical flexibility within the Army by establishing an overly centralized control in which almost nothing could be done without reference to Supreme Headquarters.

Nevertheless, it remains not without some reason that military historians have tended to regard the German Army as the most effective in the world operationally and tactically from the campaign of its predecessor Prussian army against Austria in 1866 to the downfall of Führer Adolf Hitler's Germany in 1945. In spite of the crazy-quilt

complexity of the German Empire's military organization, and in spite of the flaws in German military performance during World War I so clearly delineated by Professor Herwig, the German Army also displayed in World War I various noteworthy operational and tactical virtues -- some of them, also enumerated by Professor Herwig, were the artillery reforms that culminated in the introduction of the creeping barrage, and increasingly flexible infantry assault tactics that culminated in the appearance of infiltration tactics. The modern German Army also developed an unparalleled measure of unit cohesion than enabled its constituent elements to survive under brutal casualties and to rebuild themselves with phenomenal speed and effectiveness should only a cadre of commissioned and noncommissioned officers survive some especially costly encounter.

Not the least of the contributions of Professor Herwig's critically analytical paper, however, is its stress on the ways in which even the salient virtues of the German Army contributed to its undoing in the First World War. Particularly, the very tactical strengths of the Army helped shape the climactic 1918 offensives in such a way that they unsystematically exploited tactical advantages wherever those advantages might appear, without imposing on the offensives an operational or strategic coherence, which made probable ultimate failure become inevitable failure.

This climactic German failure of letting tactics control strategy was not completely different, however, from the methods of generalship for which I have praised General Pétain. He, too, let tactical considerations dictate his operational and strategic designs, albeit with a caution and a fundamental realism and rationality that the German commanders of 1918 lacked. The significance of this ascendancy of

tactics over operations and strategy returns us, however, to the main thread of our argument. It was surely an evidence of the extension of policy goals beyond anything that strategy or operations could hope to grasp that military commanders felt obliged to concentrate on tactics and technique. At least a creeping barrage by the artillery or infiltration tactics on the part of the infantry might produce a reward on the battlefield proportionate to the effort that went into them: a small reward, calculated in incremental advantages in reducing casualties or capturing narrow patches of terrain, but nevertheless a kind of success at a time when policy, strategy, and operations all sought goals the pursuit of which had degenerated into bloody futility.

The participation of Japan in the First World War, outlined by Ian Nish, stands out in marked contrast to that of the major European powers. The reason for the contrast lies of course in the limited nature of the objectives of that nation-state and also of its armed forces. Seeking principally to capitalize on Europe's troubles to acquire territory and influence previously held by the European powers in the Far East, Japan felt no need to resort to strategic, operational, or tactical means disproportionate to the objectives sought. At the same time, the armed forces of Japan possessed uncommonly effective means of securing political acceptance of their desires in terms of budgets and force structure in the constitutional right of direct access to the Emperor and through the extraconstitutional institution of the Genrō and the custom that the war and navy ministers must be appointed respectively from among generals and admirals on the active list. While Professor Nish suggests that these arrangements did not result in so much harmony and cooperation between the civil and military branches of government as other historians have sometimes thought, nevertheless civil-military tensions were

moderated because the vital interests of the nation were not directly at stake. There could be and were tensions within the Japanese military, such as Professor Nish's example of disagreements over whether a naval squadron should be sent to the Mediterranean, with some naval officers themselves questioning the worth of this deployment in terms of the naval experience it might impart or the prestige and influence it might buy. But again, no vital national interests were threatened, and the military organizations of the country were not hard pressed to pursue effectively such limited objectives as Japan sought in the Great War.

Italy, as portrayed by John Gooch, may also represent an exception to the succumbing of the World War I powers to inordinate ambitions. But the exceptional aspects of Italy's participation in the war must be viewed in the light of Italian weakness. Italy was certainly the least of the great powers; behind her facade of great power status she was in fact an underdeveloped country. Therefore, even the pursuit of relatively modest goals could impose upon Italy strains more severe than the prizes were worth.

The history of the rise of the Kingdom of Sardinia-Piedmont to become the nucleus of the United Kingdom of Italy had been one of continual use of opportunely timed war to take advantage of various distractions vexing the greater powers and thereby to win sometimes remarkably large gains at moderate expense. In World War I, Italy hoped to repeat this pattern. She waited to enter the war until she could judge whether Austria-Hungary or France, both of whom possessed territory that she coveted, seemed to offer the more likely prospect of collapse and easy territorial harvest. In 1915, Italian politicians calculated that the better prospects lay in attacking Austria; France's weaknesses, aggravated by unlimited war, could be exploited later. The Italian

perception of Austria's vulnerability was partly but not entirely wrong. Italy entered upon a more difficult and expensive war than she would have wished for, but eventually the multinational Danubian Empire did collapse, whereupon Italy eventually captured some of her expected spoils, including the Trentino and the city of Trieste along with much of the rest of the Istrian peninsula. (The city of Fiume, initially established by the Treaty of St-Germain as part of the Free State of Fiume, gravitated to Italy later, under the Treaty of Rome of January 27, 1924, which divided the Free State between Italy and Yugoslavia.) In balance, however, the grueling campaigns that Italy had to fight in the Alps before the death-throes overtook Austria-Hungary, and especially the humiliating Italian defeat at Caporetto beginning October 24, 1917, added up to losses and suffering disproportionate by almost any reckoning to the prizes eventually reaped.

Part of the cost consisted of the weakening of Italian parliamentary government to permit the imposition of the Fascist dictatorship of il Duce Benito Mussolini during 1922-1923. In this perspective, the Italian experience in World War I suggests that when the policy goals of one's allies and enemies have grown inordinate, it is almost impossible to extricate oneself from the consequent inefficacy of either strategy, operations, or tactics in quest of those goals, no matter how limited one's own objectives. Only a power remote from the main theater of action, such as Japan, could avoid being drawn into the general calamity that follows when the principal powers of rival belligerent coalitions reach for war aims beyond the capacity of any strategy, operations, or tactics to attain at reasonable cost.

Perhaps the most remarkable aspect of Italy's participation in the First World War, however, was not that the kingdom was sucked into a

maelstrom in which crafty calculations of prizes and prices ceased to be relevant to the circumstances at hand, but that the underdeveloped Italian state contrived to fight with as much operational and tactical effectiveness as it did. Considering the stringent limitations of Italian resources, it was no small feat merely to maintain an army with any respectable operational and tactical capacity whatever through three years of combat in an Alpine arena of nightmarish logistics and yet more nightmarish living conditions for the troops. Merely sustaining the endless battles of the Isonzo manifested no small operational and tactical effectiveness on the part of the Italian Army. It was an achievement that could scarcely have been predicted before the war began. It was an achievement suggesting that the Italian Army had contrived to develop a strength, cohesion, and resilience superior to those of the state it served. Military organizations are often said to be reflections of the societies that create them. While necessarily true in large measure, this axiom is not true in any simple way. The Italian Army of World War I transcended to an impressive extent the weaknesses of the Italian state.

Of course, the Italians were mostly fighting the armies of decadent Austria-Hungary, but the Italian achievement is as impressive as it is because the Austro-Hungarian Army rose to a similar transcendence. It fought World War I with considerably more operational and tactical effectiveness and especially with a greater endurance than the rickety condition of the multinational Hapsburg empire would have led almost any observer in 1914 to predict. Like the Italian Army, the Austro-Hungarian Imperial and Royal Army of World War I was no mere reflection of the society it served, but an entity able to rise above at least some of the weaknesses of that society. Much the same kind of statement might be

made about the Russian army in the same war, as it might be made about the Confederate States Army in another war. During the last phases of the American Civil War, it had been not the Confederate States government that sustained the army but the army that sustained the government. In the papers at hand, the Italian and Russian armies of World War I can be seen as having come close enough to doing the same thing. The contributions of John Gooch and David R. Jones at least hint at a variant of military effectiveness that goes beyond the usual dimensions suggested by the introduction to these essays. Armed forces can sometimes attain lives of their own separate from and more vigorous than the lives of the states and societies that first nurtured them.

Like Japan and unlike Italy, the United States in World War I was fortunately remote from the center of the maelstrom, and therefore not necessarily susceptible to being drawn willy-nilly into the maw of policy commitments exceeding any practicable attainments of strategy, operations, and tactics. The experience of the United States, as presented by Timothy K. Nenninger and followed by Ronald H. Spector to 1939, was indeed not so different from that of Japan, as a cursory reading of the papers might at first suggest. It is true that because the United States in 1917–1918 pursued immensely more ambitious policy objectives than Japan, and because this pursuit demanded an abrupt shifting of political and strategic gears, the military organizations of the United States did not function in World War I with the smooth-running, unhurried effectiveness of the Japanese forces. In spite of the confusions of abrupt and rapid mobilization, however, and in spite of the inability of the American forces during the short span April 6, 1917 – November 11, 1918 to attain all their goals in acquiring matériel and in meeting operational and tactical objectives, the total picture is one of

extraordinarily effective redirecting of the national energies from peaceful to military purposes. And in spite of the Americans' ostensible dedication to policy goals so extravagantly ambitious as ending all wars and making the world safe for democracy, distance and belated entry prevented these goals from devouring all strategic, operational, and tactical effectiveness. The costs of the war to the United States were not altogether disproportionate to the increase in American influence and diplomatic power that came out of the participation, and the costs would have been still more worth paying if the United States had employed its enhanced influence and power more wisely in furthering its national interests.

Of course, there is a contrast between America and Japan also in Professor Spector's depiction of the abrupt American reversion to military inactivity after 1919. The American armed forces enjoyed nothing like the ability of their Japanese counterparts to shape the policies of the civil government in peacetime, and soon after the First World War the American forces again became objects of neglect. When the prospect of a second American involvement in global war emerged at the end of the 1930s, the American military would have to undergo a second rapid shifting of gears, almost as abrupt and jarring as in 1917-1918. Nevertheless, from 1917 onward the effectiveness of the American armed forces in relation to policy goals seems reasonably high.

In particular, we do not find underlying Nenninger's and Spector's periods in United States military history those unthinking antimilitary attitudes and that wanton indifference to the needs of military preparedness with which historians within the armed forces have often charged the presidents and the Congress. After all, small and inexpensive military organizations fitted rationally into American

national policy through almost all of the country's history until 1939 and were also consistent with the inherent geographic security of the United States against all foreign military threats to its vital interests. There was no need to expend large sums of money or large portions of the national energy on military preparedness because the United States, even more than Japan, had no really vital interests to advance or protect militarily in the First World War or in the twenty years that followed. Even to the end of World War II, the American continental homeland was secure against any substantial external military danger. If anything, the most glaring example of ineffectiveness displayed in American military history up to 1939 involved not the strategic, operational, and tactical difficulties attendant upon rapid mobilization and abrupt commitment to Europe in 1917-1918, but rather the political inefficacy of the civil government's forcing such activities upon the military organization when national interests demanded nothing of the sort. No vital foreign-policy objective required large-scale American intervention in the battles in France in 1917-1918; the absence of any such vital interests did much to encourage resorting to irrational, unattainable war aims whose pursuit made matters worse by impeding the nation's understanding that, once it was committed to joining in the war, the way was at least open toward modest gains in influence and relative power that might have been capitalized if they had been better understood.

In any event, contrary to the hoary historical myth of an antimilitary American, the American civil government never consistently denied its military organizations the means to fulfill with reasonable effectiveness the responsibilities demanded of them. When American policy made its dubious plunge into Europe in 1917-1918, the armed forces

were granted just about all that was possible of the resources they needed to attain immensely enhanced purposes. But for most of the twentieth century until 1939, the key to the history of American military organizations was -- as it was also for Japanese military organizations until about the same terminal date -- a confinement to limited objectives. By keeping national purposes limited through most of the period, the United States could with relative ease build and maintain armed forces suitable to those purposes -- just as, conversely, the experience of the major European belligerents in the First World War indicates that when national purposes grow extravagant, no straining of resources can bring about strategic, operational or tactical effectiveness in their pursuit.

Before leaving behind reflections on the military experience of the First World War, it seems imperative to underline the consistent absence of effective cooperation between armies and navies. This theme is at least a subsidiary feature of every paper dealing with World War I in a nation where the navy as well as the army had a major role to play. Around the globe, from Great Britain to Japan -- and conspicuously including those two maritime powers, to the safeguarding of whose national interests their navies were peculiarly vital -- relations between armies and navies displayed less of cooperation than of mistrust and misunderstanding. In no country did either service show much regard even for what the other might contribute to its own operations, let alone to the larger policy and strategy goals of the nation. The detailed staff contemplations that made up Germany's Schlieffen Plan did not extend to considering whether the German Navy might impede the flow of British reinforcements to the French across the English Channel. If army staff planning thus neglected possible naval roles, the navies were in

worse condition; they had almost no strategic or operational planning worth the name. Neither in Great Britain, its leadership in naval development notwithstanding, nor in Germany, its leadership in the development of professional military staffs notwithstanding, did the navy possess in World War I a planning agency comparable to the ones that the Prussian example had made commonplace in armies. No other navy had a head start where these two lagged.

More than interservice competition between each nation's army and navy was at fault here. Interservice competition can go only part of the way toward explaining the dearth of army-navy cooperation. It does not explain why navies lagged behind even in creating the institutions that should have been the agencies of cooperative planning between them and the army general staffs. Why were naval general staffs almost nonexistent? A possible explanation worth further exploring by students of military institutions is that the absence of naval organizations comparable to army general staffs was one indication of a larger lagging of navies behind armies in the development of military professionalism in their officer corps.

When Captain Stephen B. Luce established the United States Naval War College in 1885, he perceived the need for the college in terms of the absence of a desirable degree of professionalism among naval officers, particularly in their lack of an education in strategy. Naval officers were professionals in seamanship but not, Luce believed, in the conduct of war. While his diagnosis and his attempted remedy applied specifically to American naval officers, the American situation was by no means unique. Even the British lacked an articulation of the very principles of naval strategy on which British sea power and the worldwide British Empire were based, soon to be expounded for them at Luce's war

college by Captain Alfred Thayer Mahan. In virtually every country, the tradition of naval education, such as it was, was a tradition of practical and technical instruction, conducted largely on shipboard. Navies had not developed the theoretical and historical approach to the education of officers in operations and strategy that had gradually permeated all the major armies during the nineteenth century. Without such a foundation, there was no professional education of naval officers comparable to that of army officers, and therefore in a real sense only a decidedly limited military professionalism among those officers. It is not at all unlikely that the lagging pace of naval as compared with army military professional development was a major factor impeding communications and cooperation between the services.

The essays that move on into the interwar years and through World War II confirm what has become almost a commonplace of the history of civil-military relations, that the influence of armed forces upon national policy and the relative independence of military organizations from civilian control reached their apogee in the early years of the First World War and thereafter declined. In a narrow view of the effectiveness of military organizations in influencing politicians to meet military ends, this decline meant a loss of effectiveness; in the broader perspective of the principle of civilian control of the military, it was of course a gain. In no major power except Japan did the armed forces possess in World War II the autonomy and the ability to influence policy that they enjoyed to a considerable extent during World War I in all the great powers, including the English-speaking democracies. Earl F. Ziemke's and John E. Jessup's papers on the Soviet Union before and during World War II present something of an extreme case of a military organization's loss of autonomy and influence, in the

increasing subservience of the Soviet armed forces to the Communist party and to party General Secretary, Premier -- and Generalissimo -- Josef Stalin. But the Soviet instance only carried to more radical -- and in the purges, more terrible -- conclusions the process of throttling military independence that occurred in all the powers except Japan.

The exception provides a critical clue to the causes of these developments. Because Japan's aims had been so limited in the First World War and the aims had therefore been largely attained, Japan was the only one of the powers that emerged from the First World War virtually without a backlash of political and public resentment toward the military for failing to fulfill promises. In all the other powers, the military had received a generous measure of both autonomy and political influence during the early stages of their participation in World War I on the at least implied promise that in return each military organization would reward its people and government with victories over foreign foes comparable to those won by the autonomous Prussian army in 1866 and 1870-1871. In 1914-1918, however, the armed forces of all the European powers had repaid the granting of autonomy and influence not with victories but with a bloody stalemate. The consequent disillusionment led to a gradual reassertion of civil supremacy over the military in all the European powers except Germany well before the First World War ended, and the process continued after the war.

Even the United States in some measure fitted this paradigm. In 1917-1918, the American army could have had almost anything it asked for, and General John J. Pershing as commanding general of the American Expeditionary Forces exercised an independence from the control of the civilian Commander in Chief unparalleled in United States military history. But while the American participation in the war was too brief

to include a bloodbath on the European scale, and while geographic remoteness indeed gave the American participation more than a little resemblance to Japan's, nevertheless the American people made sacrifices and invested a fervor in the war that after November 11, 1918 came to seem disproportionate to any rewards that they earned. So the American military, while never sinking into the disfavor that some service historians have alleged, certainly lapsed far from the independence and prestige it enjoyed during the war. More than the difference in personalities between Presidents Woodrow Wilson and Franklin D. Roosevelt was involved when the World War II Commander in Chief proved vastly more active and assertive in his control of the armed forces than Wilson had been.

It is worthy of particular note, however, regarding the interwar years that the reaction in favor of much enhanced civilian control prompted by disillusionment among civilians with the course of the 1914-1918 war -- the decline consequently in the effectiveness of armed forces in securing civilian acceptance of their political goals -- produced no conspicuous falling off in the armed forces' potential tactical and operational effectiveness in qualitative terms. Thus, there was no major falling off of their potential strategic effectiveness, provided always that strategic goals were kept within rational distance of their grasp. There proved to be no necessary correlation between politically autonomous armed forces and militarily effective armed forces. If anything, a case could be made in the opposite direction, that in response to relative loss of political effectiveness during the interwar period, the armed forces, thus obliged to focus upon their military effectiveness within a political framework ordained for them, enhanced their qualitative effectiveness in tactics and operations.

The German military, for example, were among those most drastically deprived of their previous political effectiveness. If the _Reichswehr_ of the Weimar Republic retained disproportionate political weight within the republic as something of a state within the state, it none the less had to tailor itself to the exceedingly severe restraints of the Treaty of Versailles upon its ability to gain through politics the resources it might have desired. After the Führer Adolf Hitler came to power, the German armed forces had to adjust to a more ubiquitous as well as more potent and vigorous political control than any remotely approached in the previous history of modern Germany. Yet the interwar German armed forces depicted by Manfred Messerschmidt look decidedly effective in their tactical and operational potential in contrast to the World War I German forces portrayed by Holger Herwig. The austerity of the Weimar years compelled the German military to prune away most of the organizational anomalies that had hampered them during the Great War. More efficiently organized within, the armed forces then were ready to capitalize on the generous resources awarded them by Hitler to develop the theory and practice of _Blitzkrieg_ warfare, an advance in tactical and operational capacities enhanced rather than restricted by the loss of the military's political autonomy to Hitler, who was himself a champion of _Blitzkrieg_ concepts.

In Britain, not dissimilarly, the efforts of civilian statesmen to recapture and retain ascendancy over the military stimulated an impressive advance in military organization early in the interwar years in the creation of the Chiefs of Staff Committee (COS), which placed Britain in the forefront among the major powers in achieving interservice coordination, but which was also an effective effort to adjust the activities of the professional leadership of the armed forces to more

active civilian control while retaining sufficient safeguards for the assertion of military views on policy and strategy to assure reasonable protection for the military's interests. In Britain also, where the Royal Air Force was the armed service subject to the most active civilian interest, it was eventually this very civilian influence on military policy that was critical in shifting the balance between Bomber Command and Fighter Command enough in the latter's favor to make possible its triumph in the Battle of Britain. Altogether, Brian Bond's and Williamson Murray's essays on Britain between the wars suggests that reduced British military influence on policy produced a healthier effect than otherwise upon strategic, operational, and tactical effectiveness.

In the United States, it was the navy that was the armed service receiving the most intimate civil supervision and control during the interwar years, because the navy with its Pacific Ocean orientation bore the closest relationship to civilian foreign-policy interests during those years. The limitations of the Washington Naval Treaty of February 6, 1922 and subsequent international naval agreements notwithstanding, however, Ronald H. Spector's paper indicates that the very energy and constancy of civilian interest in and shaping of the navy eventually assured that when the foreign policy interests it served in the Pacific were challenged, the navy was of all the American forces the one best prepared, in doctrine as well as material resources, for the trials of World War II. Civilian indifference left the army freer to develop its own choices in weapons design and force structure -- within severe budgetary limits, to be sure -- but the army with this larger autonomy succeeded rather less well than the closely watched navy in readying itself for World War II. For example, Spector's essay shows the navy more flexibly adjusting itself in doctrine and structure to the

aircraft carrier than the army did to the tank.

Of course, the post-World War I pattern of civilian restriction of armed forces' effectiveness in shaping policy could be carried to nearly disastrous excess -- as in the great purges of the officer corps of the Soviet Union in the late 1930s. Even in the Soviet Union, however, active civilian preponderance in shaping military policy and strategy also meant the preparation of the Red Army for an operational and tactical effectiveness in World War II far exceeding the effectiveness of its tsarist predecessor in World War I, not only through the modernization of the state and the economy that supported the armed forces, but also through the political regime's contributions, albeit uneven, toward pushing the army into the age of mechanized war.

Conversely, in Japan, the one major power during the interwar years in which, as Carl Boyd's contribution shows, the political autonomy of the armed forces persisted in the pattern of World War I and earlier, a satisfied and complacent army failed to wrench itself loose from early twentieth-century operational and tactical modes into those of mechanized war. The consequence was a thrashing of the politically autonomous Japanese Army by a politically weak but operationally and tactically effective Red Army in the clashes along the Mongolian border on the eve of World War II.

In the two nations whose armies most glaringly failed to maintain operational and tactical effectiveness during the interwar years, Italy and France, it was neither effectiveness in influencing state policy nor the lack of it that determined the deficiencies. In Italy, the more vigorous civilian control of military policy exercised by Mussolini as compared with the earlier regime was able to correct some of the long-standing operational and tactical shortcomings. Mussolini's encourage-

ment of the air force permitted Italy for a time in the 1920s and early 1930s to achieve a stature in military aviation considerably exceeding the country's resources. But in Italy, insufficient resources for genuine great-power status continued to impose an impenetrable barrier against military effectiveness of great-power standards, notwithstanding the progress attained over the Italy described by John Gooch in his World War I paper. The interwar Italian military weaknesses detailed by Brian R. Sullivan were in tactical and operational doctrine those of forces tied like Japan's army to World War I conceptions, most notably in excessive reliance upon the infantry. But in Italy those weaknesses were rooted ultimately in the inadequacy of the country's resources to equip more modern mechanized forces on a great-power scale.

The accumulating tactical and operational deficiencies described by Robert A. Doughty, in the French armed forces, which had performed remarkably well in 1914-1918, were also fundamentally those of inadequate resources, but in a different sense than with Italy. In France the absolute limitations imposed by the national economy were of course far less severe than in Italy. France possessed enough inherent strength to rank properly as one of the great powers according to the standards of the 1930s. Unfortunately for France, however, she was not permitted to be merely one among the great powers. The peace settlement of World War I required her to be the great power of continental Europe, the policing power that was to enforce the military and other restrictions of Versailles upon Germany, and the military ally to the relatively weak eastern European states, where French support was to assure their viability in spite of the overshadowing potential power of their German and Russian neighbors. It was for this exceptional role as the military arbiter of interwar Europe that the resources of France were much too

limited to permit the French military to face their responsibilities with confidence. The French Army of the interwar years bore responsibilities beyond any tactical, operational, or strategic effectivenss that it might realistically hope to achieve. The sequel was that the confidence of the French military inevitably waned, and with the waning of assurance that it could accomplish its potential missions, the French military withdrew into the siege mentality of defensive-mindedness that during the 1930s eroded its ability even to capitalize on such resources as it possessed. But the sources of France's crippling military predicaments did not lie in reduced military effectivenss in influencing civilian policy as compared with 1914. They were inherent in the international responsibilities of the Third Republic. Permeating Doughty's account of the French Army is the debilitating effect of overlarge burdens upon a force that began the interwar years reasonably effective but gradually crumpled under weights too heavy to bear.

The shift from autonomous military organizations highly effective in securing acceptance of their policy and material desires from the rest of the state -- or in imposing their desires -- to armed forces decidedly subordinate to the political leadership occurred belatedly but most dramatically in Germany. Manfred Messerschmidt's and Jürgen E. Förster's essays on the German military between the world wars and during World War II, respectively, delineate the course of the shift in power to Adolf Hitler as master of the Third Reich in almost every dimension, including the now chastened and subordinated armed forces. In Germany, the decline in military autonomy was postponed until well after it occurred in the other European powers, in spite of the external limitations on German military effectiveness imposed by the Treaty of Versailles it was postponed in fact deep into the interwar years, until 1933 and after.

The delay occurred partly because of the deeply rooted German and especially Prussian tradition of respect for the military, partly because during the First World War the German military had seized so complete a grip upon the other institutions of the state that the habit of deference to the military became yet more firmly established than before, partly because the exposure of defeated Germany to the Communist threat in the aftermath of 1918 placed the bourgeois Weimar Republic in uneasy dependence upon the military.

Nevertheless, in Germany as in all other European great powers, the military during World War I had failed to fulfill their implied promise of victories on the 1866 and 1870-1871 models in return for their privileged position within the state. The post-1918 claim of the army that it had not been defeated -- the stab-in-the-back legend -- could not altogether gloss over the reality that whether or not the German Army had been truly beaten, it had certainly not won the war. The First World War left an inheritance of disillusionment with military autonomy and privilege even in Germany. The disillusionment laid the foundation for Hitler's humbling of the German armed forces.

If the humbling of the German military was the most dramatic turnabout in the status of any of the major armed forces after World War I, however, and the subordination of the Soviet armed forces to the political apparatus of the dominant party in the state was the most complete subjugation of the military to politics, these German and Soviet instances also underline the decided limitations displayed by the reassertion of civilian control of the military after about the mid-point of World War I. Those limitations provide by no means the only explanation why the loss of political effectiveness by armed forces in the interwar years did not lead to commensurate losses in strategic,

operational, and tactical effectiveness, but they represent an important factor in the equation. The limitations in question have to do with the penetration of civilian control by militarized values and conceptions.

While Hitler and Stalin were not professional soldiers, civilian control in their hands was controlled by civilians whose judgments of the world displayed a decidedly military cast. Hitler and Stalin alike perceived the world as an arena of almost perpetual military conflict until the perhaps distant day of the triumph of whichever ideology each preferred. Until that day, the state must strain its resources to prepare for war and must frequently engage in war. Hitler's perceptions were so militarized that he gave the military a larger share of Germany's resources than they desired, or at least he diverted resources to the _Wehrmacht_ more rapidly than the officers thought they could assimilate them during the middle and late 1930s. Stalin's whole direction of the Soviet state, particularly the Five-Year Plans, was similarly governed by his unwavering focus on war as the destiny of the state.

Thus, civilian control as it displaced military autonomy from the middle years of the First World War onward did not by any means necessarily imply a loss in the ability of armed forces to secure allocations of resources to military purposes. If anything, in Hitler's Germany and Stalin's Russia, the lenses through which the leader of the state perceived their relations with the world at large were more militarized, more designed to emphasize military force as the necessary arbiter of international conflict, than before. Alfred Vagts recognized long ago the phenomenon of civilian militarism.[3] In the sense that civilian control of the military has come to mean control by civilians whose world views a strongly conditioned by a belief in the inevitability of war, his discussion of civilian militarism has proven to

be altogether on target.

Of course, the principal democratic leaders of World War II regarded the world in less warlike terms than did Hitler and Stalin; but with Prime Minister Winston S. Churchill and President Franklin D. Roosevelt, the difference was in degree rather than in kind. Both of these democratic statesmen came to envisage the world as shaped largely by war, Churchil. with relish for the echoes of drums and trumpets, Roosevelt more reluctantly. Both became as generous as most military professionals could have hoped for in giving over national resources and energies to military purposes. Even in the Western democracies, the militarization of national policies begun by the statesmen of World War II has remained a continuing phenomenon.

The World Wars have accustomed political leaders to a resort to arms as a habitual instrument of policy. The invocation of military force has tended to become a prompt, almost automatic response to otherwise recalcitrant international problems. In the United States, the departure from past national policies has been drastic. Civilian control of the military was zealously reaffirmed by President Roosevelt during World War II and remains remarkably secure, but national policy since 1945 has nevertheless been conspicuous for resorting to military means in dealing with international irritations with a rapidity and willingness that Americans of pre-1939 generations would have thought inconceivable. We live in an era of reinvigorated civilian control of the armed forces in all of the major powers, but also in an era of militarized civilian leadership.

As for the effectiveness of armed forces, the World War II papers in our collection demonstrate that while reinvigorated civilian control did not in 1939-1945 do much injury to the professional soldiers' desires

regarding national policies or the allocation of national resources, the re nvigorated civilian control did sometimes bring a reduction of the effectiveness of armed forces in the realms of strategy, operations, and tactics. The farther that reinvigorated civilian control reached into the domains of professional expertise, the more it was likely to damage the effectiveness of military organizations.

Once more, Stalin's Soviet Union and Hitler's Germany can be used as the extreme instances; but once more they are not altogether atypical, because they represent only the extreme manifestations of tendencies that were strong in all the great powers.

Professor Ziemke details how the paranoiac concern of Stalin for the Stalinist purity and Communist party loyalty of the Red Army increasingly attenuated the Soviet military establishment's contacts with and knowledge of foreign military developments. The study of war and of military organization must be an international study; as instruments of the international policies of the states they serve, armed forces must be as closely aware as possible of developments in the foreign military establishments with which they are always in implicit rivalry, lest they lose ground in the rivalry without so much as the firing of a shot by failing to keep step with technological and organizational progress. While Stalin, as Professor Ziemke shows, avoided the worst excesses of the notion that there can be a peculiarly Communist art of war freed from the traditions of bourgeois warmaking, nevertheless his distrust of foreign contacts on the part of the military allowed the Red Army to cultivate misguided operational theories that were to injure it badly in the test of 1941. Freer access to foreign information and a more complete break from the delusion of Communist military uniqueness might have helped Russia escape defeat in 1941. A case in point was the belief

that the Civil War of 1919-1920 demonstrated the efficacy of horse
cavalry for the Red Army, a folly that not only led to a misallocation of
resources but gave disproportionate representation to cavalrymen in the
Soviet high command. The consequent conservatism of Soviet military
leaders was among the reasons why the Red Army misread the lessons of the
Spanish Civil War of 1936-1939 in such a way that it disbanded its
mechanized corps in 1939.

John E. Jessup's paper, like most studies of Stalin as a military
commander, shows the Soviet generalissimo developing into a competent
military chieftain as he met the challenges of war in 1941-1945.
Hitler's imposition of his own control over strategy, operations, and
tactics was thus considerably more damaging to the effectiveness of his
armed forces than Stalin's, as Professor Förster's essay confirms -- all
the more because Hitler's control reached further down into the realms
where specialized professional expertise becomes increasingly important,
even into the tactical conduct of battle. In the phases of the Second
World War during which Germany fought on the offensive, Hitler's tactical
direction ran too much toward the belief that the _Blitzkrieg_ tactics of
Panzér breakthrough, deep motorized envelopment, and strong aerial
support represented all that needed to be known about the waging of war.
On the defensive, Hitler's tactical direction resulted in a ruinously
inflexible insistence on yielding no ground whatever.

While Hitler's all-encompassing version of civil control of the
military ended by harming German military effectiveness much more than it
helped, it is important nevertheless to underline several of Professor
Forster's comments on the acuity or lack of it among the German
professional soldiers of World War II. They tended to share, he notes,
Hitler's infatuation with the _Blitzkrieg_ after the spring of 1940 as the

sum of the art of war. Hitler in fact seems to have become more realistic at an earlier stage of the Russian campaign of 1941 than some of his generals about whether _Blitzkrieg_ tactics could be expected to carry the _Wehrmacht_ into Moscow if only they persisted. And most important, as Professor Förster observes in his conclusion, while the German professional military leadership of World War II generally maintained a high level of operational and tactical competence, its strategic competence had declined abysmally. (Or, as Professor Herwig's paper suggests, the decline may already have been abysmal by World War I.) The strategic failures of Germany in World War II were shared not unequally by Hitler and the military professionals.

Nevertheless, a few additional words about operational and tactical effectiveness during World War II are in order, not only concerning the German armed forces but in a more general vein. In the reasonably large area where in spite of the growth of civilian control the operational and tactical direction of World War II armed forces remained with the military professionals -- and this area did remain reasonably large even in Germany and the Soviet Union -- it follows from our observations about the interwar armed forces in regard to operational and tactical effectivenss that the performance of most of the major military powers proved on the whole to be impressive.

The German, Russian, British, and American armed forces of World War II, all more narrowly curbed by civilian leadership than their World War I predecessors, all nevertheless performed with a professional efficiency in operations and tactics surpassing their World War I forebears. This advance was most decidedly marked among the Americans; Allan R. Millett's paper suggests an American leap forward in operational and tactical effectiveness under the stimulus of leading the Allied

coalition in global war that is not entirely accounted for in the background developed by Professors Nenninger's and Spector's papers. Perhaps the American armed forces held latent strengths still concealed to even the most astute observer before December 7, 1941. The gain in operational and tactical effectiveness during the Second World War as compared with the First was probably least marked among the British. Williamson Murray's paper contains numerous reminders of the severity of the strains imposed on Britain in 1939-1945 by her effort to grasp approximate military parity with the emerging superpowers, and the strains penetrated downward into operations and tactics. Nevertheless, though in varying degrees, the operational and tactical effectiveness of the Germans, Russians, British, and Americans in World War II appears clearly to have exceeded that of the earlier war.

Advances in such effectiveness were assisted, of course, by superior economic and logistical organization of the states that supported the armed forces, and especially by superior means of transport to assure the flow of logistical support to the fronts. They were assisted also by the ways in which the application of the internal combustion engine to improved tanks, gun carriages, and aircraft partially broke the tactical deadlock inherent in World War I technology. But beyond such matters, the papers on the World War II armed forces of Germany and the three major Allied powers all portray a clarity of operational and tactical doctrine, an efficiency in the execution of doctrine, and an overall competence in professional leadership on the operational and tactical levels excelling the standards of World War I. All the papers at least partially imply that this performance derived in some measure from the very decline of the political autonomy of the military, which compelled armed forces to turn

professionally inward upon their officers' areas of truest expertise. The appropriate verb to describe the relevant papers' accounts of these phenomena is, however, "imply." The correlation between a narrower political effectiveness of armed forces and a larger operational and tactical effectiveness is more hinted at than developed. Military historians should explore the issues further.

In the powers not mentioned in the preceding paragraph, the Italian and French armed forces were held back during World War II as in the interwar years from attaining the operational and tactical effectiveness of their contemporaries by their countries' relative lack of the resources needed to meet the responsibilities they assumed, as well as by the consequent psychological malaise. In Japan, it is significant that in World War II as in the interwar years, military autonomy within the politics of the state, and the resulting ability of the military to satisfy. amply its demands upon the resources of the state, failed to produce a commensurate operational and tactical effectiveness. Instead, it nourished among the Japanese military a complacency ultimately antithetical to effectiveness in war.

In the Western democracies, although both the American President and the British Prime Minister exercised far more vigorous personal direction of the armed forces in World War II than had their counterparts in World War I, this civilian activism did not reach so deeply downward from the strategic into the operational and tactical realms as in Germany and the Soviet Union. Here there were differences at least of degree between Roosevelt and Churchill, the latter tending to exceed the former in emulating Hitler's penchant for having a finger in every military pie. Especially during the North African campaigns, Churchill tended to badger his commanders endlessly about issues that were decidedly most

appropriate for resolution by the professional military men on the scene, such as whether to hold Tobruk if it were cut off from relief by land during the Germans' 1942 offensive as it had been retained in 1941. It took military men of strong character to bear up under Churchill's bullying on such matters. Nevertheless, Churchill's sporadic displays of his urge to be a field commander notwithstanding, the overall picture in the West was one of decidedly energetic civilian control, but of a civilian control that mainly left to the professionals the properly professional direction of operations and tactics. Civilian control in the West meant primarily a strong civilian hand directing policy, including those policy matters that involved the military, along with a large civilian share in the making of military strategy, the level of military decisionmaking in which military and civilian concerns most inextricably intertwine in any event.

Appraising the impact of activist civilian control of strategy upon military effectiveness in the Western democracies during World War II has to be a more subjective business than most of the appraisals with which this symposium deals. After all, the United States and Great Britain achieved military victory and did so at a price at least less disproportionate to the rewards than that which Great Britain and France had paid in World War I. Trying to judge whether the victory could have been achieved in a yet more cost-effective manner places the analyst on the slippery slope of counterfactual history, weighing might-have-beens, which is usually a situation to be avoided. Nevertheless, a few observations ought to be risked.

Among the most conspicuous aspects of Winston Churchill's direction of British strategy was his hearty sponsorship of the Royal Air Force's campaign of "strategic" bombing of Germany, including the particular form

taken by that campaign, the area bombing of German cities, leading to the indiscriminate destruction of every kind of life and property within them. More particularly still, Churchill's sponsorship extended to the series of fire-bombing raids from Hamburg on July 27-28, 1943 (in which some 42,000 Germans are estimated to have died) to Dresden on February 13-14, 1945 (killing at least 30,000).[4] These incendiary raids were intended to turn whole cities into vast crematoria. After Dresden, Churchill at length expressed misgivings, but only when this wholesale slaughter threatened to raise a political furor at a time when the war was already clearly won. There is no doubt that if the Prime Minister had felt qualms about the wisdom or morality of indiscriminate area bombing earlier, the RAF bomber offensive need not have been so important an element in British strategy as it was.

It is understandable, though not necessarily justifiable either strategically or morally, that Churchill should have encouraged the bomber offensive during the months when it was the only means of striking back against the Germans. But Churchill retained the bomber offensive as a centerpiece of British strategy long after Britain in company with her American ally could launch other kinds of offensives. The bomber offensive may well have required the support of as much as one-third of Britain's war effort. Some 55,573 aircrew were killed in conducting the offensive, and another 9,784 were shot down and captured.[5] These casualties were almost entirely highly-trained commissioned officers and noncommissioned officers. There is scarcely any reason to believe that the bomber offensive was strategically effective in the sense of producing any payoff at all proportionate to the cost. The one conspicuous success of Allied strategic bombing against Germany was in practically destroying the German petroleum and chemical industries late

in the war, but to this success the RAF made a minimal contribution. It was mainly the outcome of the United States Army Air Forces' daylight effort to achieve precision bombing. Admitting how difficult it would have been for Churchill to override the determination of RAF Bomber Command to prove the efficacy of strategic bombing as the means for independent air power to win wars, nevertheless Churchill's prolonged support for the bomber offensive makes it fair to judge it a major failure in the Prime Minister's strategic direction of the war.

Just as without Churchill's leadership there would have been no British bomber offensive of the magnitude that came to exist, so also without Churchill's and Roosevelt's combined direction of Anglo-American strategy there almost certainly would have been an earlier Anglo-American invasion of France. The wisdom of trying to establish British and American armies in northern France earlier than the spring of 1944 is a question demanding even more subjective judgments than those occasioned by strategic bombing. Nevertheless, a stong case can be made -- and was made at the time by American soldiers such as General George C. Marshall, the Army Chief of Staff, and by American civilians such as Henry L. Stimson, the Secretary of War -- that a cross-Channel invasion a year earlier than the actual OVERLORD invasion could have brought substantial dividends both military and political. Fighting earlier in northwest Europe rather than in the Mediterranean area would have permitted the earlier deployment of American divisions already largely formed and trained in 1942. It would have placed the Allies earlier in terrain where, unlike mountainous Italy, they could invoke their strong suit of superior mobility. Politically, an earlier second front could at one and the same time both have diminished Soviet suspicions of the West and placed the Western powers in a stronger bargaining position vis-à-vis the

Soviets in the postwar world.

The strategic decisions that delayed the second front until June 6, 1944, were primarily those of Churchill and Roosevelt, and most critically of Roosevelt. Churchill along with most leaders of the British war effort, including the military professionals of the Chiefs of Staff Committee, consistently preferred peripheral and especially Mediterranean operations against the Germans, to precede a cross-Channel assault that would occur only after the Nazi empire had already been substantially weakened. Against the preference of many American leaders for an earlier cross-Channel invasion, however, Churchill and the British could not have prevailed without having Roosevelt for a long time on their side. Particularly in the decision for TORCH, the invasion of French North Africa on November 6, 1942, a decision that virtually assured the postponement of the cross-Channel invasion until 1944, it was Roosevelt's inclination to agree with Churchill that cast the die. While the President gave lip-service to a cross-Channel invasion through much of 1942, his leaning toward North Africa instead is evident in a re-reading of the whole record of his remarks on the subject from the first discussions of what became TORCH under a different codename, GYMNAST, during the Anglo-American ARCADIA Conference of December 22, 1941 - January 14, 1942. If Roosevelt had not embraced it, there would have been no North African invasion, with all its implications for the timing of the cross-Channel invasion. Thus the controversial Anglo-American strategy of the war against Germany was mainly a strategy determined not by the armed forces but by civilian leaders.

When we survey the total shape of the war, however, the reassertion of civilian leadership in World War II did not bring about a war much different from World War I. In large part, this result occurred because

the civilian leaders of World War II both in the Western democracies and
among the dictators had derived from the experiences of the First World
War and of the interwar years with their frustrated hopes for enduring
peace a militarized perception of the world. The civilian leaders might
disagree with the military professionals about strategic, operational,
and tactical details. But on policy matters they were essentially as
one. In the West, Churchill consistently and Roosevelt by the end of
the 1930s believed as firmly as any military man in the centrality of
military strength if a nation were to survive in an insecure world.
Churchill and Roosevelt like the civilian leaders of all the major
powers in the Second World War were generous in their willingness to
allocate national resources to military policy. Both regarded military
force and war, for the time being at least, as the foundations of their
nations' roles in the world.

More importantly, the militarized perceptions held by civilian
leaders ensured the most fundamental similarity between the Second and
First World Wars, that in the second like the first, all the major
belligerents would pursue military victories as complete and clear-cut as
could be imagined, and that in consequence the belligerents would
persevere in the struggle until one of the rival coalitions dropped out
from exhaustion. The much-debated unconditional surrender policy of the
anti-Axis United Nations coalition was not so different from the war aims
entertained by all the principal belligerents in both this and the
earlier world war, including the members of the United Nations coalition
even before President Roosevelt publicly announced the policy at the
Casablanca Conference on January 23, 1943. Particularly after the
accession of Winston Churchill as Prime Minister on May 10, 1940, the
British government had already transformed the war from one begun for the

defense of Poland into a struggle for the absolute extirpation of the Nazi regime in Germany. In the Far East, Japan in World War II had largely dropped the restraints that distinguished its policy in World War I. While the Japanese leaders recognized that they could not conquer the United States and would eventually have to negotiate peace with the Americans, they sought a complete enough military victory that Washington would have to abandon all pretensions toward exercising power in Asia and the western Pacific. A military victory of such magnitude was almost certainly beyond the capacity of Japan in the 1940s.

Thus, in the Second World War as in the First -- even more in the second than in the first -- the war aims of all the major powers were so ambitious that the reach of each threatened to exceed his grasp. Once more, just as in World War I the British aim of humbling Germany locked Great Britain into the Western Front strategy so that the operational and tactical imperatives of the Western Front thereafter dominated strategy and policy, so now again the powers had to tailor policy and strategy to fit the cloth that could be cut by those operations and tactics for which their initial war aims offered no alternative. Instead of war's remaining an instrument of policy, operational and tactical feasibility henceforth dictated policy. Instead of war's remaining an extension of policy, war developed its own momentum to which policy had to be subordinated.

Critics of American policy and strategy in the Second World War have often alleged that the United States excessively subordinated long-range national purposes to the short-run expediencies of military strategy. In truth, however, the United States of all the major powers least succumbed to this reversal of appropriate priorities, because the United States was the only power possessing enough of military, economic,

and financial strength that its objectives on the battlefronts were not utterly disproportionate to its means. Thus, for example, in the midst of war the United States could afford to busy itself with attempting through economic and diplomatic pressures to ensure the kind of postwar world economic order it desired -- as wide as possible an arena for free trade and American investments, and secure American access to such coveted raw materials as petroleum and uranium. In the midst of war the United States could afford even to bully its British ally, to create a postwar economic order in which the dollar would displace the pound sterling as the principal medium of international exchange, and in which imperial preference would no longer hamper American commerce. No other power could afford to pay so much attention in wartime to postwar goals.

Instead, except for the United States, every other power including the Soviet Union was until almost the end so fearful of failing to attain its immediate military purposes that operational and tactical considerations constricted strategy and overshadowed all policy objectives except those implied by the quest for absolute defeat of the enemy into which the inordinate ambitiousness of twentieth-century war had locked everyone.

Collectively, these papers portray the sacrifice of the major share of the tactical, operational, strategic, and policymaking effectiveness of the armed forces of the twentieth-century great powers on the alter of inordinate ambition. Whenever any of the principal armed forces was able for a time to establish effectiveness in the four realms of tactics, operations, strategy, and policy simultaneously, it was because for the moment at least that armed force was not required to seek the unattainable. The key to making armed forces effective is to tailor their responsibilities and goals to the limits of tactical, operational, strategic, and policymaking practicability.

Notes

1. The familiar aphorism here referred to is, of course, that of Carl von Clausewitz, *On War*, ed. and tr. by Michael Howard and Peter Paret (Introductory Essays by Peter Paret, Michael Howard, and Bernard Brodie, with a Commentary by Bernard Brodie; Princeton, New Jersey: Princeton University Press, 1976), Book One, Chapter One, Section 24, p. 87: *"WAR IS MERELY THE CONTINUATION OF POLICY BY OTHER MEANS."*

2. Samuel P. Huntingt.., *The Soldier and the State; The Theory and Politics of Civil-Military Relations* (Cambridge, Massachusetts: The Belknap Press of Harvard University Press, 1957), especially pp. 99-109.

3. Alfred Vagts, *A History of Militarism, Civilian and Military* (Greenwich Editions, New York: Meridian Books, Inc. 1959), and especially Chapter 13, "The Militarism of the Civilians," pp. 451-83.

4. Max Hastings, *Bomber Command* (New York: The Dial Press/James Wade, 1979), pp. 208, 340.

5. Ibid., pp. 349, 11.

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