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*On The Effectiveness Of
Military Institutions:*

*Historical Case Studies From
World War I, The Interwar Period,
and World War II*

Volume II The Interwar Period

Edited by Allan Millett and Williamson Murray

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*Mershon Center
The Ohio State University*

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THE SOVIET ARMED FORCES IN THE INTERWAR PERIOD

Earl F. Ziemke
University of Georgia

Introduction

In the Soviet terminology, the interwar period, elsewhere regarded as comprising the roughly two decades between the world wars, is the interval between the Russian Civil War and the German invasion. While the distinction, like that between World War II and the Great Patriotic War, is, no doubt, as much mythological as actual, it bears significantly on all aspects of the Soviet armed forces' effectiveness. How to make the transition from the war of 1914-1918 to that of 1939-1945 concerned the Soviet military and political authorities as much as it did those of any of the other major powers, but the Soviet perceptions and responses were conditioned by special circumstances. One was the technological and industrial backwardness of the Russian nation. The other was the radical discontinuity the communist system had imposed on the Russian state. As a consequence, the interwar period was substantially different for the Soviet armed forces, and it consisted of several distinct phases.

The first of those, the Civil War, is considered to have begun in late May 1918, when a Czechoslovakian corps composed of former prisoners of war seized control of the Trans-Siberian Railroad, and to have ended in November 1920 with the defeat of the White general Baron Peter Wrangel and the conclusion of the Polish War. Leon Trotsky had become People's Commissar of War (war minister) in March 1918 and had begun organizing the Workers' and Peasants' Red Army. The Workers' and Peasants' Red Navy, the renamed ex-imperial Baltic Fleet, existed already, and the Red Army had established an air contingent comprised of aircraft and personnel taken over from the imperial forces. The so-called "old army," not the least as a result of Bolshevik (communist) subversion, had become totally useless and what was left of it was having to be disbanded. The Red Army regarded itself not only as a replacement but as an "army of a wholly new type," which it and the other Soviet armed forces would subsequently always claim to be. The primary characteristics of the "new type" are said to be dedication to the service of the working class and reliance on class spirit and on the guidance of the Communist Party.

Trotsky was as good a Marxist as any but also a pragmatist, and he undertook to build the Red Army to conform as closely as the circumstances would allow to the European standard of the World War I era. The result was a conscript army -- of 3 million in 1919 and 5.5 million by mid-1920 -- officered, although that term was prohibited during the Civil War and for a long time thereafter, by politically acceptable commanders and "military specialists." Party members with a taste or talent for military affairs, "old army" enlisted men who supported the Bolsheviks, and workers trained in commanders' schools comprised the politically acceptable contingent. The military specialists were former imperial army officers who volunteered for or were drafted into the Red Army. By

the end of the Civil War, the politically acceptable groups accounted for sixty-six percent of the command personnel, but then still mostly in the company grades. As they had throughout the war, the military specialists held by far the larger part of the intermediate and higher level appointments.¹ The need to employ military specialists whose commitment to the revolution was often doubtful, to say the least, perpetuated a practice begun while the "old army" still existed of appointing political commissars. That developed during the war into a dual command system in which the military commander could neither issue nor enforce orders without the concurrence of his commissar.

The first phase in the interwar period (in the Soviet view) was that of the "economic reconstruction" and the "military reforms." The two began simultaneously in March 1921 with the Kronshtadt naval mutiny and the Tenth Party Congress. The mutiny was taken, probably correctly, as a sign that the party was on the verge of alienating its staunchest support; and the congress undertook to repair the damage by approving the New Economic Policy (NEP), which sanctioned a relatively free economy, and conversion of the Red Army to a militia system, which would reduce the strain the 5.5 million-man regular army was putting on the economy. By the fall of 1923, the Red Army converted to a cadre (regular) force of 516,000 troops in 26 divisions and a part-time territorial militia of 26 divisions.² The navy brought the armed forces' total to 562,000.³

The second phase of the interwar period is said to have started in 1929 with the first of the five-year plans for industrialization; however, its military aspect, the "technological reconstruction of the armed forces," did not begin to take definite shape until June 1931 when Mikhail Tukhachevskiy, a former Tsarist lieutenant who had held army and army group commands in the Civil War and had been Chief of the Red Army

Staff, became deputy People's Commissar for Military and Naval Affairs and chief of armaments for the armed forces.⁴ In 1932 and after, the armed forces acquired new, Soviet-made weapons and equipment of all kinds in great quantities, and Tukhachevskiy undertook to incorporate them into the military organizations and doctrine. The Army had received 15,000 tanks by 1938, and aircraft production of all types was running at over 5,000 planes per year.⁵ The Navy reportedly increased its tonnage 130 percent by 1939, but that apparently was from a small base by world standards and included rebuilding.⁶

The technological reconstruction also brought structural changes, the most notable of which was a shift away from the militia system. The militia, which had done no more than provide basic infantry training, could not effectively absorb and operate the new weapons and equipment. The quantities of the latter becoming available also made a personnel expansion necessary.⁷

Although the Soviet literature generally treats the technological reconstruction as the last phase in the interwar period, it is evident that the armed forces' experience was sufficiently discontinuous in the four years preceding the German invasion to have constituted two additional phases. The first began with Tukhachevskiy's arrest and execution in June 1937. The purge that followed brought about the deaths of three of the five marshals of the Soviet Union and, according to one of the few Soviet accounts to be specific on the matter, all of the military district commanders and corps commanders, "almost all" division and brigade commanders, and "about half" of the commanders of regiments.⁸ The purge continued up to and beyond the outbreak of war in western Europe on 1 September 1939 coinciding also with the Soviet involvement in the Spanish Civil War and an undeclared war in the Far East with Japan.

By the spring of 1940, however, the war in Europe was profoundly affecting the Soviet armed forces. The Winter War against Finland, which ended in March 1940, and the fall of France in June left the Soviet Union in the distinctly unpleasant position of having to face Germany alone with forces that the Finnish war had shown to have deep-seated deficiencies. Consequently, the last peacetime year was given over to massive new preparedness programs in command, training and equipment of the armed forces that together with modernization already begun constituted a second technological reconstruction.⁹

I. Political Effectiveness

From their inception, the armed forces "of a new type" were held to have eliminated the need for political-military accommodation. The Communist Party, the "leading, guiding and organizing force," as Marshal A.A. Grechko has put it, "always found the most advisable structure and flexible forms and methods of political and military leadership."¹⁰ And the political and the military leadership could rely on the infallible guidance of Marxist-Leninist doctrine. Furthermore, as a one-class organization of workers and peasants, the armed forces "of a new type" were regarded as having erased the social distinctions that had previously existed between the officers and the other ranks and the differences in outlook that had frequently divided the officers and the political authorities. The armed forces "of a new type" were -- and are -- therefore presumed to have rendered traditional military professionalism, which was a priori inimical to the interests of the working class, obsolete.

In practice, the political-military relationship was one of the first major problems of the Soviet state. The armed forces came into being under communist political control, but the party possessed no military expertise. The ex-imperial officers had a monopoly on that, and party doctrine held them to be a class hostile to the revolution. During the years 1918-1924, Lenin delegated the actual control of the armed forces to Trotsky, who, although he was as faithful a Marxist as anyone, rejected the idea that war could be conducted on the basis of a political

doctrine alone. War, he insisted, was "an art," a "trade," "a skill with certain habits which are elaborated by experience and correctly assimilated," a skill that could be transformed into a "high art."¹¹ As long as he was the main link between the political leadership and the armed forces, military professionalism in the conventional sense was esteemed more highly than it would be during the remainder of the interwar period. He recruited and drafted thousands of former imperial officers as military specialists (48,000 by mid-1920), and he reinstated the post of Supreme Commander in Chief. The latter, a military specialist, was "entirely independent on matters of strategy and operations," but his orders had to be countersigned by a political member of the Revolutionary Military Council of which Trotsky was the chairman.¹²

Trotsky's reliance on the military specialists, however, aroused instant resentment among the party members with little or no military experience who had established themselves as field commanders and saw their way to the top being blocked by the preference given to the former officers. By March 1919, this hostility had coalesced into near dissidence, and its spokesmen in the upper reaches of the party, chief among them Mikhail Frunze and Kliment Voroshilov, had become known as the "military opposition." Frunze, Voroshilov and their adherents contended that the Marxist state ought to do away with regular, centralized military organization and rely on the spirit of the working class and the initiative and leadership of party men such as themselves, essentially on what Trotsky scornfully characterized as "guerrillaism." In 1921, Frunze published a theory of a unified military doctrine in which he implied that military doctrine could be derived from Marxist principles.¹³

Trotsky kept the upper hand over the military opposition in the party throughout the Civil War and into the period of the military reforms, but after Frunze supplanted him as People's Commissar for Military and Naval Affairs in January 1925, the political-military relationship changed. The post of Supreme Commander in Chief, which had been held by military specialists, had been abolished in 1924 on the grounds that it was unnecessary in peacetime, and after Frunze took office the people's commissar became the military as well as the political chief of the armed forces. Frunze would possibly have been suited to the dual role. He was a political figure of some consequence, and had successfully held several important military commands during the Civil War, but he died before he had been in office a full year. His successor, Voroshilov, also a party man with Civil War military experience but undistinguished in both, owed his tenure as people's commissar, which ran until 1940, entirely to a subservient relationship with Josef Stalin.

After 1925, the leaders of what had been the military opposition held the top military posts, and they removed the military specialists from the key command and staff positions. Most were discharged, and some were appointed to teach at the military schools. The former members of the military opposition lost the desire to promote decentralization of command once they reached the top, but their competence to function professionally at the levels they had attained was manifestly questionable. Tukhachevskiy was the only one who impressed foreign military observers. In 1928, a German officer with access to the Soviet high command, Colonel Hilmar Ritter von Mittelberger, described Tukhachevskiy as "the most significant military figure in the Red Army."¹⁴ The future German field marshal, Erich von Manstein, who

visited the Soviet Union in 1931, dismissed Voroshilov as "a politician" but found Tukhachevskiy "from the military point of view an undoubtedly interesting personality ... ruthless and intelligent."¹⁵ In 1936, D. Fedotoff White regarded Tukhachevskiy as "the present actual head of the Soviet Army."¹⁶

Tukhachevskiy was never the "actual head of the Soviet Army," nor was anyone else other than Josef Stalin after 1925. At the height of his career between 1931 and 1937, Tukhachevskiy was a technician managing a program, not the head of the army or of the armed forces, although he was the military figure after Frunze who came closest to playing that role.¹⁷ Stalin regarded the military profession as distinct but not as autonomous. He saw to it that his own military reputation was elevated to match his political stature; and during the 1930s, after the top appointments in the armed forces had mostly been given to men whose qualifications derived from the Civil War, his experience in the field could be stretched to nearly equal theirs in all but a few instances. Moreover, he had sat, along with Lenin and Trotskiy, on the Defense Council, the all-powerful strategy-and-policy-making organ for the armed forces in the Civil War.

Throughout the interwar period the Soviet principle of collegiality in the decision-making process provided a permanent point of contact between the professional military and the political leadership in the form of the Revolutionary Military Council of the Republic (1918-1934) and its successors, the Military Council (1934-1938) and the Main Military and Main Naval Councils (1938-1941). The people's commissar chaired the councils, and the membership consisted of his deputies, one of whom was chief of the General Staff, and of Politburo members, most notably Stalin, who was a permanent member after 1938. The late Marshal

Kirill Meretskoy, who was the secretary of the Main Military Council in 1938, said in his memoirs that Stalin attended the meetings frequently and received reports on all of them.¹⁸ On the other hand, Admiral N.G. Kuznetsov, who became People's Commissar of the Navy in 1938, maintained that while the system provided a direct channel from the armed forces through the people's commissar to the Council of People's Commissars (cabinet) in the early years, later "in actual fact it was Stalin who began to decide military matters with the Council of People's Commissars rubberstamping his decisions."¹⁹ According to Kuznetsov, consultation with the military consisted in the main of meetings in Stalin's office at which the people's commissar and the Chief of the General Staff "received" Stalin's decisions.²⁰

Although the Navy and the Air Force possessed nominally separate status from 1918 on as the Workers' and Peasants' Red Navy and the Workers' and Peasants' Red Air Fleet, they did not have direct access to the highest political authorities during the interwar period. Because command in both required certain technical knowledge, they also did not acquire political-military hybrids like Frunze and Voroshilov, and it was well into the 1930s before officers trained under the Soviet regime had sufficient experience to take over the most responsible posts. The Navy had the additional political liability of the Kronshtadt mutiny. The Air Force chief ranked as a corps commander, and after general-officer ranks were reintroduced in the late 1930s, was the equivalent of a U.S. major general. The Navy acquired its own people's commissariat and main council in 1938, but did not thereby achieve coequal status with the Army. In fact, according to Kuznetsov, it had less access to the highest political authority, namely, Stalin, after 1938 than before, since Stalin was not a member of the Main Naval Council.²¹

Esteem for the military profession during the interwar period cannot be correlated either positively or negatively with the armed forces' successes in securing shares in the budget, industrial resources, technology, and manpower of the Soviet state. Those were determined by other considerations, the most pervasive of which was the conviction that the Soviet Union was alone in a hostile world. The political authorities never doubted that the armed forces deserved the maximum feasible support and only once (during the economic reconstruction) permitted another requirement to take precedence over military preparedness. Consequently, how much the armed forces received, individually or collectively, depended less on their ability to promote their concerns than on the nation's capacity to generate support in the various categories. The Army, for instance, was consistently the most favored service; it also had the best political contacts; but its industrial, technological and manpower needs happened as well to be less difficult to meet than those of the other two services; and Russia was historically a land power. Paradoxically, the political authorities always operated under a dual compulsion: to make the armed forces strong and to keep their leadership from accumulating power that could possibly rival that of the Communist Party or produce a Bonaparte.

The most readily quantifiable measure of armed forces' political effectiveness, the budget share, has always been difficult to apply to the Soviet armed forces, and that was never more the case than during the interwar period. In the years of the Civil War the budget was almost only a figure of speech; the money was virtually worthless; and the deficit in the 1919 budget was close to 80 percent.²² On the other hand, the armed forces' claim on the resources of the state received the absolute highest priority. As Trotsky put it, "The War Department

determined the government work of the entire country. All the other government activity was subsidiary to it."²³ In September 1918, the All-Russian Central Executive Committee declared the entire country to be "a single armed camp" and instituted the system of "war communism," which nationalized industry and required the peasants to turn over to the government all the grain they grew.²⁴ The Council of Workers' and Peasants' Defense, charged with mobilizing all of the country's resources, gave the armed forces absolute first claim on the output of industry and agriculture, but that amounted in effect to a lesser share in the shortfalls of both. In 1920, industrial production stood at about fifteen percent and agricultural output at about sixty-five percent of the 1913 levels.²⁵

The Civil War established a permanent political commitment to maximum support of the armed forces that never wavered during the interwar period. The economic reconstruction imposed a certain stringency on the armed forces in 1921 and for some years thereafter; but the demobilization was phased over three years, and the Army reduction to 516,000 men appears to have constituted a relatively small cut in real terms since the effective fighting strength had not at any time been more than 600,000 to 700,000 troops.²⁶ The Navy had already declined from a strength of 180,000 men in 1917 to 56,000 in 1921 as a result of attrition, some of which resulted from the Kronshtadt mutiny.²⁷ Actually, by the time the demobilization ended, in 1924, a build-up was in progress. Expansion in the Navy and Air Force raised the armed forces' cadre (regular) strength from 562,000 men in 1924 to 617,000 in 1928.²⁸ The Army's cadre strength did not increase, but the militia system was giving basic infantry training to 1.8 million men on a two-year cycle.²⁹ The Air Force went from a total 229 aircraft in 1921

to 1,400 in 1928; the Navy from an aggregate 82,000 tons in 1923 to 139,000 tons in 1926.³⁰ The Air Force and the Navy also improved their relative positions within the armed forces. In 1921, the Army's share was 98.6 percent, the Air Force's .4 percent and the Navy's 1 percent; by 1928, the Army had declined to 92.6 percent and the Air Force and Navy had risen to 2 and 5.4 percent.³¹

The Fifteenth Party Congress, held in December 1927, established the basis for the support of the armed forces throughout the rest of the interwar period: a resolution specifying that the five-year plan then being developed (the first) should "give maximum attention to development of sectors of the economy in general and industry in particular which would play leading parts in strengthening the defense and the economic foundations of the country in case of war."³² Consequently, during the five-year plans, the armed forces received in addition to whatever part of the budget was assigned directly to them, a very large share of the amounts invested in the plans, which in the first two years (1928-1929 and 1929-1930) comprised two thirds of the budgets.³³ According to one source, the Soviet Union devoted 9 percent of its 1934 total national income to defense, three times as much as Great Britain, and two and a quarter times as much as Germany. The same source gives the value of armament production for the years 1935-1939, in 1944 dollars, as having been \$1.5 billion for the United States, \$2.5 billion for Great Britain, \$8 billion for the Soviet Union, and \$12 billion for Germany. In the year 1939 alone German production was \$3.4 billion and Soviet production was \$3.4 billion, and by 1941 the Soviet Union had gone ahead at \$8.5 billion to the German \$6 billion.³⁴

By 1936, the midpoint in the second five-year plan, industry was getting into full swing, and in that year, the defense expenditures

constituted about a third of the total budgetary financing for the national economy. In 1937, the directive for drafting the third five-year plan established a requirement to "guarantee ... a general strengthening of the defense capacities of the country;" and in 1938, the investment in arms industries increased by 70 percent. The 1939 budget allotted another 70 percent increase to defense, and that was doubled at mid-year.³⁵ Altogether the amounts budgeted for defense rose 235 percent in the years 1938 through 1940.³⁶

The Soviet armed forces were different from most others during the interwar period in that their access to industry and technology was less a matter of money than of development. Imperial Russia had been the least technologically and industrially advanced of the major powers, and the base the Bolsheviks took over in 1917 was then already collapsing under the effects of war and political and economic turmoil. Their inability to get more than six or seven hundred thousand actual troops out of the millions of men they conscripted, although an exceedingly high desertion rate had much to do with it, resulted in the main from lack of arms and equipment. New production was not enough to compensate for ordinary wastage.³⁷ Except for some hand-crafted airplanes and light tanks, the aircraft, armored vehicles, and naval vessels employed in the Civil War were either inherited from the imperial forces or acquired by capture from one opponent or another.

The Soviet technological and industrial bases remained weak throughout the 1920s, although a limited capacity to design and build aircraft and tanks developed after 1925 and the Navy began a small building program in submarines and escort vessels. The Army had 92 tanks in 1929, mostly Soviet designed light (3,000 lb.) T-18s.³⁸ Of 1,400 aircraft the Air Force had in 1928, apparently at least 800 were bought

abroad and a good many of the rest came from a German Junkers aircraft factory established near Moscow.³⁹ In the main, the Navy achieved its increase in tonnage by rehabilitating ex-imperial ships.⁴⁰ After the Soviet-German Rapallo agreements of 1922 and until Adolf Hitler came to power in 1933, the Army and Air Force did have access to German programs in what were then considered to be the three main military technologies, aircraft, tanks, and war gases. In 1924, the Soviet and German Armies jointly set up an air test and training facility at Lipetsk, near Voronezh. Later, they established similar installations for tanks (in 1927 at Saratov) and for chemical warfare (in 1930 at Kazan).⁴¹ Considering the state of Soviet technology at the time, the profit must have been considerable on the Soviet side even though the collaboration seems not to have fulfilled the expectations of either partner.

The relationship with the German Army was the closest the Soviet military came during the interwar period to working in the setting of an alliance. According to German accounts, which are the only ones existing, nothing like mutual trust and confidence ever developed. The World War II German Air Force general, Helm Speidel, who like many of his contemporaries participated in the exchanges with the Soviet Union in the 1920s, said the Germans learned early that the Russians avoided breaking agreements de jure but evaded their obligations de facto while always insisting on full compliance from their partners.⁴² Manstein, who in the early 1930s was concerned with the state of the potential Soviet alliance as chief of the German General Staff's war plans section, characterized Tukhachevskiy as being "energetically devoted to technological cooperation with the Reichswehr" -- and at the same time prepared to take as much and give as little as possible.⁴³ On the other hand, the military association lasted nearly a decade and would

very likely have continued longer had Hitler not disregarded military advice to the contrary and ordered it terminated in the late summer of 1933.⁴⁴ In Speidel's view, the projected German rearmament was then making the operation of the bases in Russia "more urgent than ever."⁴⁵ The technological reconstruction was almost certainly doing the same on the Soviet side.

The five-year plans of the 1930s brought industrial development, and the technological reconstruction of the Soviet armed forces was indeed a remarkable accomplishment, but neither clearly showed the military to be highly effective at devising plans and programs and getting them adopted. Tukhachevskiy is said to have campaigned for modernization of the armed forces during his term as Chief of the Red Army Staff (1925-1928) and to have had Stalin turn his proposals down as "harebrained schemes" so often that he finally asked to be transferred to other duty.⁴⁶ By his own account, Tukhachevskiy also did not have the support of his military colleagues, many of whom preferred to believe in the so-called "theory of the special mobility of the Red Army." This theory held that the Soviet cavalry armies of the Civil War had solved the problem of mobility that had confounded all of the forces in World War I.⁴⁷

While the technological reconstruction of the armed forces could later be regarded as Tukhachevskiy's vindication, it certainly did not appear to be that at the time. Shortly before the First Five-Year Plan began, Tukhachevskiy was dropped out of the Army Staff and relegated to command of the Leningrad Military District. He had not succeeded in having his program adopted but had had it coopted.⁴⁸ His recall to be armed forces' armaments chief in 1931 and subsequent advancement to Marshal of the Soviet Union in 1935 and First Deputy Commissar of Defense

in 1936 seemed to have established him as the country's leading military professional. But less than a year later, in short order, he lost his high appointments and his life.

The Air Force and Navy leadership fared no better. The Air Force benefited enormously from the technological reconstruction. By 1935, it had 6,672 combat aircraft. Between 1930 and 1940, it received almost 25,000 aircraft of all kinds.⁴⁹ The commander in chief of the Air Force, Ya. I. Alksnis, achieved the status of Deputy People's Commissar of Defense in January 1937 and eighteen months later, disappeared in the purge along with a good half of the Air Force's top commanders.⁵⁰

The Navy did not benefit as much from the first two five-year plans as the Army and Air Force did. Its program although much enlarged, was restricted to building submarines and light surface ships and modernizing some World War I battleships and cruisers. The technological reconstruction was a race to catch up with the outside world, one that could be more swiftly and, in terms of the national interest, effectively run for the Army and Air Force than for the Navy (which would have required a heavy preliminary building of yards and docks).

The Navy's progress was also more erratic than that of its sister services. In the early 1930s, the emerging communist naval leadership propounded a "new school" doctrine oriented toward coast defense. Suddenly, in 1939, the Navy found itself elevated, on Stalin's orders to (almost) coequal status with the Army and Air Force, in possession of its own people's commissariat and charged under the Third Five-Year Plan with launching a high seas fleet of battleships and aircraft carriers.⁵¹ Just as suddenly, the originators of the "new school" disappeared in the purge, and the more junior officers who replaced them were left to struggle until the war intervened with the impossible task of building

"the most powerful navy in the world."⁵²

Technology, much less responsive to state coercion than basic industrialization, was a special problem throughout the interwar period. The solution adopted, which was to acquire, adapt and, if possible, improve upon foreign inventions, fostered rapid advancement and some notable successes but not fully reliable depth and breadth. (It also generated an openness to developments that were being slighted in their countries of origin, for instance, the American J. Walter Christie's tank designs.)⁵³ The most spectacular early achievement was a cantilevered-wing monoplane fighter, the I-16, which was the fastest military aircraft in the world in the mid-1930s and incorporated an American engine and design features of American "Gee Bee" racers.⁵⁴ On the other hand, the compulsion to catch up impelled the Soviet armed forces to go into large-scale production several years before other nations including Germany, had fully reoriented their technology and industry. Consequently, by 1938 the Soviet plants were turning out large quantities of mostly obsolescent equipment and a second technological reconstruction had to be initiated.⁵⁵

The second technological reconstruction brought out (in 1939) the best medium tank of World War II, the T-34, which was the culmination of earlier work on Christie-types. In 1940, several new high-performance fighter aircraft comparable to those already in service with foreign air forces began to go into production. However, a habit of valuing quantity more than quality made it difficult for the new tanks and aircraft to compete for factory space and materials with the older models.⁵⁶ The aircraft also fell somewhat short of the then current state of the art because foreign governments, the United States included, had restricted exports of military technology.⁵⁷ The navy's program to acquire a high

seas fleet was severely hampered by inability to buy a nucleus of battleships abroad.⁵⁸ The second technological reconstruction also did not keep abreast of developments in communications. Like the first, it concentrated on weaponry. Tanks and aircraft, even the newest, did not usually carry radios. In the Air Force, squadron commanders' airplanes had radios but it is said that because of their poor quality "flight personnel made little use of them while in the air." The ground forces' radio networks were thin.⁵⁹

Manpower as such was not a problem for the Soviet military. The communist regime was always more than willing to recreate the human steamroller of 1914 if need be. Field service regulations published in 1936 at the height of the technological reconstruction stated, "...the infantry ... by decisive action in attack and by maintaining positions in defense, decides the outcome of battle."⁶⁰ There is no evidence that the Soviet government or military were concerned, as others were after World War I, with the possibility of not again being able to muster a mass army. The reduction after the Civil War was actually an effort to maintain the largest possible armed forces in the midst of a crippling economic crisis. By 1929, the cadre and territorial elements could, on mobilization, have constituted a force of several million men.⁶¹ The Osoaviakhim (Society for Promotion of Defense, Aviation and Chemical Development), formed in 1927 out of existing paramilitary clubs and associations and claiming eleven million members in 1931, could have provided an additional reservoir of manpower at least acquainted with militarily useful skills ranging from airplane piloting to first aid.⁶²

The Soviet literature depicts the main manpower problem as having been a predominance of peasants in what were to have been workers' armed forces.⁶³ Since there is no evidence that workers made better soldiers

than peasants -- and most armies believed just the opposite at the time -- this appears to have been principally a psycho-political concern. But it was related to a real manpower problem that became acute during the technological reconstruction: that of having to man technologically equipped armed forces with personnel drawn from a still predominantly non-technological society. It was dealt with at the lower levels by expanding the cadres (to almost a million in 1935 and to 1.5 million in 1938) and taking the greater part of the conscripts into them, where they could be given two to four years full-time training.⁶⁴

Communist theory required commanders also to be drawn from the working class and peasantry as the military specialists were phased out of active command after the Civil War. The German Colonel Mittelberger, on visiting the commanders' schools in Moscow in 1928, concluded that a select group scheduled for top command and staff appointments were doing very well and were likely, "in about ten years," to achieve a higher level of military education than had existed in the tsarist army. Those being trained for the field grades, however, he found 'he "not very promising;" and the primary objective of the courses for company-grade commanders appeared to be about a fifth-year level of elementary school education.⁶⁵ Speidel remarked about the higher commanders and senior staff officers who went through the German general staff courses that they "almost" surpassed their German colleagues in desire to learn but concentrated more on memorization than on assimilation and application.⁶⁶

II. Strategic Effectiveness

The Soviet political goals throughout the interwar period were, first and always, survival of the communist regime in Russia and, second, world revolution. Although, as perceived from the outside, the order of precedence appeared much of the time to be reversed, the political leadership consistently put its own security ahead of the Marxist-revolutionary program. The two were mutually supportive in making maximum military power the State's first political priority, but they tended to contradict each other in that the dominant goal was defensive to the point of being isolationist while the subordinate goal was inherently offensive and expansionist.

The Civil War made survival a real and acute concern. (It also raised a tantalizing vision of imminent world revolution, but that faded early.) During the war, the Bolshevik government saw itself as surrounded by enemies and "a fiery ring of fronts."⁶⁷ It did not trust its ex-imperial military professionals, and the party members who had assumed military commands resisted central control. But the Bolsheviks did have one decisive strategic asset: possession of the ethnic Russian heartland, the great belt of territory stretching from Leningrad to Moscow to the Volga River and into the Urals. Since the Civil War, as Stalin observed with considerable candor, was a war primarily between Russians, this compelled the White forces to strike inward from the periphery and to draw their manpower and support from often hostile non-Russian populations.⁶⁸

According to Stalin, the main strategic task on the Red side was to determine the direction of the main effort since the resources were always too limited to permit a full-scale action against more than one enemy at a time. Lenin and the party Central Committee, he implied, were more adept at doing that than the military because the party had long experience in selecting its chief political targets.⁶⁹ Whether determining the main effort required a particularly high level of strategic competence, however, is somewhat doubtful. The Whites did not manage to coordinate their operations, and the Reds had to meet the successive threats as they came. The historian Paul Miliukov may have identified the most effective strategists of the Civil War: the Russian peasants, who endured the rigors of war communism to stave off the return of the landowners, whose property the Bolsheviks had allowed them to seize.⁷⁰

The beginning, by the Soviet reckoning, of the interwar period brought a redefinition of political goals that extended the outlook of the Civil War into the indefinite future. The ring of enemies that no longer existed in Russia became a more dangerous one in the world outside the Soviet borders. Lenin foresaw an "inevitable ... series of frightful clashes between the Soviet Republic and the bourgeois states."⁷¹ Stalin elucidated and expanded Lenin's thesis at the Fifteenth Party Congress in 1927. War with the capitalist world, he said, was inevitable, as were also imperialist wars between the capitalist states and "colonial-revolutionary wars." The Soviet Union, he concluded, would have to postpone war by "buying off the capitalists," strengthening its defenses, and promoting revolutionary movements in the capitalist states and their colonies. The postponement would end, he said, when the revolutionary movements had "matured" or at "the moment when the capitalists come to blows over the division of the colonies."⁷² In

short, the Soviet goal would be to ensure its own survival until the time was ripe to destroy its enemies.

Frunze's unified military doctrine provided a theoretical strategic framework derived from an interpretation of the Civil War experience and, like the political goal, from the Marxist dialectic. In Frunze's view, the chief characteristics of the Soviet style of war would be maneuver and offensive operations. He also saw offensive mindedness as a special characteristic of the Red Army and the wars it fought, being class wars, as inevitably terminating "in the total destruction of one side."⁷³ Trotsky, whose experience in strategy-making was considerably greater than Frunze's, insisted: "We must reject all attempts at building an absolute revolutionary strategy with the elements of our limited experience ..."⁷⁴ But the unified military doctrine was and would continue to be compellingly attractive because, it is said, "... without a military doctrine the army could not be a strong organism capable of carrying out the missions of the state."⁷⁵

By the early 1930s, though, the mission of the state was becoming less clear cut than it had seemed to be in the aftermath of the Civil War. In June 1930, Stalin told the Sixteenth Party Congress that the economic depression then gripping most of the world was creating serious "contradictions" within the capitalist camp, ones which could lead to an imperialist war that the Soviet Union in its still low state of industrial development could not exploit.⁷⁶ Three and a half years later a massive upsurge in revolutionary movements he had also predicted had taken place, but the movements were fascist, not Marxist. In January 1934, Stalin told the Seventeenth Party Congress, "Quite clearly, things are heading for a new war." Fascism "of the German type," he said, had become the "most fashionable commodity among the war-mongering bourgeois

politicians;" plans were being hatched in "military circles in Japan" and among the "political leaders of certain states in Europe" for a war against the Soviet Union.⁷⁷ After the congress, Soviet policy shifted from opportunistic isolationism to collective security marked by the opening of negotiations for mutual assistance pacts with France and Czechoslovakia early in 1934 and Soviet entry into the League of Nations later in the year.

The uncertainties of the world political situation, the requirements of the technological reconstruction of the armed forces and Stalin's suppression of collegiality in the decision making processes were the determinants of Soviet military strategy during the 1930s. War against a coalition and two-front (Germany and Japan) and three front (Germany, Japan and Turkey) war were the predominant specific strategic concerns; but the military leadership appears not to have been called upon or to have taken upon itself to devise a comprehensive national strategy. The most recent Soviet judgment is that the military could not bring its strategic theories "to life" because the state was unable in the 1930's to provide the necessary resources.⁷⁸ Earlier post-Stalin contentions were that Stalin's cult of personality stultified strategic thought and that, while claiming to be the ultimate authority, he failed to establish strategic objectives.⁷⁹ Whatever the reason may have been, it is certain that Stalin, like Georges Clemenceau before him, looked upon real war as too important a matter to be left to generals and that strategy-making declined as a function of the military leadership during the 1930s. In the 20's, the faculty of the War Academy taught and worked at developing the arts of strategy, operations and tactics; in the early 1930s, it concentrated on operations and tactics; and from 1939 to 1941, its "main task" was "to develop the tactical form of future war."⁸⁰

Whether the military's deficiency in the realm of strategy stemmed entirely from the inability of the state to provide the means or from Stalin's personality cult or from both is at least doubtful. During the campaign for collective security, Western military observers had opportunities to meet and assess the Soviet military leadership. As the Germans had done some years before, they regarded Tukhachevskiy as highly competent -- and somewhat devious. Most of the others, particularly Voroshilov, the people's commissar, and A.I. Yegorov, the chief of the General Staff, struck them as having no discernable professional qualifications for the high posts they held.⁸¹ The French, who were desperate for an ally in the East, could not be persuaded that the Red Army would be a worthwhile one, and the purge in 1937 and after convinced the commander in chief of the French Army, General Maurice Gamelin, that the Red Army had been reduced to "a gendarmerie" from which little was to be expected "after generals and higher officers have been put to death by the thousands."⁸² G.S. Isserson, who was a professor in the Soviet War Academy during the 1930s and survived the purge, said that the purge "essentially decapitated" the army.⁸³ While the Soviet literature now generally rates the military victims of the purge higher than foreign observers did at the time, and while the purge may not have been as crippling as it appeared at the time, Stalin could well have had substantial genuine doubts about his military men's qualifications as strategists after the purge as well as before it. Those who survived in the top command echelon owed their good fortune primarily to subservience to Stalin. Since ability was not a consideration in the selection process at any level, the purge probably did not alter the overall average competence of the officer corps, and the net loss was mainly in numbers and experience. Some years later, after Stalin had managed to

keep his generals in hand through the darkest period in the war and Adolf Hitler was beginning to have trouble doing the same with his, Hitler rated the loss in the purge as negligible in comparison with the gain in control of the officer corps Stalin had achieved by removing all the potential dissidents before the war started.⁸⁴

Internal division on the question of the nature of the next war further limited the military's ability to formulate strategy. World military thought on the subject of a future general war took its departure, in one way or another from World War I. The Red Army was born of the revolution and the Civil War; Frunze's unified military doctrine had made the idealized experience of the Civil War a Marxist article of faith; and with few exceptions the leading military figures in the Soviet Union hardly knew any other form of war. The effect, as a recent Soviet account has put it, was to "canonize" the Civil War experience and to disregard the lessons of World War I.⁸⁵ Frunze's singling out of maneuver as the Soviet main form of warfare reinforced and sustained the theory of "the special mobility of the Red Army," whose adherents saw the cavalry army as the pre-eminent element of maneuver, even a kind of Soviet secret weapon, and proposed to relegate armor to a cavalry support role. On the eve of his downfall in 1937, Tukhachevskiy was campaigning against the theory of special mobility in the party and military press.⁸⁶

General agreement did exist on the second predominant characteristic Frunze had attributed to the Red Army, its offensive-mindedness. A 1939 draft of the field service regulations expressed it in aphorisms such as the following:

The Union of Soviet Socialist Republics will respond to any enemy attack with a crushing blow involving all the

might of its armed forces.

If an enemy unleashes a war on us, the Workers' and Peasants' Red Army will be the most offensive-minded of all the attacking armies that ever existed.

We will conduct the war in an offensive manner, bringing it to the enemy's territory.⁸⁷

Ideologically these were totally satisfactory and have remained so ever since, but they were expressions of faith not necessarily of fact, and, it is said, "because of insufficient practical and theoretical training of many leading military cadres, were accepted too literally and dogmatically."⁸⁸ Consequently, as the official History of the Second World War states, the development of Soviet military theory prior to World War II was "shallow and inadequate" because, while it was "correctly oriented" toward dealing an aggressor "powerful blows," it failed to take the possibility of a strategic defensive into account.⁸⁹

In quantitative terms the ground forces of the Red Army were the mainstay of Soviet strategy, political and military, throughout the interwar period. I.A. Korotkov states, "The ground forces had the leading role in the execution of strategic and operational-tactical missions . . .," and gives the relative personnel strengths at the outbreak of war in 1941 as 79.3 percent ground, 11.5 percent air, 5.8 percent naval and 3.4 percent air defense.⁹⁰ Throughout the period as well, the Red Army relied predominantly on its infantry mass. The 1936 field service regulations, written under Tukhachevskiy's supervision at the height of the technological reconstruction, specified, "... all other types of forces operating jointly with the infantry are carrying out their missions in the interests of the infantry ..."⁹¹ Future war

was seen as involving massive collisions of strategic fronts, the outcomes of which would depend primarily on the ground forces. The Air Force would support the battle on the ground by preliminary bombardments in conjunction with the artillery and by strikes at enemy headquarters, reserves, rear installations and communications lines.⁹² The Navy "new school" had developed a "little war" (guerrilla) theory of naval strategy which would require the light surface vessels, submarines and naval aircraft being built in increasing numbers under the five-year plans to be employed in a combination of ground support (on the seaward flanks of the fronts) and coast defense roles.⁹³

The form the next war would take was a vexing problem for all military organizations in the interwar period. Roughly, the solutions considered fell into three categories: (1) a repeat of World War I with some variations, such as the Maginot Line and increased aerial bombardment; (2) a more open and mobile form derived from the methods both sides had employed on the Western Front after March 1918; and (3) a form that would substitute technology, primarily aircraft and armor, for manpower and be almost totally open and mobile. All were rooted in the World War I experiences the Soviet military had not shared. Consequently, although that is only obliquely admitted, the Soviet theorists followed foreign developments, particularly the German, and undertook to adapt them to the Red Army's needs. In doing so the Soviet armed forces had something no other military establishment of the time had, namely, under the five-year plans, an economy entirely devoted to military support. This enabled them to take options on all three categories: by building the longest Maginot-type line (the Stalin Line), by constructing a fleet of heavy four-engine bombers (TB-3s), and by setting up massive armored units while maintaining what were probably the

largest infantry and certainly the largest cavalry forces in the world.⁹⁴

The group in the military leadership most articulate on matters of strategy, Tukhachevskiy and his adherents in the War Academy and elsewhere, followed the course being taken by moderately advanced European military thought and concentrated on Category 2, which seemed to offer the best feasible prospects. Category 3, as advocated by J.F.C. Fuller, B.H. Liddell Hart and Giulio Douhet, would have required reliance on technology that did not yet exist and for the Soviet armed forces, in particular, potential loss of a historic Russian strategic advantage, the ability to put greater masses of men in the field than could any other European state. Soviet strategic theory of the mid-1930s identified the essential feature of Category 2 as being the offensive incorporating combined arms operations and maneuver with the objective of first carrying the war to the enemy's territory (to force him to take the brunt of the destruction) and thereafter of breaking through his front and driving him back repeatedly until he could no longer resist.⁹⁵ This was, for its time, as Isserson said later, "the correct line of development," and it was the line the German General Staff had also taken.⁹⁶ The purge, Isserson maintained, interrupted Soviet progress while that of the Germans continued.

The purge, however, probably affected Soviet strategic thought less than did the Spanish Civil War (1936-1939), with which it was roughly concurrent. The Spanish war upset the Category 2 assumptions -- in all armies but more in the Red Army than others -- by seeming to demonstrate that despite motorization and mechanization, the defensive was more than ever the stronger form of war. In 1937, Liddell Hart and Tukhachevskiy published articles in which both revised their previous estimates of the role mechanization would play in a future general war downward

substantially. In his article, which appeared in the journal Bol'shevik two months after his death, Tukhachevskiy judged the experience in Spain to be demonstrating that technological advancement invariably strengthened the defense and, hence, gave no reason to anticipate a coming era of highly mobile, mechanized warfare. Success in battle, he concluded, would depend primarily on infantry and artillery. Therefore, combined arms would have to be construed, as in the World War, as the concentration and coordination of all arms, including armor and air, in support of the infantry.⁹⁷

Strategic bombing appeared also to have shown less promise during the war in Spain than its advocates had predicted. General Alexander Lapchinskiy, a former commanding general of the Red Air Force, reasoned that: (1) strategic bombing could only be effective after the enemy's military resistance had been broken because the bombing of urban areas, such as Guernica and Madrid, had not by itself impaired civilian morale and (2) strategic bombing would only be possible after the enemy's military resistance had been broken because until then all available air power would have to be concentrated at the fighting front.⁹⁸ In 1939, the Red Air Force, which with about 800 TB-3s possessed the only (though obsolescent) fleet of heavy bombers in existence, gave up on strategic bombing and disbanded three air armies (equivalent to World War II U.S. Air Forces) it had activated in 1936 to conduct strategic missions. During the year it also stopped production of the TB-7, a new four-engine bomber said to have been as advanced as any then in existence including the U.S. Air Corps, B-17. (The 78 TB-7s built constituted the Soviet World War II heavy bomber component after the TB-3s were taken out of combat service early in the war.)⁹⁹ The 1939 Field Service Regulations defined the air mission as being to reinforce the ground forces "in the

direction of the main effort."¹⁰⁰

The Soviet military-strategic disarray in the late 1930s was more than matched at the political level. The collective security policy did not mature into an alliance against Nazi Germany; unilateral intervention in the Spanish Civil War failed to prevent another victory for fascism; and the German-Japanese Anti-Comintern Pact of November 1936 and the Rome-Berlin-Tokyo Axis formed a year later confronted the Soviet Union with an explicitly hostile coalition and an unmistakable threat of a two-front war. In the summer of 1938 and again the next summer, the Red Army engaged Japanese forces on the Manchurian border, at Lake Khasan and on the Khalkin-Gol River. Soviet willingness -- and ability -- to meet the Japanese challenges in those places, however, tended to reinforce the impression being derived abroad from the intervention in Spain that there was little to choose between in the Soviet and Axis capacities for aggression. The collective security policy collapsed totally during the Sudeten Crisis of September 1938, and the Munich agreements virtually relegated the Soviet Union to diplomatic isolation.

Stalin responded with an appeasement effort of his own. On 10 March 1939, he told the Eighteenth Party Congress that the goal of Soviet policy henceforth would be "to strengthen business-like ties with all countries."¹⁰¹ In Adolf Hitler, he found a "businessman" to his liking. The Nazi-Soviet nonaggression pact of August 1939 was a strategic bonanza. It enabled the Soviet Union to stand aside from the war brewing in Europe; made certain the Khalkin-Gol incident then in progress would not become the prelude to a two-front war; and, after Germany had defeated Poland, gave Stalin the opportunity to begin establishing a glacis on the western frontier. The price, initially, was modest: the nonaggression pact gave Germany relief from its strategic nightmare of a

two front war -- which could always be revived as long as Germany had opposition on her western frontier. But the defeat of France in June 1940 revealed the actual price to have been German hegemony in Europe and that, according to Nikita Khrushchev, who was then a Politburo member, confronted the Soviet Union with "the most pressing and deadly threat in all of history."¹⁰²

After June 1940, war was inevitable, but the state of Soviet readiness was more than ever in doubt. The second technological reconstruction was just beginning to take effect, and the 1939-1940 Winter War against Finland had disclosed alarming shortcomings in the Red Army's performance. In January 1941, Stalin reportedly estimated that the play for time had to continue for at least a year and a half to two more years.¹⁰³ Manifestly it could not have done that and, hence, was unrealistic as a policy goal, particularly in the early months of 1941 when German invasion preparations were apparent as far away as London and Washington, D.C.. The question ever since has been whether the failure of policy exposed the country to the strategic surprise that befell it on 22 June 1941. Since the de-Stalinization of the late 1950s, the official view has been that it did, in one way or another, either through Stalin's misperception or as an unavoidable necessity.¹⁰⁴ On the other hand, continuing Soviet military concern with the element of strategic surprise, born no doubt in part out of the 1941 experience, has prompted studies from which two other conclusions can be drawn, namely, that Stalin's play for time was not incompatible with the military's strategic thinking of the time and that strategic surprise -- for reasons other than Stalin's influence -- did not figure in the military thinking.

The Soviet strategists closely studied the war's early campaigns: Poland, Norway and Denmark, France and the Low Countries, Greece, North

Africa and, lastly, the Balkans and Crete. But the action was difficult to follow because relations with the allies, soured over the Nazi-Soviet Pact, virtually died during the war with Finland, and the Soviet-German military contact of the pre-Hitler era did not revive. Isserson maintained that those who had worked on the theory of mobile warfare before the purge -- and like him survived -- understood and analyzed the change the Germans had introduced in their campaigns in Poland and France, but the conclusions did not get outside the offices "of some circles in the General Staff and the War Academy."¹⁰⁵ In December 1940, Marshal S.K. Timoshenko, who had replaced Voroshilov as People's Commissar of Defense earlier in the year, told the military district commanders that the German victories had not raised any new considerations for Soviet strategy.¹⁰⁶

In particular, strategic surprise appeared to be ruled out. In his memoirs, Marshal G.K. Zhukov, who became Chief of the General Staff in January 1941, said, "The People's Commissariat of Defense and the General Staff believed that war between such big countries as Germany and Russia would follow the existing scheme ... "¹⁰⁷ Under "the existing scheme," as it had been propounded in the mid-1930s, hostilities would begin with "creeping war," a period of "war and non-war" consisting of border skirmishes and last-minute diplomatic exchanges that both sides would use to complete their mobilizations.¹⁰⁸ The interval would be as much as three weeks after war had formally been declared, enough to make an attempt at strategic surprise futile for either side.¹⁰⁹ After the hiatus, the Soviet strategists assumed, the war would follow a pattern of successive offensives and would "inevitably take on a character of extended attrition, with battles being decided primarily by the ability of the rear to provide the front with more material and human resources

over a prolonged period of time than were available to the enemy."¹¹⁰

The military leadership prepared for the kind of war it anticipated but not for the kind that occurred. Strategic estimates developed in the summer and fall of 1940 assumed a two-front war with Germany and Japan in which Germany would be the main and by far more dangerous enemy. The military district commands on the western frontier, which would become army group headquarters in wartime, worked out operational plans in the winter and early spring of 1941. By June, the first strategic echelon, 170 divisions, expected to stop the enemy at the frontier, deal him "answering blows" and possibly begin carrying the war to his territory, was in place. A second strategic echelon was assembling on the line of the Dnepr and Western Dvina Rivers. Its mission would have been to complete the job of carrying the war to the enemy's territory.¹¹¹

On 22 June 1941, the political strategy (Stalin's) and the military strategy failed, independently of one another and with awesomely disastrous consequences. In the Russian language the word, "vnezapnost" (suddenness), is used to connote military surprise, which can derive from situations that are sudden and unexpected or suddenly unmanageable or, in its strongest form, from both, as did the surprise that befell the Soviet forces in June 1941. The Soviet explications center on the unexpected, but the unmanageable element created the true strategic surprise. The standard Soviet contention that preoccupation with the offensive to the virtual exclusion of the defensive in Soviet strategy of the interwar period induced a psychological vulnerability to surprise, while possibly effective as a reassurance for the present and the future, serves better to limit the analysis than to promote it. To assert, on the other hand, as the General Staff's deputy chief of operations in 1940-1941, the late Marshal A.M. Vasilevskiy, has that if some more things had been done in

time and in accordance with the General Staff's plans, "the enemy would have been dealt such losses on the first day of the war that he could not have advanced further into our country" merely belittles the problem.¹¹²

The Soviet armed forces, from top to bottom, were simply not at a stage of development in which they could have contended with the enemy on anywhere near equal terms either offensively or defensively. To claim, as Marshal M.V. Zakharov has, that the Germans, "smugly and in perverted fashion," stole the idea of blitzkrieg from the Soviet military theory of the early 1930s is wholly beside the point.¹¹³ The Soviet military leadership and their forces were not capable of fighting a blitzkrieg on the first day of the war -- or, for that matter, on the last.

Nevertheless, they defeated Germany, in the main, with their own strategic resources which had either existed or been created during the interwar period. The chief of those was the capacity to outlast the enemy derived from the vast territory and tremendous manpower pool of the country. The German Wehrmacht had to win fast, the Soviet armed forces needed only to win. The next, the greatest Soviet strategic accomplishment, was the massive industrial base created during the five-year plans and sited to be out of enemy reach. (Of five major industrial areas, only one was lost) With those assets and a political system absolutely dedicated to its own self-preservation -- and some lessons from the enemy -- the military level of strategic effectiveness attained during the interwar period proved to be adequate in the war, though, perhaps, barely.

III. Operational Effectiveness

Operations, as a component of military art interposed between strategy and tactics, derived from the World War I practice of establishing an intermediate command, the army group headquarters -- in Russian, front -- between the supreme command and the armies in the field. In the interwar period, the army group came to be regarded as having performed a key function in the conduct of war with multi-million-man forces on extended battlefields by combining the lower elements of strategy and the higher levels of tactics into operations. The nature of operations as an aspect of military art eluded exact definition during the interwar period, but the level at which it would apply, namely, that of the army group, was taken, in German and Soviet theory particularly, to set the scale on which future general wars would be fought in the field. In the hands of the army group the battle would be absorbed into the operation which would be conducted in great breadth and depth over long periods of time.

The problem was to devise a system of operations that would achieve a strategic effect through movement and not degenerate into another deadlock such as had occurred in World War I. Although they had failed in the strategic sense, the German offensives of 1918 seemed to have demonstrated that in any future war the objective of all operations would be to attain movement in depth through the concerted and coordinated employment of all existing arms. Since the circumstances of both sides would presumably be about the same, offensives would encounter deep

defenses; movement would be intermittent and might at any point cease altogether, as it had in the fall of 1914.

As in the case of strategy, the particular situation of the Soviet armed forces further complicated the problem of operations. They had no direct experience of war as it had been conducted on the Western Front during the World War, and while they had access to German operational theory, which was probably the most advanced in existence during the 1920s, they lacked the technological capability throughout much of the interwar period to engage in the kind of warfare to which the theory applied. Moreover, they could not deal with operations in a context that did not incorporate the special Soviet military characteristics deduced from the Civil War. Consequently, Soviet operational thought, as it has to some extent ever since, had to contend with assumptions drawn from, for it, philosophically incompatible conceptions of war.

Soviet theorists of the 1920s concluded that while the World War had exposed valid problems relating to the scale of war, the Civil War had provided the solutions to those and had revealed the nature of future wars as well. The Red Army, as the army of a new type, and the unified military doctrine signified a transformation of war. The main question seemed to be whether the next general war would follow the Civil War pattern from start to finish or initially take a form similar to World War I and end in a repeat of the Civil War. In either case, it appeared that preparation for the next war could most profitably start from the basis of the Civil War, not, as some, mostly old-school military specialists, suggested from study of the World War I experience.¹¹⁴

In the Civil War, the Red Army appeared almost effortlessly to have mastered problems that had baffled the Germans and the Allies in the World War: they had successfully executed operations on scales of

breadth and depth vastly exceeding any on the Western Front. Fronts of single operations 250 to 300 miles wide were commonplace, and they ranged upward to nearly 800 miles.¹¹⁵ Depths in the range of 150 to 500 miles were not unusual and reached (in one instance, the advance from Omsk to Irkutsk, November 1918 to March 1920) as much as 1600 miles.¹¹⁶

On the other hand, the Red Army had demonstrated its "special" qualities -- mobility and maneuverability, offensive mindedness, and decisiveness -- in contests between relatively small, lightly armed forces for control of enormous expanses of mostly empty territory. Operations rarely involved more than one front (army group), and front strengths were often less and seldom more than 100,000 troops.¹¹⁷ At that, the fronts were hardly ever numerically inferior to their opposition and sometimes vastly superior -- as during the October-November 1920 operation against the forces of the White Russian General P.N. Vrangeli, when South Front had 133,000 troops to Vrangeli's 37,000.¹¹⁸ Trotsky tried -- unsuccessfully -- to convince the military delegates to the Sixteenth Party Congress in 1922 that the Red Army's operations in the Civil War were altogether different from those of "the imperialist war" (World War I) in which the world's most industrialized nations committed great numbers of men and huge material resources to a conflict in which "the opposing side found an answer to every blow; every hole was plugged up."¹¹⁹

The technological reconstruction, by providing the weaponry the armed forces had lacked in the Civil War, opened a second line of approach to operations, which culminated in a theory of deep operations that was given provisional doctrinal status in the 1936 Field Service Regulations.¹²⁰ The Field Service Regulations read very much like the German General Staff's "The Attack in Positional Warfare," which was

issued in January 1918 and published in 1920.¹²¹ The latter had established the breakthrough in depth as the objective of offensive operations and had specified close coordination of all arms, surprise, maneuver, and concentration of force as the means necessary to achieve it.

This was, even in the mid-1930s, as good doctrine as was, so to speak, to be found on the open market; and the Soviet theorists altered it only in the dimensions of time and space. They predicted that operations in the next war would be different from those in the World War chiefly in their breadth and depth. Instead of a massive defense in a single line, they would have to contend with several lines echeloned in depth.¹²² Army group operations, the predominant type, would be carried out on fronts 180 to 240 miles wide and would go to depths of 90 to 120 miles, hence, would be considerably more compact than in the Civil War but much more extensive than in the World War, where the greatest depth attained on the Western Front after 1914 was about 35 miles on an army group front of 50 miles. Motorization and mechanization were expected to increase the rate of movement from the three to six miles a day sometimes reached in the World War to, at best, nine to twelve miles per day. The deep operations would be ground operations, and the missions of the Air Force and the Navy would be to support the ground forces.¹²³

The day of the deep operation was rapidly approaching -- but not for the Soviet armed forces. In December 1934, the Defense Commissar, Voroshilov, rejected a move in the Military Council to declare deep battle (the tactical aspect of deep operations) to be a new form of war, not merely a view of it. Deep battle, he maintained, was a characteristic of all wars; battle in the future would not be different,

only deeper. The question, therefore, was not what to think about deep battle but how to conduct deep battle in "all of its diversity" and "in its multiple manifestations."¹²⁴ Consequently, work on deep operations, except in the general terms already given, most of which are drawn from the post-Stalin literature, did not actually go beyond deep battle, which in turn, could have been whatever anyone wanted it to be. Even for its strongest advocates the deep operation as such was hardly more than a vision when they and the theory fell victim to the purge.

In 1938, on the border of Japanese-occupied Manchuria, the Red Army acquired its first substantial combat experience since the Civil War and its first experience ever against a first-rate foreign enemy. The Japanese concept of an "incident" established an extremely elastic framework within which armed conflict could occur without being war, and rapid Japanese expansion into China proper after the Marco Polo Bridge incident of July 1937 had prompted the Soviet Union to build up its Far Eastern forces. In June 1938, a general of the Soviet secret police, then the NKVD, defected into Manchuria, bringing with him more than enough information on Soviet dispositions and the purge (which was about to reach the Far Eastern command) to ensure his welcome at the Kwantung Army's headquarters and in Tokyo. Soviet Intelligence was getting at least as good information from its master spy in Tokyo, Richard Sorge, and would have known that the Kwantung Army was eager to test its strength against the Soviet forces but was being restrained by the Imperial General Headquarters. On 1 July 1938, the headquarters of the Soviet Special Red Banner Far Eastern Army became the Headquarters, Red Banner Far Eastern Front (army group), under Marshal V.K. Blyukher. From 11 July to 11 August, the Soviet and Japanese commands staged an exercise in punctilio worthy of the eighteenth century at the junction of the

Manchurian, Korean, and Soviet borders where the border between the Soviet Maritime Province and Manchuria ran for a bit more than two miles along the crests of two hills west of Lake Khasan (Hasan). The hills could be considered commanding heights, though of what was uncertain since they were sandwiched between the lake on the west and the Tuman River on the east. Nevertheless, as of July 1938, both the Japanese and the Russians considered them to have potential operational, even strategic significance.

On 11 July, Japanese border guards reported seeing some forty Soviet troops digging trenches and stringing barbed wire below the summit on the Japanese side of the southern hill, which they called Changkufeng and the Russians called Zaozernaya. Although he had orders to await the outcome of a diplomatic protest being made in Moscow, the commanding general of the Japanese 19th Infantry Division, General Kamezo Suetaka, committed a regiment on 29 July after he heard that Soviet soldiers had also appeared on the west slope of the northern hill, Shachaofeng (Russian, Bezymyannaya). Apparently, he chose to construe his orders as applying to one hill but not the other or both. The next day, the Japanese occupied the crests of both hills and therewith intruded on the Soviet side of the border.

After the one Soviet infantry division in the Khasan Lake area, the 40th Rifle Division proved insufficient to repel the Japanese encroachment, Stalin, on 3 August, ordered Blyukher to set up a full corps under his chief of staff, General G.M. Shtern, who had recently arrived in the Far East from a tour of duty as chief Soviet advisor in Spain. On the following day, Stalin placed the entire Red Banner Far Eastern Front and the Transbaikalian Military District on war alert. Shtern had the 32d, 29th, and 40th Rifle Divisions and two mechanized corps

(32,000 troops, 345 tanks and 250 aircraft, 180 of them bombers including four-engine ANT-3s); but owing to the inadequacy of the roads in the 80 miles between Lake Khasan and Vladivostok, he could only get about half of the infantry and three-fourths of the tanks into action during the incident. Suetaka was worse off by far. The Imperial General Headquarters did not repudiate his action, but it left him to see the incident through with 9,000 troops, 37 artillery pieces (to Shtern's 237 pieces), and no air support. Shtern, however, also had a handicap: an order, presumably from Stalin, not to cross the border, which compelled him to maneuver his infantry and tanks entirely in the half-mile space between the lake shore and the tops of the hills.

The incident ended in a truce at noon on 11 August. The Soviet counterattack had reached the tops of the two hills on the 10th, and the Japanese Government, not knowing Shtern would have to stop there, had hurriedly settled the incident in Moscow to keep Suetaka and his men from the only honorable course otherwise left to them, death in battle. At the end, who had outfought whom remained in some doubt. Even with absolute superiorities in the air and in armor and artillery, the Soviet force had needed more than four days to advance a half mile on a two-mile front. On the other hand, in what had been essentially a show of force, not a contest for two wilderness hilltops, the Red Army had come off the better.

At Lake Khasan, the Red Army and the Imperial Japanese Army tested each other in the Vladivostok area, which would have been the initial but secondary scene of operations in a war. The main Japanese attack would, as the Soviet Command doubtless knew, have gone out of western Manchuria via Chita and Ulan-Ude to Lake Baikal, where it could have cut the Trans-Siberian Railroad. In early 1939, the Red Army added 345,000 men

to its permanent active duty strength and earmarked a large part of those for the Transbaikal Military District and the LVII Special Corps, which was stationed in the People's Republic of Outer Mongolia.

The Mongolian-Manchurian border was in dispute in numerous places. One of those lay along the Khalkin-Gol, a hundred and some miles due south of Hailaerh, which was the probable staging area for a Japanese thrust northwestward toward Chita. The Japanese claimed the river as the border, and the government of Outer Mongolia maintained that the border ran through a Mongol settlement known as Nomonhan, ten miles east of the river. Neither party had previously done more than occasionally send a patrol through the ten-by-forty-mile stretch of desert between the boundaries.

From May through August 1939, the Red Army and the Kwantung Army conducted a small war in the disputed territory. It began in the second week of May with skirmishes between Outer Mongolian and Japanese cavalry. A Soviet motorized infantry regiment and a mixed regiment of Japanese infantry and cavalry were on the scene by the end of the month. On the morning of 5 June, General G.K. Zhukov, who had until two days before been the deputy commander of the Belorussian Military District on the western frontier, took over LVII Special Corps, decided the Japanese were going to escalate the incident, and asked for reinforcements on the ground and in the air. At the end of the month, Zhukov had a motorized infantry division, an Outer Mongolian cavalry division, four mechanized (armored) brigades and a light tank brigade along the west bank of the river and in a bridgehead about ten miles long and four deep on the west bank. The Japanese had one infantry division, half of another, a cavalry division, two tank regiments, and more than two divisional allotments of artillery, some of which had been brought from Japan. The Japanese, who

were determined above all not to be overrun again as they had been at Lake Khasan, although they probably had some superiority in numbers, concentrated throughout July on fortifying the high ground they held. They had an offensive in mind for August but also thought about winterizing their positions.

Zhukov, as of mid-July, Commanding General, First Army Group (more than a corps, not quite an army), devised an operation that when he enlarged and repeated it three years later on the Volga River at Stalin-grad would give the Red Army its greatest battle victory of World War II. Through July and into the third week of August, Zhukov held the bridgehead on the Khalkin-Gol with essentially the strength that had been at hand when he arrived, approximately 12,000 men and 186 tanks. By the end of the period, his total strength stood at 57,000 men, 500 tanks, and over 500 aircraft. The Japanese force committed as of the third week in August had also increased -- from, possibly, 20,000 men to 38,000 (Soviet figures) and to 258 aircraft (from 144 in July) and 125 tanks (no increase) -- and the Kwantung Army had installed an army headquarters, Sixth Army, under General Rippei Ogisu.

Unable to hide his reinforcements in the empty desert, Zhukov put them to work in the open, building defensive positions. He also employed a device he would use again in the Vistula River bridgeheads in January 1945. He deployed the attack force east of the river gradually over a period of two weeks at night under the cover of a deluge of motor noises, some from trucks with their mufflers removed, others broadcast through loudspeakers. On 20 August, he had a central, a north, and a south group east of the river. Their deployment exploited the configuration of the original front, which the central group held and which ran parallel to a westward bend in the river. Consequently the north and south groups were

not only on the flanks but somewhat to the rear of the Japanese positions. The south group had an infantry division, an Outer Mongolian cavalry division, and a brigade and a half of armor. Since Stalin had apparently ordered Zhukov, as he had Shtern at Lake Khasan, not to violate the border (as the Soviet Union construed it), the north group had a relatively narrow sector in which an infantry regiment and an Outer Mongolian cavalry division sufficed, but it also had a brigade and a half of armor.

On the morning of 21 August, the north and south groups' tanks drove east to the border and then turned south and north along it, meeting two days later at Nomonhan. Meanwhile, infantry had moved in behind the tanks to establish a screening line on the border and Zhukov had begun turning the tanks inward behind the Japanese to tighten the ring around the pocket. Japanese attempts to break out failed on the 25th and 26th, and the three Soviet groups cleared the pocket in five more days. Air battles continued for another two weeks while the Kwantung Army readied a counteroffensive, but the Japanese Government chose to terminate the incident, which it did in Moscow on 15 September.¹²⁶

In the Soviet view, the Lake Khasan and Khalkin-Gol incidents appear to have been regarded primarily as major events in Far Eastern diplomacy. The official history of World War II credits them with having caused the Japanese to seek an accommodation with the Soviet Union on the eve of the Soviet-German war.¹²⁷ On the other hand, in spite of its penchant for identifying Soviet "firsts" and although it might legitimately do so, the Soviet literature has not claimed the Khalkin-Gol operation as the first wholly successful use of armor in an envelopment -- probably because that distinction has been reserved to the Stalingrad operation.

By the time Zhukov returned to European Russia in May 1940, a more immediately significant test of Soviet operational effectiveness had occurred as a result of Stalin's 30 November 1939 declaration of war on Finland. What had initially been intended as more a demonstration, like one Hitler had staged against Czechoslovakia earlier in the year, than a military campaign had developed into two major operations. The first of those, in December 1939 and early January 1940, resulted from a political decision to set aside a General Staff plan for a full-scale war and leave the invasion to the Leningrad Military District, whose commanding general, Army Commander Second Rank K. A. Meretskov, was ordered to make it "short and swift" and keep in mind -- as the Finns, no doubt, were expected to -- "the full strength of the USSR." Although the strength of the Soviet Union undoubtedly weighed heavily with the Finns, that proved to be not enough to guarantee a triumphal march on Helsinki in the winter, and by the end of the first week in January the Finns had seized the tactical initiative, with disastrous consequences for several Soviet divisions.

The second operation began on 1 February 1940. By then the General Staff had been brought into the planning; an army group headquarters, Northwest Front, had been installed in the crucial sector, the Isthmus of Karelia; the forces had been expanded; and the armor, artillery, and air support had been massively increased. Even so, the breakthrough on the isthmus, where the so-called Mannerheim Line covered the most direct approach to the Finnish heartland and the capital, took until 27 February and the war ended on 12 March with a negotiated settlement, not a Finnish surrender.¹²⁸ At the time of the armistice, Northwest Front had sufficient means to crush the Finnish resistance, but the British and French had been talking about -- though not doing much about -- sending an expeditionary force to aid the Finns. As he had in the Lake Khasan

and Khalkin-Gol incidents, Stalin had insisted on a victory but contented himself with a lesser one than he might have had to avoid risking a general war.

In his memoirs, the Finnish commander in chief, Marshal Carl Mannerheim, compared the Soviet performance in December to that of "a badly-conducted orchestra, in which the instruments were played out of time." The mistakes were elementary. "The artillery," he said, "kept up heavy fire, but it was badly directed and badly coordinated with the movements of the infantry and armor. Tanks might advance, open fire, and return to their starting-point before the infantry had even begun to move." Mannerheim noted a distinct improvement in the second operation, which he credited to more methodical preparation, but he observed that certain weaknesses had prevailed throughout: "a kind of inertia" in the higher commands that "displayed itself in the formalism and simplicity of the operational plan, which excluded maneuvering and was obstinately pursued to victory or defeat;" overreliance on the weight of material; "a striking absence of creative imagination where the fluctuations of the situation demanded quick decisions;" and a frequent inability to exploit initial successes.¹²⁹

In March 1940, a special session of the Central Committee of the Soviet Communist Party, apparently having identified the same deficiencies Mannerheim had, appointed a commission to review the defense structure at the commissariat level and launched intensive programs to improve leadership and training. The commission found that training, both at the command and the troop levels, had been too much oriented toward classroom instruction out of manuals and not enough attention had been given to developing endurance and combat proficiency. The slogan henceforth was to be "The troops must learn what they will need in war!" Orders went

out to all of the services and all commands to give their troops intensive practice at fighting in all kinds of terrain and "in all weather by day and by night." Artillery, armored units and air units were to work at perfecting methods of lending their combined support to the infantry in the form of massed fire. Commanders and staffs were to be familiarized with "the requirements of modern warfare" in field exercises and war games and educated to "exercise creative initiative" and "to make correct decisions independently in difficult and fast changing situations." Initiative and a capacity for independent decision making were manifestly not easy to instill in officers drawn from a society that ordinarily discouraged both. To promote the development of those qualities, the Presidium of the Supreme Soviet reinstituted unity of command in August 1940. The political control apparatus remained in place, however, and was charged with giving guidance and impetus to the training program, which seems to have needed a great deal since directives to that effect were issued in May 1940, August 1940 and January 1941.¹³⁰

After the Finnish war, also, the appointment of deputy chiefs of staff for supply gave that function separate staff status. During the war the chiefs of staff had been responsible for supply and had often neglected it in favor of more pressing tactical and operational concerns. The change enabled each army group to systematize supply distribution in its own area, but in wartime, the means of actually moving supplies, trucks in particular, would have to be secured from the civilian sector, which would itself be a major logistical undertaking. The operations in Finland had drained civilian motor pools as far south and east as Moscow.¹³¹ Transportation in general was the technological area in which the Soviet forces were the least well prepared. Under the

five-year plans, the railroad network on the western frontiers had been slighted because lines had had to be built to the new industrial complexes in the east (an instance, perhaps, of inadvertent salutary neglect since the effects would eventually fall more on the German than on the Soviet forces). The drive to mechanize agriculture had necessitated an assumption that farm tractors could double as artillery prime movers; and a transport aircraft for either civilian or military uses did not get into production until 1940, when Douglas DC-3s (C-47s) began to be built under license.¹³²

During the last peacetime year, with war ever more clearly on the horizon, the Soviet armed forces were in the midst of a complete overhaul. The second technological revolution was just beginning, as was also the program to improve performance. At the same time, the armed forces were having to be made ready to engage an enemy more powerful than had ever been contemplated, who had made the deep operation a truly new form of war at a level of operational sophistication well beyond the Soviet military leadership's existing capability. In those perilous circumstances, the Soviet command had two potentially decisive assets left: superior mass in manpower and in matériel. The operations in the Soviet-Finnish War and the German operations against Poland and France had seemed to demonstrate that those would prevail. The German superiority, particularly in material, was taken (not without reason) to have been virtually absolute in the Polish campaign and sufficient in terms of more modern equipment to have accomplished the Franco-British defeat in conjunction with those two nations' unwillingness to fight.¹³³ On 25 September 1940, at the close of the annual maneuvers, Timoshenko, the Defense Commissar, told the commanders who had taken part that there was "no such thing as blitzkrieg."¹³⁴ The chief operational concerns of

the war plans made in the summer and fall of 1940 were to determine where the enemy's strongest attack would come and meet him there, head-on with superior force.¹³⁵

In the last week of December 1940, the Defense Commissariat called an all-Army conference on war readiness in Moscow in which the senior officers (army commanders and above), Politburo members, and Stalin took part. The results of the conference have been widely and variously -- but certainly not unreservedly -- described in the Soviet postwar literature. Sixty of the conferees gave prepared talks on operational topics. Those generated much debate, some on relatively elementary questions -- the roles of air power and armor, for instance, and whether armor would count for anything in the first place. They also showed that the deficiencies in material, leadership, and training identified earlier in the year were being addressed. What was not demonstrated, however, at least not to Stalin's satisfaction, was an ability to plan and execute large offensive operations successfully.

After the conference ended, the military district commanders stayed on for several days to conduct a war game based on the General Staff's estimates of the actual Soviet and German dispositions in the presumed area of the German main effort (the northwestern Ukraine), and the red (Soviet) side lost. After Meretskov, who had become Chief of the General Staff in August 1940, failed to explain the untoward outcome of the war game and could not give a coherent critique of the conference as a whole, Stalin provided his own -- and relieved Meretskov the next day. The Soviet forces, Stalin said, would have to learn how to fight a mobile war and to maneuver and would need another year and a half or two years to be ready.

The generals seem to have regarded the conference and the follow-up as a considerable success. A number of them, most notably Georgi Zhukov, who became Chief of the General Staff, received important new appointments shortly afterward.¹³⁶ On the other hand, the Germans, toward whom the Soviet Government had been showing considerable restraint during the past few months, and the Finns, who had been under the threat of another war, experienced a sudden surge of Soviet goodwill after January 1941.¹³⁷ As a result of the conference, time had evidently become Stalin's most precious resource, and desperate to gain it, he placed Soviet foreign policy on an evasive course.

IV. Tactical Effectiveness

The cavalry army was the most and, unless one wants to consider the special fighting qualities attributed to the working class, the only significant tactical development of the Civil War. The First Cavalry Army was activated late in 1919 by upgrading the existing cavalry corps. Its strength fluctuated between 14,000 and 26,000 men, of which 9,000 to 16,000 were "sabers" (cavalry). A second cavalry army, organized in June 1920 with a total strength of 9,000 men, was expanded to 17,000 shortly before the war ended.¹³⁸ After the war, the cavalry armies were acclaimed as a major innovation in the art of war, the source of the Red Army's special mobility and maneuverability, and the proof of the Red Army's superiority over all of the western European armies that had let themselves get bogged down in the trenches during World War I. First Cavalry Army, which had achieved army status through Stalin's influence, became transformed into a legendary force and, increasingly as time passed, a product of Stalin's military genius.¹³⁹ First Cavalry Army also gave the Soviet armed forces if not the most competent, certainly the most durable contingent of its top military leadership. On the eve of World War II, four of the five living Soviet marshals were veterans of the First Cavalry Army, and two, Voroshilov and Timoshenko had between them held the nation's highest military post, that of defense commissar, since Frunze's death in 1925.

The cavalry armies left the scene after the Civil War; but the cavalry remained a service branch coequal with the infantry, artillery,

armor, and air forces throughout the interwar period; and its advocates in high places kept alive a contention that it could be the main element of maneuver in a future war.¹⁴⁰ It held its own during the technological reconstruction, expanding from 14 divisions and 7 independent brigades in 1929 to 32 divisions and 2 independent brigades in 1938.¹⁴¹ At the height of the technological reconstruction, the 1936 Field Service Regulations pronounced cavalry "capable of carrying out independent fighting under any form of combat" and of being employed in conjunction with mechanized forces and aviation.¹³⁶ In 1939, Voroshilov told the Eighteenth Party Congress that the Red Army's cavalry would "carry out great missions" in any future war.¹⁴²

In the early 1930s, the Soviet Union introduced two genuinely new tactical components: parachute troops and large armored units.¹⁴³ Soviet parachutists made the first mass parachute jump (by 600 men) in the 1934 maneuvers and much larger drops in the 1935 (1,800 men) and 1936 (1,200 men) maneuvers. The armored unit was the mechanized corps, two tank brigades and a rifle-machine gun brigade with a complement of 500 tanks and 200 other motor vehicles.¹⁴⁴ The parachute troops and mechanized corps, together with growing strengths in artillery and aircraft, furnished means for conducting a new form of warfare, and deep operations supplied a theoretical framework. What remained was to give effect to both at the tactical (deep battle) level, the requirement Western armies had wrestled with since the World War.

The work on deep battle centered on the shock army, which was taken to be the key component in deep battle -- and in deep operations as well. The shock army was projected to be a modern, more powerful version of General Oscar von Hutier's German Eighteenth Army, which, organized in accordance with the principles of "The Attack in Positional Warfare," had

spearheaded the German 1918 spring offensive. Depending on the circumstances, a shock army was expected to maneuver four or five infantry corps, one or two mechanized corps, a cavalry corps, seven to nine regiments each of artillery and antiaircraft artillery, and air and parachute elements in thrusts up to 60 miles deep on fronts 30 to 50 miles wide.¹⁴⁵ These would have been truly powerful armies, the infantry alone numbering in the range of 200,000 to 300,000, but none were activated or tested. Like the deep operation as a whole, the shock army and deep battle did not progress beyond their theoretical parameters.

The 1936 field service regulations incorporated as much deep battle doctrine as had been developed. It consisted of surprise, close coordination of combined arms, and maneuver as first principles and breaking the enemy's defense throughout its entire depth as the objective. The regulations assumed the combined arms in deep battle to be principally infantry and artillery, with tanks and aircraft serving as mobile artillery, and with cavalry, tanks, and parachute troops standing by to exploit opportunities for strikes into the enemy's flanks and rear. For its time, this was reasonably good doctrine, but like the shock army, it existed only in theory. The general principles were not converted into specific guidance for the field commands, and training did not go beyond the approach march and the meeting engagement.¹⁴⁶

Deep battle is said in the post-Stalin literature to have been tested in the 1935 and 1936 maneuvers. Since those years were also the height of the collective security campaign, foreign observers were invited, French in 1935 and French, British and Czech in 1936, and some of their assessments have survived. The quantities of equipment, 1,000 tanks, 600 aircraft and 300 artillery pieces, impressed them, but the action appeared to be more military theater than tactical exercise.

Tanks and cavalry -- an improbable mixture to begin with -- charged over marked courses; parachutists rode the wings of airplanes; machine guns and antitank guns popped up out of buried emplacements with hinged covers. One of the British observers, Colonel Giffard Martel, remarked, "In tactics we saw nothing very new except for the parachute landing" On the performance of the armored contingents, Martel, who was a tank specialist, concluded, "There was little skill shown in the handling of these forces, which appeared just to bump into each other."¹⁴⁷

By September 1936, when that year's maneuvers were conducted, the civil war in Spain was in its second month. The Soviet Union stood on the Republican side politically from the start and became involved in the war militarily before the year was out. The experience in Spain probably influenced Soviet tactical thinking more profoundly than did anything else in the interwar period. In 1940, G.S. Isserson wrote, "The war in Spain was the first experience with the tactical application of the new means of war on the fields of Europe and it opened the curtain somewhat on the battlefield of the future."¹⁴⁸ Behind the curtain, the Soviet observers -- as others, including Liddell Hart, the erstwhile prophet of mobile armored warfare, also did -- saw battles made more complicated and destructive by improved artillery, tanks, and aircraft but otherwise much like those of 1918. Battles, they and the others concluded, would again be ones of position and attrition, and the new technological means would not fundamentally alter their nature. Mass would be decisive, and manpower and material would have to be combined to the maximum to achieve it. The tendency, until one side was exhausted, would always be toward stabilization; fronts would be broken through and rebuilt repeatedly; and the possibility of a reversion to an outright war of position would always be strong.¹⁴⁹ This was, in fact, a view of battle more

compatible with Soviet circumstances than with those of any of its potential enemies, since the Red Army's greatest strengths were its numerical superiorities in men and machines. Isserson, who also took the September 1939 German campaign against Poland into account, noted that it had displayed contemporary battle in an entirely different light, but he pointed out that the German Army had possessed an absolute technological superiority.¹⁵⁰

The Khalkin-Gol incident, too, had provided evidence from which a different picture of future battles could have been derived; but it had taken place in the Far East where the Red Army had a considerable technological superiority; and, more importantly, it contradicted what appeared to be the European consensus. The Soviet aim was to keep up with foreign thinking and possibly improve on it while not taking the risks inherent in trying to go beyond it. From this point of view, the Lake Khasan experience could be seen as the more instructive, it having demonstrated, in the Soviet view, that neither "frontal infantry assaults" nor "numerical superiority in the technical means of combat" could ensure victory, which could only come from "the closest cooperation between all of them."¹⁵¹

The 1936 Field Service Regulations had already treated the infantry and artillery as the principal combined arms. The 1939 Field Service regulations enhanced the role of the artillery and extended it to the armored and air forces.¹⁵² The Red Army disbanded its mechanized corps in 1939 and reassigned the tanks as infantry support and mobile artillery.¹⁵³ The Red Air Force went to a strict front-line, tactical support doctrine and brought out an approximation of a flying tank, the heavily armored, low-level ground attack Il-2 (Sturmovik), which became the most numerous Soviet aircraft of World War II.¹⁵⁴ In doing so, the

Air Force apparently believed it was in good company, since the German Luftwaffe had also stopped its heavy bomber program, but it had missed a significant point: the Luftwaffe had retained a fully independent operational role.¹⁵⁵ Infantry doctrine assumed that, as in the World War, offensives would have to penetrate successive, fairly closely spaced trench lines; consequently, until October 1942, shortly before the counteroffensive at Stalingrad, when new doctrine was prescribed, divisions ordinarily launched attacks with as little as one third of their strengths and held the rest in reserve.¹⁵⁶

The Army resurrected the mechanized corps in 1940 after the successes of the German armor in the Low Countries and France. It had activated nine mechanized corps by the end of the year and began setting up twenty more in early 1941. With authorized strengths of somewhat over a thousand tanks apiece, the new corps were designed for weight more than for maneuver, apparently in keeping with the theory first applied to the Polish campaign and later extended to the campaign in the West as well that the German armor's advantage had been one of superiority in mass.¹⁵⁷

In late February 1941, after the German and British air forces had begun strategic bombing, the Air Force was authorized to create a long-range bomber force and equip it with up-to-date aircraft; however, the 78 TB-7s built as of 1939 were all the Air Force would have before June 1941 or after. The bulk of the Air Force was subordinated to the ground forces to be parcelled out according to function to the fronts (army groups), armies, corps and, in some instances, divisions. The Air Force did not possess either tactical or operational control of its units in the field until late 1942 when air armies, modeled on the German Luftflotten (air forces) began to appear and were attached to the fronts.¹⁵⁸

At the December 1940 conference, much of the talk was about mobility and maneuver, but whether any of the participants, including Stalin, had truly mobile war and sweeping maneuver in mind is doubtful. Zhukov, who gave the keynote presentation, on the offensive in modern war, attributed the German blitzkrieg victories in Poland and the West chiefly to the shock effect of the initial blows on weak and irresolute opponents. The problem, therefore, the conferees agreed, would not be to deal with a whole new style of warfare but to decide how to bring manpower and material to bear most effectively in a war of "extended attrition."¹⁵⁹ The discussion centered on the technological means, primarily the armored and air forces. General P. L. Romanenko, as a mechanized corps commander one of the more junior officers present, proposed massing armor in shock armies or in mechanized armies modeled on a panzer group the Germans had used in France. General F.I. Golikov, the deputy chief of the General Staff, and some others objected to the entire idea of large armored formations; and Marshal F.I. Kulik, the Army's artillery chief, dismissed tanks as "a sheer waste" out of which artillery would "make scrap." Reportedly, neither Zhukov, as the expert on the offensive nor Timoshenko, the defense commissar, responded to Romanenko's proposal at all.¹⁶⁰ Subsequently, Timoshenko, in effect, ruled against Romanenko when he stated in his concluding remarks to the conference that because it would be necessary "to saturate" a very long front with "the modern means of war," general purpose field armies would be the rule.¹⁶¹ The Commanding General, Air Force, P. V. Rychagov, also a relative junior in rank, accepted the contest for air superiority over the battlefield and support of the ground forces as the Air Forces' chief missions but recommended putting the air elements under army group rather than army control. However, the stronger tendency among the

conferees was toward further decentralization -- from the armies to the corps and even to the divisions.¹⁶² The guiding principle established in the conference appears to have been balance, which was to be maintained organizationally by a homogenized mix of all arms distributed evenly throughout the force structure and tactically by each arms' keeping closely in phase with all of the others on the battlefield.

The Soviet official History of the Second World War pronounces the December 1940 conference to have been "a major turning point in the analysis of war experience and the development of military art," an accolade that, in the light of what happened a half year later, invites contemplation with tongue in cheek.¹⁶³ Nevertheless, the conference brought the perception of the coming war into closer consonance with Soviet capabilities than all the theorizing of the previous two decades had done. The Soviet forces could and would fight a war of attrition, and they would do it at the tactical level they could best manage. In 1941 that would be the level of sheer mass.

Conclusion

The fundamental determinants of Soviet military effectiveness in the interwar period were development and adaptation. Development centered on building a military establishment that could preserve and extend the power of the state without encroaching upon it. It was an internal process in which the self-interest of the political system predominated. The military establishment's function was to adapt, within the political framework imposed on it, to the requirements of contemporary warfare.

A siege mentality derived from the "ring of enemies" idea, the doctrinal commitment to world revolution, and the presumed inbred military hostility to the interests of the working class shaped the development. Those concerns were harmonized in a unilateral contract that made the armed forces wholly subservient to the political authority in matters of policy and strategy and severely limited their autonomy even in the purely military sphere while allotting to them massive shares of the national resources in manpower and material. The contract served its markedly divergent purposes well. The armed forces were greatly expanded without any increase in the military's influence on the state. The military, for its part, did not have to contend with opposing interests and opinions. When the test came, in 1941, the armed forces' readiness in terms of ability to respond effectively to the demands of war was dangerously low, but they placed an enormous fund of expendable military capital unreservedly at the disposal of the state.

The process of adaptation entailed acquisition of technological means of warfare, their assimilation into the armed forces, and development of appropriate doctrine. Quantity was the paramount consideration. In the scale of access to technology and industry the Red Army and Air Force were the most favored in the world. On the other hand, mastery of technological warfare came slowly to the troops and the leadership; hence, doctrine emphasized numbers and weight of men and material factors, the ability of the armed forces and the capacity of the rear (manpower and industry) to outlast the enemy. In 1941 and 1942, the doctrine was a poor match for the German blitzkrieg, but in the years thereafter, it enabled the Soviet forces to display military effectiveness in its ultimately most worthwhile form, the ability to impose their will on the enemy. To resolve that paradox and bring the Soviet achievement into clear focus it is necessary to recall one other permanently operating factor in Russian and Soviet wars, namely, space. It transformed the war of annihilation Germany had to fight into the war of attrition the Soviet Union could fight.

Notes

1. S.A. Tyushkevich, ed., Sovetskiye vooruzhennye silu (Moscow, 1978), p. 139.
2. S.S. Lototskiy, et. al., Armiya sovetskaya (Moscow, 1969), pp. 103-07.
3. M.V. Zakharov, ed., 50 let vooruzhennykh sil SSSR (Moscow, 1968), p. 169.
4. Tyushkevich, Vooruzhennye silu, p. 186.
5. Ibid., pp. 189-91. M.M. Kir'yana, Voyenno-tekhnicheskii progress i vooruzhennye silu SSSR (Moscow, 1982), pp. 106f.
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63. The percentages for the Civil War are given as 77 percent peasants, 15 percent workers and 8 percent others (I. Kh. Bagramyan, ed., Voyennoye istoriya (Moscow, 1971), p. 123) and for 1923, toward the end of the demobilization, as 71 percent peasants, 18 percent workers and 11 percent others (I. Kh. Bagramyan, Istoriya voyn i voyennogo iskusstva) (Moscow, 1970), p. 93.

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68. J.V. Stalin, Works (Moscow, 1953), Vol. IV, pp. 297 and 335.
69. Ibid., Vol. V, p. 166. Stalin made those statements in 1921, but the selection of the main effort continued to rank as the core element of Soviet strategy-making throughout the Civil War -- and after. See Bagramyan, Istoriya voin, p. 82 and Sokolovskiy, Strategy, p. 122.
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86. IVMV, Vol. I, p. 288. Zakharov, Voprosy strategii, pp. 110-14.
87. IVOVSS, Vol. I, p. 441.
88. *Ibid.*, p. 441.
89. IVMV, Vol. I, p. 180.
90. Korotkov, Voyennoy mysli, p. 162. On the political importance of the Red Army, the armed forces fiftieth anniversary history states, "Without a powerful, well-trained and politically indoctrinated army the building of socialism in the Soviet Union, encircled as it was by capitalism, would have been impossible. Zakharov, 50 let, p. 192.

91. PU 36, p. 3.
92. IVMV, Vol. II, pp. 175, 179.
93. IVMV, Vol. II, p. 180. The "little war" theory has been compared to the French "young school" theory of the late nineteenth and early twentieth centuries, which it resembled somewhat in its coast defense aspect but not in the ground support aspect. The "little war" theory also did not include war on the high seas against enemy commercial shipping. See Herrick, Soviet Naval Strategy, p. 21 and Mitchell, Sea Power, p. 370.
94. Gunston, Combat Aircraft, p. 181. Tyushkevich, Vooruzhennue silu, p. 201.
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102. N.S. Khrushchev, Khrushchev Remembers (Boston, 1970), p. 134.
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106. Korotkov, Voyennoy mysli, p. 137.
107. G.K. Zhukov, The Memoirs of Marshal Zhukov (New York, 1971), p. 215.
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115. S.S. Kromov, ed., Grazhdanskaya voyna i voyennaya interventsia v SSSR (Moscow, 1983), pp. 114, 240, 384, 529, 617, and passim.
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121. See Erich Ludendorff, Urkunden der Obersten Heeresleitung über ihre Tätigkeit 1916-1918 (Berlin, 1920), pp. 641-66.
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124. Zakharov, "O teorii," p. 14.
125. See Korotkov, Voennoy musli, p. 156.
126. The analysis of the Lake Khasan and Khalkin-Gol incidents is based on the following: IVMV, Vol. II, pp. 210-21; IYOVS, Vol. I, pp. 236-45; Zhukov, Memoirs, pp. 147-171; and Donald S. Detweiler and Charles B. Burdick, eds., War in Asia and the Pacific, 1937-1949 (New York, 1980), Vols. X and XI (USAFPE, Special Studies on Manchuria), passim. See also Alvin D. Coon's comprehensive two-volume study Nomonhan, Japan Against Russia, 1939 (Stanford, CA: Stanford University Press, 1985).

127. IVMV, Vol. II, p. 220.
128. Meretskov, Serving the People, pp. 102-17. Anthony F. Upton, Finland 1939-1940 (London, 1974), pp. 86-89, 107-123, and passim. Vasilevskiy, Delo, pp. 95-97. IVMV, Vol. III, pp. 358-65.
129. Carl Mannerheim, The Memoirs of Marshal Mannerheim (New York, 1954), pp. 350-67.
130. IVMV, Vol. III, pp. 518-20. Zakharov, 50 let, p. 244ff. Tyushkevich, Vooruzhennue silu, p. 505. The commissar system had been restored during the purge after having been partially disestablished in the early 1930's under a policy that allowed politically qualified and trustworthy higher commanders to act as their own commissars.
131. IVMV, Vol. III, p. 428f. Michael Morozow, Die Falken des Kreml (Munich, 1982), p. 225.
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135. Ivanov, Nachal'nyy period, p. 203.
136. IVMV, Vol. III, p. 409f. A.I. Eremenko, The Arduous Beginning (Moscow, 1966), pp. 24-39 and Pomni voyny, p. 129. Meretskov, Serving the People, pp. 123-28. Zhukov, Memoirs, pp. 183-87.
137. Raymond James Sontag and James Stuart Beddie, eds., Nazi-Soviet Relations, 1939-1941 (Washington, D.C., 1948), pp. 318-24. H.

- Peter Krosby, Finland, Germany and the Soviet Union, 1940-1941 (Madison, Wis., 1968), pp. 161-63.
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153. I.E. Krupchenko, et. al., Sovetskiye tankovye vuska (Moscow, 1973), pp. 12-14.
154. Roehler, Geschichte, p. 330f.

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156. "Prikaz Narodnogo Kommissara Oborony No. 306, 8.10.42," in SVE, Vol. VI, p. 530.
157. Tyushkevich, Vooruzhennue silu, p. 240.
158. IVMY, Vol. II, p. 179. Groehler, Geschichte, pp. 301 and 347.
159. Ivanov, Nachal'nyy period, pp. 85-87 and 203.
160. Eremenko, Arduous Beginning, pp. 26-30 and 35. See also the Russian original, A.I. Eremenko, V nachale voyny (Moscow, 1964), pp. 33-38, from which passages have been deleted in the translation.
161. Korotkov, Voyennou mysli, p. 156.
162. Eremenko, Arduous Beginning, p. 31 and V nachale, p. 42.
163. IVMY, Vol. III, p. 409.

THE FRENCH ARMED FORCES,

1918-1940

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Introduction

The swift collapse of France in May-June 1940 came as an unexpected and rude shock to the European military establishment and experienced military observers. French military forces had played a crucial role in the defeat of Germany in 1914-1918, and following the armistice they retained a reputation as being a fairly efficient and very effective force. By the usual criteria -- relatively modern weaponry, large size, ample logistical support, and sound leadership -- the French military seemed to be capable of ensuring France's safety and eventually winning, when supported by her allies, the long total war foreseen by political and military leaders.

Even those who criticized the French military effort and who called for reforms, such as Paul Reynaud, did not doubt the widely publicized slogan of 1939-1940: "We shall win because we are stronger."¹ The British, who were included within the "we" opposing the Germans, also had a favorable view of the French military. In 1938 Winston Churchill

described the French Army as "the most perfectly trained and faithful mobile force in Europe."² General Sir Edmund Ironside, the British Chief of the Imperial General Staff from September 4, 1939 until May 27, 1940, acknowledged his confidence in the French and saw nothing significantly amiss in the French Army, even though he saw major weaknesses in their air force.³ Apparently, only the Germans had serious doubts before May-June 1940 about the military effectiveness of the French,⁴ but they too did not dismiss them as being unprepared.

Tragically for the western democratic nations, however, an illusion of effectiveness concealed the inadequacies of the French forces, particularly of the army which badly needed modernization in structure and in doctrine. An organization which appeared to possess all the normal attributes used to measure military effectiveness and which was widely acknowledged as being one of the most capable in the world in fact suffered from severe shortcomings. Despite sincere and intensive efforts to measure and ensure effectiveness, the most serious flaws in French military preparation became apparent during rather than before the fight. The disastrous events of May-June 1940 demonstrated all too painfully that the French forces were not as effective as their opponent's. Six weeks of fighting revealed the weaknesses of the French more completely and more obviously than years of study and analysis.

I. Political Effectiveness

Throughout the interwar period, the primary focus of French national security policy was defense against a future attack from Germany. Although the French fought in the Rif Wars in 1925-1926, in Syria in the early 1920s, and in northern Africa in the early 1930s, few Frenchmen doubted the real threat to their security originated in Germany. Civilian and military leaders recognized that France had been extremely fortunate to emerge safely from the Great War, and they resolved that France would be made safe from another German invasion. Consequently, a fairly strong consensus about the need to respond to the potential German threat existed within French society.

The existence of this consensus does not suggest that all Frenchmen agreed on the best way to respond to that potential threat. Many initially pinned their hopes on collective security through the assistance of American and British allies or through the League of Nations. Others exuberantly supported the wistful Kellogg-Briand Pact of 1928 by which numerous nations renounced the use of aggressive war but made no provisions for sanctions against those who violated the pact. In the early 1930s, France dallied with the notion of disarmament, but her enthusiasm for this soon withered as she contemplated the menace of German rearmament. Meanwhile, French diplomats erected a complex series of alliances with governments in central and eastern Europe by which Germany could be isolated and encircled and by which the wall of defenders along France's borders could be strengthened.

While debates were taking place over some of the methods for ensuring France's security, several noteworthy and well-known clashes occurred between civilian and military leaders. The interwar period began with a clash between Georges Clemenceau and Marshal Ferdinand Foch over the status of the German Rhineland. In the late 1920s, France's generals frequently complained about the deterioration of the army and laid the blame at the feet of the politicians for their reducing the term of service for conscripts and the size of the active army. During the period of General Maxime Weygand's tenure as the leading general in the army, open quarrels occurred between the impulsive and irascible Weygand and civilian authorities. In the late 1930s, ultra-right wing groups were found operating among the officer corps in organizations known as the Corvignolles and the Cagoule. Such occurrences underlined the tensions existing between the civilian and the military authorities.

Despite these strains, the dominant characteristics of relations between civil and military leaders between 1919 and 1939 were of accord and accommodation, rather than discord and defiance. The myth of an undeclared war between the civilian and military leadership in the interwar period has probably arisen from the exaggeration of the clashes which occurred. Beneath the occasional sparks in civil-military relations, no deep-rooted, debilitating civil-military crisis existed. The French political and military elite agreed that France required an effective military force for defending her interests, regardless of the benefits of collective security or alliances, and regardless of differences over the details of military policy. Consequently, an oftentimes tranquil and usually pragmatic relationship existed between the two groups, which enabled them to work together satisfactorily, if not always pleasantly, and which enabled the military to exert great

influence over the formulation of military policy.

Recognition of the effective working of the two groups together is not new. Judith Hughes has identified and analyzed the "close intermeshing" between them in the twenties and has argued that civilian leaders deferred to the military.⁵ As they considered the difficult and complex task of defending France, the politicians relied upon the generals to condense and translate the staggering amount of information involved in organizing and fielding effective military forces. Over time, the binding of the two groups together enhanced the military's chances of having its advice accepted -- often uncritically. The same situation existed in the thirties, even during the tenure of General Weygand as the leading army general. Philip Charles Farwell Bankwitz's study of Weygand has argued that the diminishing of the civilian leadership's powers gradually reduced the government to a position of near "equality" with the High Command.⁶ Similarly, the tenure of the General Maurice Gamelin, the most malleable of the army's peacetime leaders, did not see a submerging of the military's desires beneath a sea of political imperatives. Gamelin met infrequently with the Minister of National Defense, Edouard Daladier,⁷ who only occasionally became involved with the specifics of military policy and who remained content to concentrate upon his numerous other duties, such as those of Premier from April 1938 until March 1940.

Adding to its ability to influence the governmental decision-making process, the military hierarchy also escaped much of the instability which plagued the governments of the Third Republic. Except for twenty-eight months, Daladier occupied the Ministry of War from December 1932 to May 1940, and only three generals -- Marshal Philippe Pétain, General Weygand, and General Gamelin -- served as the highest ranking

generals in the interwar period. Additionally, the reliance on committees within the High Command weakened the influence of civilian authorities over military policy. Although an elaborate system of committees dominated by civilians was established after the war to determine military policy and to ensure control of military leaders by civilians,⁸ the committees met infrequently and rarely became involved with the details of military policy. Governmental instability contributed further to the weakening of these committees by ensuring frequent turnovers of the civilian representatives and strengthening thereby the relative expertise and authority of the military representatives and administrative specialists who changed positions less frequently. Consequently, military policy was not constructed by politicians and then forced upon an unhappy and disrespectful military. If anything, the military hierarchy had greater influence over the shaping of military policy than did the political leadership.

Within the realm of military policy, virtually no disagreement existed over the requirement for France to prepare for a total war in Europe. The tradition of arming the entire nation and fighting with its entire resources had been born in the French Revolution and had been developed to its fullest extent in the Great War of 1914-1918. From the beginning the French accepted the experience of World War I as having provided a model for future warfare, needing only adjustment as the technical means of waging war evolved. If France were to survive and remain secure in the future, she required a military force capable of fighting another long total war that would demand vast quantities of economic and industrial resources and that would result in an immense loss of life. Although she shuddered at this awful possibility, she continually, if not steadfastly, supported the efforts of her military

leaders to prepare for the enormous demands of a total war against Germany.

The choice of total war had the effect less of "civilianizing" military policy than it did of militarizing all governmental policy. Considering the enormously complex and diverse efforts inherent in preparing the nation for war, military technicians had great, if not total, influence in devising and carrying out arrangements for the mobilization of the entire nation. As the military's concerns expanded greatly beyond those of the pre-World War I era, the political authorities recognized the increasing difficulty of maintaining complete control over an organization which would incorporate the entire nation during a moment of crisis. Similarly, by preparing solely for total war in Europe and by not preparing for limited war, the military -- with the politicians' acquiescence -- drastically constrained the political and diplomatic alternatives available to civilian leaders, who apparently had given little thought to the need for a full range of options in the employment of military forces. The result was a serious restriction of possible actions by the French in crises such as the March 1936 remilitarization of the Rhineland. Yet, few critics complained of France's fixation on total war.

While the effort to prepare for a vast, consuming war expanded the influence of the military in French society, it also increased the importance of short-term conscripts and the reserves in the military. Throughout the interwar period, France maintained conscription with few deferments. The 1928 law on recruitment explained, "Every [male] French citizen owes personal military service, except for duly established physical incapacity."⁹ While some reservations existed in the military about the adequacy of the conscripts and reservists' training, no one

doubted the need to arm the entire nation and to rely upon universal military service for all men. From the perspective of both military and civilian leaders, the most important goal was to have a completely organized and prepared nation in arms, which relied upon short-term service, large numbers of reservists, and the unhampered availability of the economic power and industrial capacity of France for war. The still recent wartime experience had clearly demonstrated the importance of having numerous soldiers, even if they were ill-trained, rather than a small number of highly trained specialists. Only such a force could withstand the huge losses inherent in a long, devastating war. Having accepted the concept of total warfare, the French -- including the High Command -- thus viewed the military as a relatively rough and blunt instrument, not as a finely tuned, highly flexible force.

As a consequence of this thinking, the peacetime military, especially the army, became nothing more than the skeleton around which the wartime force mobilized. By the late 1920s, the French had created a mobilization system whereby active army divisions would be split up to encadre the other divisions in the recently mobilized forces. The active-duty personnel were thus reduced to the role of preparing for mobilization, training the reservists, and acting as a cadre for some of the mobilized units. About 85% of the officers and non-commissioned officers upon mobilization would consist of reservists. Because of the large role to be played by the reservists, and the lingering doubts about their readiness, the military hierarchy placed an increasing emphasis upon the necessity to employ their land forces carefully and methodically in the initial battles of a future war. They wanted their forces to gain experience and seasoning in the initial defensive battle before committing them to more demanding and complex offensive operations.

The heavy emphasis on reserve forces did not preclude large military budgets. France provided substantial financial support for the military, especially by comparison to other nations. From the end of World War I through 1935, she spent a greater percentage of her gross national product on the military than any of the other great powers. In 1933, she spent 4.5%, while Great Britain spent 3%, and Germany 3%. In terms of percentage of gross national product, the British (except for 1937) never spent as large a percentage in peacetime as did the French. Germany began rearmament in earnest following Hitler's assumption of complete power, and since she began with little or no modern equipment, she devoted a significantly greater percentage of her gross national product to the military in the late 1930s. (See Table 1) Although France began her rearmament in late 1935 and accelerated it in 1938, her level of spending in gross terms or in percentage of gross national product was below that of Germany from 1935 until 1940. Nevertheless, the French had devoted considerable resources to the military for a long period, and in comparison to funding levels before World War I, the military had 2.6 times as much in 1938, in real terms, as it had had in 1913.¹⁰ While the French military could always have used more resources, the major difficulties sprang not so much from an inadequacy of funding as from how those funds were spent.

If the political leaders agreed on the necessity of making the entire resources of the nation available to the military, and provided larger funds than did most other nations, they did not willingly accede to every military request. Similarly, if they had little interest in the thousands of details concerned with organizing and fielding an effective military force, they encountered no such problem with computing total costs or sizes of forces. By carefully controlling personnel and

monetary resources, the political leaders of France established the broad outlines of military policy and provided the framework within which the military leaders organized and trained their forces.

Several well-publicized clashes occurred between the civilian and military authorities over financial and personnel issues. While the French maintained conscription throughout the interwar period, and few male citizens were excused from military service, most military officers desired a longer length of service for the conscript, and thereby a larger size for the active contingent. Nevertheless, despite strident objections from France's most powerful generals, the political leadership adopted service of two years in 1921, eighteen months in 1923, and one year in 1928. Only when confronted by the specter of inadequate numbers of conscripts during the "lean years," in which the number of conscripts would have been half those in normal years, did the government accept the reinstitution of service of two years in 1935.¹¹ Also, in the early 1920s, as the political leaders gradually reduced the term of service, they simultaneously reduced the size of the active army from 41, to 32, to 20 infantry divisions, plus a number of cavalry, fortress, and -- in the 1930s -- light mechanized divisions (division légère mécanique). Needless to say, military leaders strenuously objected, but to no avail.¹² Additionally, the government was not sympathetic to demands for higher pay and better living conditions for its active-duty officers and noncommissioned officers. The officers were particularly badly paid, and many left the service rather than endure financial and personal hardship. One of the official French histories noted, "They were often among the best."¹³ The loss of these officers and noncommissioned officers, as well as the disruption caused by the reduced size of the active forces, could only have decreased the effectiveness of the French

forces.

The widely publicized confrontations over term of service, size of active force, and pay for officers and soldiers, nevertheless, did not divert France from her methodical and extensive preparation for a long total war or place the reins of military policy completely in civilian hands. Most French officers believed that an effective military force could be constructed within the constraints imposed by the government, for they recognized that the details of the policy and its most important shaping came from the military. For example, the military exerted a dominant influence over the design and emplacement of the Maginot Line. Long before the political leaders called for defenses along the frontiers or provided the resources, the army had begun an assessment of the best methods for defending France's borders. And the most crucial and wide-ranging debates about the fortifications occurred within the Conseil Supérieur de la Guerre (Superior Council of War) and between its high-ranking generals than in any other institution. Similarly, military specialists dominated the debates and discussions over the potential and development of mechanized forces, and no objections from Léon Blum, demands from Paul Reynaud, or interventions by any other civilian authorities managed to divert the army from the path it chose in its move toward mechanization.

One area in which the civilian and military authorities had fairly clearly defined responsibilities was in preparation for mobilization. Throughout the interwar period, French military and political leaders expended a great deal of time, intellectual energies, and resources addressing economic mobilization and the transformation of civilian industry from a peacetime to a wartime footing. The laws of 1927-1928 on the military organization for war effectively made all the resources of

the nation available to the military in the event of war. Those laws represented the final step in the long evolution of the nation in arms and ensured that any future war would be fought by a massively armed nation relying upon the entire potential of its people, industry, and natural resources. Yet, the details of the preparation were completed by military officers, using the authority and the framework provided by the political leaders. By 1939 France's military had completed extensive planning for mobilization, and in comparison to most other nations, her industry was relatively well prepared to produce enormous quantities of military materiel. Ironically, she encountered greater difficulties in 1940 in moving supplies to units than in providing supplies for the military.

Despite the emphasis on economic mobilization, the French did not spend as much time and resources on developing sophisticated tools of war. They did produce capable (but not necessarily superb) small arms, artillery, tanks, and antitank weapons; their emphasis, however, was on producing equipment that could be mass-produced, not equipment that provided them a distinct qualitative advantage over their potential enemy. From the French military's perspective, quantity was more important than quality. Instead of emphasizing sophisticated weapons, they placed a greater emphasis on providing sufficient resources and adequate organization to prepare the industrial base for full wartime production of inexpensive but effective weapons.

While the French preferred simple weapons that could be handled easily by conscripts, rather than complex weapons that necessitated lengthy and complicated training, they fielded some very good equipment. In the 1940 battle, the French S.O.M.U.A.-35 tank was the best tank on the battlefield, and the French tanks as a whole were equal or superior

to those of Germany, except for some problems with command and control and with cruising range.¹⁴ Similarly, their antitank weapons used the best available technology and possessed extraordinary velocity and penetrating power. The new weapons could penetrate all the German tanks except for a few of the Panzerkampfwagen IV's which had additional armor plating on their front slope, and in comparison to the Germans, the French had a much better antitank capability in 1940 than their enemy.¹⁵

The emphasis on simplicity of operation and production, however, did not always result in uncomplicated weapons or in sufficient numbers. The D-1 tank, with its delicate and sophisticated fire control system, became the most complicated tank involved in the fighting in 1940 and could not be produced in sufficient numbers because of its complexity and expense. Also, when France mobilized in September 1939, she discovered she had only 80,000 mines on hand. Despite their simplicity and small cost and their great value in a defense, she had only 400-500,000 when the Germans attacked.¹⁶ The goal may have been to acquire sufficient numbers of inexpensive and effective weapons, but it was not attained in several important instances. In both these examples, the failures stemmed from military lapses. In the first, General Jean B. Estienne, the "father" of French armor, doggedly clung to his extremely complex concept for the design of a tank, and in the second, army planners unfortunately failed to order sufficient mines.

Adding to the problems of materiel, the French also failed to develop several important and technically advanced items. Although they did ponder the effect of atomic explosions and did consider such advanced weapons as the autogyro, to include receiving 55 of them in the late 1930s, they failed to stress the development of important items such as radios and let the British develop sophisticated code-breaking equipment

and radar. Despite the spotty record in development of materiel, the army's main weaknesses came not so much from the quality or quantity of its weapons and equipment as from how it planned to employ them. And that failure stemmed much more from conceptual inadequacy than from lack of political support or financial resources.

Notwithstanding the reductions in the term of service and the number of active divisions, as well as the uneven record in the development of equipment, the condition of the army slowly but gradually improved in the 1930s. The French carefully increased the intensity and amount of training for the reservists, adopted much new modern equipment, and uplifted the spirits and confidence of their active forces. One of the most important French generals, Pierre Héring, later acknowledged that he had seen a "renaissance" of the army by 1937.¹⁷ Objections by those such as Charles de Gaulle, with his professional armored corps, were the exception. Most members of the military remained reasonably content with the French military forces as they were organized and prepared, even if they did have complaints about the size of the active contingent or the amount of pay. When war came, French military leaders may have dreaded the blood-letting and sacrifices of battle, but they did not lack confidence in the effectiveness and preparedness of their forces, particularly their army. The bitter criticisms of the preparedness and effectiveness of these forces, especially of the prewar reserves, surfaced after the defeat rather than beforehand.

II. Strategic Effectiveness

The strategy of France sprang from a detailed analysis of the threat posed by Germany, the vulnerability of her crucial resources near the frontiers, the characteristics of her system of national defense, and the preferences for fighting a future war on German and Belgian, rather than French, soil. From 1919 to 1929-30, France anticipated a war with a revanchist and resurgent Germany in which French land forces (which would play the most important role) would rush forward from their toehold in the Rhineland or from northeastern France to seize a bridgehead in Germany. The massive forces of the mobilized and armed nation would follow and would launch the final attack against the German forces. The air force would contribute, much as it had in World War I, as an auxiliary arm of the land forces and would assist the army in gaining victory through the conduct of reconnaissance, adjustment of artillery, and bombing. The navy played a vital role by maintaining seaborne communications with France's empire and permitting the uninterrupted flow of raw materials and colonial troops to the mainland. Such had been the contribution of the navy in World War I, and all Frenchmen remembered the vital assistance provided by the half-million colonial soldiers in that war. Military planners could not ignore the need for these soldiers to overcome the manpower advantage of Germany and the requirement for the importing of vast quantities of raw materials and finished goods to serve the needs of the fighting forces. The army and the navy thus played relatively more important roles in the twenties than the air force in the

accomplishment of French strategy, which retained a strong emphasis on the offensive.

After 1929, following the withdrawal from the Rhineland and the erection of the Maginot Line, French strategy placed a greater emphasis on the defense. The French High Command had foreseen as early as May 1920 the need for fortifications along the northeastern frontiers from the Rhine River to Luxembourg to protect precious but extremely vulnerable iron ore, coal, and industrial resources. If France were to conduct a long total war, she had to protect those resources, and construction of the Maginot Line began officially in 1929. When the military leaders analyzed the terrain west of the Maginot Line, they did not perceive the Ardennes as impenetrable, but they believed a large German force could not cross the rugged, wooded hills in less than nine days, during which time the French could reinforce the threatened sector by bringing forces from the east and west of Luxembourg. French military leaders expected a German attack to go around the Maginot Line and, à la Schlieffen, sweep through the Belgian plain along the so-called Gembloux "gap" through the Sambre River valley north of Namur and Maubeuge. To counter this, the French intended to rush motorized and mechanized forces into Belgium and to defend as far forward as possible. Such a move would supposedly carry the fighting off French soil and also protect crucial natural resources and industrial plants in the northern provinces.¹⁸

French strategy thus envisaged a forward defense in Belgium, an economy of force operation along the Ardennes, and a solid defense resting upon fortifications along the northeastern frontier. And the major alterations in their war plans after 1929, such as Plan "D" and Plan "E", stemmed from changes in the location along which the French forces would defend in Belgium, not from any fundamental changes in their

overall strategy. Although a significant debate occurred over the proposal by Charles de Gaulle to form a professional mechanized force, few Frenchmen acknowledged the need to abandon the spreading of French land forces in a thin shell along the entire border from Switzerland to the English Channel. And few of those with the requisite information about French strategy doubted that it would secure the political goals of the nation.

As part of their strategy, the French did have plans for conducting an attack into Germany and thereby relieving some pressure from their allies in eastern Europe. The plans, however, were extremely tentative and only anticipated limited movement into Germany. In June 1938, Gamelin published a directive on the conduct of an offensive between the Rhine River and Luxembourg, but he pointedly emphasized the danger of committing major forces into the rough terrain around Saarbrücken when the Germans might send their forces through Belgium.¹⁹ A year later, Gamelin published another directive which was even more "timid" than the previous one. When the general who had responsibility for this contingency operation received his detailed instructions, the guidance was even more cautious and specific. As the official French history for this period has observed, these actions can only lead one to "doubt the sincerity of General Gamelin."²⁰ The grand strategy of France may have relied upon the threat of a two-front war against Germany and much diplomatic effort had been expended toward establishing the Little Entente and creating better relations with Poland. In reality, however, the French posed little or no threat of a swift advance into their potential enemy's territory. Clearly, a large gap existed between their military planning and foreign policy.

As for the role of the three services within French strategy, the navy occupied an important position. Since it had the mission of dominating the sea-lanes to north Africa and maintaining communications with other areas of the Empire, valuable trade, troop transport, and supplies depended upon its success. While the navy could do little to protect the frontiers from a German invasion, the need to ensure control of the Mediterranean Sea enabled it to secure significant financial support. French concern with their naval power can clearly be seen in their constructing 163 warships from 1922 to 1934, a larger number than any other naval force.²¹ Despite the concern evinced in the naval buildup, the naval leaders maintained their faith in the Versailles Treaty, which had limited the Germans -- their most likely enemy -- to 108,000 tons. They paid little attention to a possible Japanese threat and hoped the Versailles Treaty would keep the naval balance of power in their favor for a long period.²²

In the early 1930s, as long as the Versailles Treaty remained in effect, the French planned on barring the English Channel to the tiny German Fleet and using the major portion of their fleet to ensure secure sea lanes to north Africa and the Empire. The Italian Navy, which had triumphed at the Washington Conference of 1921-1922 by gaining parity with the French in battleships and aircraft carriers, appeared as the greatest threat to those sea lanes, and the French responded by perfecting a well-armed and extremely fast destroyer that was classified by other nations as a light cruiser and by constructing a huge submarine fleet.²³ In the late 1930s, however, as the Germans escaped the naval limitations, French leaders recognized their fleet would be at a serious disadvantage when faced with the combined Italian and German fleets and lobbied, without much success, for even greater support. Nonetheless, by

1939, the French had a navy of 600,000 tons which ranked fourth behind the leading naval powers: Great Britain, the United States, and Japan.²⁴

Considering the rather ignominious end much of the fleet met at Mers-El-Kébir at the hands of the British in July 1940, and its small contribution before June 1940, one should ask whether the financial credits employed in the construction of the navy would have been better used in the development of ground and aerial forces. Clearly, except for the safe delivery of the colonial and north African troops, the large sums expended on the navy in the twenty years before that collapse made little or no difference in the fighting in 1940. Such a question may be unfair, however, since the navy was capable of accomplishing its mission in a major European war and since the French could not have foreseen the swift defeat they encountered on land in 1940.

During much of the period under review the army had great influence within the French polity. Army leaders such as Marshals Philippe Pétain and Ferdinand Foch and Generals Maxime Weygand and Maurice Gamelin spoke with great authority, and except for the bitter conflict over the size of the peacetime establishment and the length of military service for conscripts, the army's leadership remained reasonably content with its influence and the results obtained. Of the three services, the army had by far the greatest influence because of the nearness of Germany and the obvious threat of a land attack. Nevertheless, the army's share of the budget, which had been 95.5% in 1918, declined significantly in the years following World War I. (See Table 2) In 1920, the army received 84% of the military budget, but by 1938 it received only 52%. In the same period, the navy's share increased from 12% to 21%, both figures being much greater than the tiny 4% of 1918. In comparison to the other

services the air force's share increased sharply from 1% in 1920 to 23% in 1938, but while the French air force received 19% of the total defense budget in 1937, the British air force received 54% of the defense expenditures.²⁵ Even if the British were over-emphasizing the air arm, the large difference in the percentages suggests the French were not according theirs a sufficiently high priority. Interestingly enough, the roles and priorities assigned to the various French services in the interwar period stemmed less from their political influence than from the consideration of other factors such as grand strategy or technological advances. Even though few doubted the predominance of the army, its share of the budget steadily declined until the increases on the eve of World War II. Similarly, the percentage accorded the air force remained significantly below that of the navy until 1938.

As in most other nations, however, the question of air power became a controversial subject in the interwar period. France had emerged from the Great War as a world leader in aviation, having manufactured a total of 51,143 airframes and 92,594 aircraft engines from 1914-1918. In 1918 alone, she manufactured 23,669 airframes and 44,563 aircraft engines.²⁶ As France shifted to a peacetime status, however, military aviation remained firmly under the thumb of the army and navy, and Great Britain and the United States soon pulled clearly ahead of France in its development. By the early 1930s, the military and the political leadership had become more sensitive to the needs of the air force and the threat of aerial bombardment. In 1928, the French government created a separate ministry for civilian and military aviation, but the actual control of military aviation remained with the army and navy. In 1931, a separate Superior Council of War, which consisted of France's most senior military aviators, was created for the air corps and separated from the

army's council. Finally, in 1933 the air force gained its independence from the army, though the navy retained control over its aviation.

Until it became a separate service, the air corps had stressed the roles of fighters and bombers with the primary emphasis being on contributing to the army's ability to fight and maneuver on the ground. Following the 1933 separation from the army, the air force began developing a new aircraft, the BCR, which was supposedly capable of bombardment, aerial combat, and reconnaissance missions. The aircraft represented a tentative step toward an air force increasingly dominated by visions of independent missions and strategic bombing. In 1936 Pierre Cot, the air minister, began a complete overhaul of the air service and accelerated the move toward a preeminent mission of strategic bombing, primarily at the expense of aerial combat and reconnaissance functions. For a moment, the air enthusiasts were captivated by the notion that air power and strategic bombing - virtually by themselves - could provide security and victory to France.²⁷

But romantic notions of swift victories soon encountered the hard fact that the German air force had probably surpassed the French air force in 1936. On the eve of Cot's departure from the air ministry, the air chief of staff warned that in the event of war the French air forces would be swept from the skies by the Germans in less than two weeks.²⁸ France recognized she could not surpass the Germans in numbers of bombers and began having reservations about launching strategic bombing missions against an opponent whose capability to retaliate was so great. During the new air ministry of Guy La Chambre at the end of 1937, France began focusing upon the production of fighters which could protect her from German bombers and which could be produced more cheaply and in greater numbers. Nevertheless, France's monthly production of planes was still

only a third of that of Germany's in the same period.²⁹ To make matters worse, the French fighters were generally inferior to those of the Germans. The best French fighter in 1940, the Morane 406, flew 80 kilometers-per-hour slower than the Messerschmidt 109 and had a 5,000-foot lower ceiling. The combination of shifts in priorities, inadequate funding, and insufficient industrial capacity ensured that the French air force was the least prepared and effective of the three services in 1940. France had let a military advantage slip away from her.

In the actual aerial fighting, however, the allies were not at an overwhelming disadvantage, particularly when the British contribution is considered. Although exact figures do not exist and remain controversial, Guy La Chambre, the air minister during 1940, explained to a postwar parliamentary committee that at the beginning of the German offensive, the French possessed a total of 3,289 modern planes, of which 2,122 were fighters, 461 bombers, 429 reconnaissance, and 277 observation. Of these planes, only a third were on the combat front: 790 fighters, 140 bombers, 170 reconnaissance, and 210 observation.³⁰ By comparison, the Germans had more than 1600 fighters available against the combined British and French force of about 900 fighters in France.³¹ But many of the French planes did not participate in the fighting because of mechanical difficulties. The Chief of the French Fighter Command, for example, later stated that he had only 410 serviceable fighters in May 1940.³² A larger number of planes may have been available and may have been used more effectively had the French had a more efficient system of command with the power to concentrate aerial assets, but the French had organized themselves so aircraft, especially fighters, were fairly evenly distributed throughout France to the largest ground units.³³ Also, the inadequacy of air-army liaison became

obvious in 1940 when the air headquarters on the northern frontier was inundated during the fighting with requests for air support. As the fighting continued, additional planes became available, and by the time of France's collapse, the air command had more planes than when the fighting began. Unfortunately, France did not have sufficient pilots or means of moving the planes to the fighting squadrons, but combined with her allies, she nonetheless destroyed about 20% of German planes used in the battle of France.³⁴

Returning to the issue of strategy, an extremely important problem concerned France's inability to fight a limited war against Germany. As France constructed her elaborate system for national defense, she erected a system which had only one capability: total war. Although she could reinforce her frontier fortifications for security purposes, she had to mobilize completely before she could commit her land forces into battle. By virtue of her 1927-1928 system, each active infantry division would be divided among three divisions (including itself) upon mobilization. Thus, the commitment of several active divisions would seriously degrade the capability of France to mobilize her other forces should the need arise. During the German remilitarization of the Rhineland in 1936, General Gamelin's recognition of this fact caused him to recommend against committing a limited force (without complete national mobilization) against the extremely small German forces entering the de-militarized zone. He argued that France had no capacity for limited warfare and would have to mobilize completely before she could act. The absence of this deterrent force and the inability to fight a limited conflict, prevented France from acting when she may have been able to squash the menace of Hitler.³⁵ In other words, France had an all-or-nothing military policy and strategy; if war came on the European

continent, she would unleash a total all-consuming war, and she would use this threat of total war to deter her potential adversary from initiating a conflict. But there was little she could do against a more limited threat from Germany.

Considering the enormous threat of a fully mobilized Germany, the French were reasonably prudent in their emphasis upon a total war. Their failure was the ignoring of the need for greater flexibility; had they had this flexibility, they might have acted decisively against the German movement into the Rhineland in 1936. While the failure to act may have discouraged Germany from being more aggressive in the future, predictions as to the actual effect are hindsight at best. Whatever the importance of the failure to act in 1936, France's final collapse in 1940 had little directly to do with her capacity for a limited action. She failed for other reasons.

One partial explanation for her failure revolves around her inability to gain consistent and strong support from her allies. Although the Belgians signed an accord in September 1920 to ensure close cooperation between their two forces, the situation changed dramatically in October 1936 when the Belgians renounced their alliance with France and subsequently withdrew into neutrality. The French did not alter their intention to rush forward into Belgium, but their ability to do so now was greatly influenced by unpredictable and uncontrollable diplomatic developments. Other problems with allies revolved around France's recognition that she had few means to support her allies in central and eastern Europe. Should Germany attack one of these allies, France could only respond by launching a massive attack against Germany or by dispatching aviation assets to their assistance. She also encountered severe difficulties in convincing the British to commit significant land

forces to the continent. Great Britain hesitated to become mired in another continental disaster and did not take steps until March 1939 to prepare her forces for continental service. All in all, a significant gap existed between the actions France desired of her allies and those they actually accomplished. And her own failure to support Czechoslovakia in a time of crisis did little to close that gap.³⁶ Consequently, in comparison to the pre-World War I period little or no allied staff planning was accomplished before the outbreak of World War II.

Returning to the issue of strategy, France expected war to begin with an attack by Germany and for it to end with an attack by France. Consequently, she placed her strongest emphasis on defensive forces, rather than on offensive ones. This also applied to the air forces, especially on the eve of the war, for she constructed and purchased more fighters for defense against air attack than bombers for an offense against Germany. She expected the German forces to sweep around the Maginot Line and to move through Belgium. There, the French defenders would drain the invading forces of their strength and then would launch a counterattack. Thus, the French were hardly prepared to commit themselves against a German weakness. They hoped they could draw the unsuspecting Germans onto their strength and that this would deplete the German advantage. Only then would the French fling themselves forward for the final blow.

All in all, France's forces were fairly efficiently tailored for the type of strategy envisaged by the political and military leaders. Unfortunately, its chances for success rested completely on the German doing as expected and on the French encountering the major enemy forces in the Gembloux gap. Had the Germans done as expected, the strategy may

have been successful, but the Germans rushed large armored forces through the lightly defended Ardennes, and France found herself unable to respond adequately. Much to her misfortune, France learned the bitter lesson that a defensive strategy surrenders the initiative to the enemy and leaves him free to select the point at which his strength can be concentrated against a weakness. In sum, France's strategy was completely logical but disastrously ineffective.

III. Operational Effectiveness

During the interwar period, the integration of all arms on the battlefield was a major concern of the French military hierarchy. The French believed their forces had to reach the highest levels of cooperation if the maximum benefit were to be received from all arms. They recognized the Germans would have marked advantages with their larger numbers and with their probably being the first to attack, and consequently they sought to reduce these advantages with a more efficient employment of French forces. But this goal of integration or cooperation did not necessarily result in a better-prepared force. For example, the army objected to the creation of an independent air force, since its leaders believed such an autonomous force would contribute little to the land battle, which they considered decisive. Hence, an enormous controversy emerged over the entire issue of air defense as the air force attempted to gain its independence. Despite the controversy, and despite the French intention to distribute aviation assets across the front, the aerial forces maintained only a weak link to the ground battle. Even after France began emphasizing the production of fighter aircraft for providing air defense and began strengthening her air doctrine for direct intervention in the land battle, no tightly coordinated and cohesive effort emerged between the ground and aerial forces.³⁷ Gamelin attempted to rectify this shortcoming in the late 1930s by reorganizing the entire High Command, but when the war began, the French air force was easily swept aside by the technically superior German aircraft. Whether

a more effective organization would have enabled the French to win the aerial battle is doubtful, but it certainly would have helped.

In contrast to the rather weak coordination between the aerial and the ground forces, the army constructed an extremely rigid system which compelled the tightest possible coordination between ground units. The doctrinal foundation of the French system came from their belief that advances and increases in firepower had fundamentally altered the battlefield. The new weapons and greater firepower which had become available to modern armies between 1919 and 1939 had made the battlefield much more lethal and deadly than in the past. With the numerous advances in weaponry, the French expected combat to be even more deadly than that of World War I. Their assessment of the great destructive power of the new weapons led them to conclude that the defense had been significantly strengthened, since an attacker would have to throw himself into a wall of fire and accept enormously heavy losses. Relatively fewer men could establish a virtually impenetrable barrier of fire, and an attacker could overwhelm a defender only by the closely coordinated employment of massed men and materiel.³⁸

The doctrine which emerged from the perception of greater lethality stressed the importance of what the French called the bataille conduite, or the methodical battle. By this term they meant a tightly controlled battle in which all units and weapons were carefully marshalled and then employed in combat.³⁹ The French preferred to have a step-by-step battle in which units obediently moved between phase lines and adhered to strictly scheduled time-tables, since they believed such methods were essential for the coherent employment of enormous amounts of men and materiel, especially in an army relying upon incompletely trained reservists. In their view, a hastily prepared, impulsive fight was

doomed to failure. Their doctrine also stressed the necessity of avoiding an encounter battle in which moving armies unexpectedly collided and had to fight in an impromptu and uncontrolled fashion. They thus opted for a time-consuming, intricate process which prized preparation rather than improvisation and which made great allowances for the extreme complexity of massing large amounts of weapons and materiel. If the French had their way, they would weaken an attacker with their deadly defensive fires, and then destroy him by a massive, but tightly controlled, "battering ram" attack.

A clear description of the methodical battle was presented in September 1938, one year before the opening of World War II, at the French Center of Higher Military Studies. This presentation, given by a general officer, graphically described an operation of an army consisting of five corps with 15 divisions along a front of 60 kilometers. The force launched its main attack on a front of 15 kilometers with six divisions in the first echelon, resulting in each division having about two and one half kilometers of front. For the remaining 45 kilometers of front, the general officer deployed five divisions, resulting in each of these divisions having a front of nine kilometers. Four divisions remained in the second echelon, but their artillery was moved forward to provide a density of about one division's worth of artillery for each kilometer of attack frontage. The objective was selected so it was not any deeper than one-half the length of the attack frontage -- about seven and one half kilometers. The lecturer noted that the forward edge of the attack would be traced in the arc of a circle. Unfortunately, for France, this attack more closely resembled the battles of 1918 than it did the free-wheeling methods of the Germans in May-June 1940.⁴⁰

Within the doctrine for the methodical battle, the emphasis on firepower came at the expense of the French ability to maneuver. Although the French often stressed the importance of maneuver, they perceived maneuver predominantly in the sense of moving units to have them deliver fire or of moving fire without moving units. They rarely emphasized the advantages of moving units to gain something other than an advantage in firepower over an enemy. That is, the doctrine stressed the physical destruction of the enemy's soldiers and equipment to destroy his will to fight, not the movement of a unit so it could have a decided advantage over the enemy and weaken the morale and cohesion of his units. They often used the word "maneuver" to indicate the ensemble of actions by a unit in a specific period or to outline the scheme for the employment of an entire force even if it did not necessarily require the movement of units. This limited view of maneuver dominated their doctrine. At the same time, the French foresaw little or no possibility for large mobile operations. Considering the bulky and unwieldy nature of huge supply columns, they believed large units, especially mechanized ones which required vast amounts of supplies, would have their mobility constrained by the tether of their long and vulnerable supply lines. From their perspective, the French saw the task of gaining superior firepower as being far more important than acquiring greater mobility or preparing to counter a more mobile opponent.

The primary exception to the emphasis on firepower occurred with the development of motorized units. By September 1939, France led the world with this type of unit, and in May 1940 she had seven motorized infantry divisions. But she did not intend to use them in a mobile battle. Rather, she believed she had to motorize large segments of her army to enable them to rush as far forward into Belgium as possible

before the arrival of the Germans. Once in Belgium, the motorized troops would dismount and then would fight as any other infantry unit. For that reason, the increases in motorization added to her ability to defend forward but did little for improving her chances of responding successfully to a mechanized attack.

The development and improvement of the tank did not dramatically alter the French perception of maneuver; the new weapon systems were simply integrated within and made a part of the methodical battle. The most important contribution of the tank, according to the French, was to accompany the infantry, and the military hierarchy carefully tailored armored forces to the mission of supporting the infantry at various echelons. At the lowest levels, individual tanks accompanied the infantry as they fought forward or defended. To accomplish this mission, tank battalions supported regiments or divisions, and their armored vehicles were dispersed throughout the infantry formations. At the intermediate level, the French formed tanks for a mass maneuver, or changement de manoeuvre ensemble. Groups of tank battalions would be brought together on an ad hoc basis to form a leading wave of tanks in front of the following infantry and their accompanying tanks. Within the corps and division, no specific commander of tanks was designated: only at the army level was a general officer designated as the commander of tanks in that army.⁴¹ The French saw little need for highly trained and experienced armor commanders and staffs at these levels, since the armored units would simply function under the tight control of a higher-unit commander.

Because of their limited appreciation of the tank, the French did not form their first two armored divisions until January and their third in March 1940; the fourth division, under the command of de Gaulle, was

not formed until after the fighting began. Although the subject of forming armored divisions had been debated in the High Command for years, the French leadership did not press for their formation until after the Germans had demonstrated their potential in Plan E. Even then, the French did not foresee grand sweeping operations from their armored forces; rather, they carefully enclosed the new formations within the old doctrine and treated the divisions as units for accompanying the maneuver of corps and army-sized units. The new advances in weaponry, in their view, had made warfare more deadly and more expensive, but had not changed the fundamental verities of combat. Armored doctrine stressed the need for successive efforts, separated by approximately 1,500 meters, and for continuous support - particularly against antitank weapons - from the artillery. The methodical battle remained supreme, even for the several hundred tanks in the armored divisions.

Only the light mechanized divisions escaped the deadening influence of the methodical doctrine, but these mechanized cavalry divisions were not intended to be used as infantry and armored divisions might be employed. The light mechanized divisions could accomplish the traditional missions of the cavalry, such as providing security for the French forces as they rolled forward into Belgium. According to the doctrine, they would be used to attack strongly defended positions only in the most extreme circumstances.⁴² Hence, their employment did not require intricate coordination between artillery and cavalry units. Although they fought well in 1940, these divisions might have been more useful as a counter-attack force against the German breakout at Sedan than as a covering force in Belgium.

Within their doctrine, however, the French foresaw little chance of an attacking force breaking completely through a defender's lines. The

breakthrough was not impossible, but it was an extremely difficult operation. The French assumed that once a defender's front was broken, he could reestablish positions to the rear, which could be taken only after the employment of large and powerful forces. While an attacker might theoretically achieve a breakthrough, the defender would be able to establish subsequent defensive positions rapidly and "solder" together the broken pieces of the front. This was not simply a process of reinforcement but was one of "sedimentation" in which the defenders augmented the depth of a position of resistance and reestablished the continuity and depth of the front. The French had been able to reconstitute their defensive front in 1918, and there was little reason to expect they would not be able to do it again in the future. In their view, the German failure in the spring of 1918 clearly demonstrated the "inherent weaknesses" in any attempted breakthroughs.⁴³ Despite their considerable analysis of the problem, the French failed to recognize that an armored force might be able to rush through an enemy's defenses before he could establish subsequent defensive positions. Their focus upon firepower, rather than firepower and mobility, prevented them from understanding that their perception of the breakthrough had been made obsolete by new technological advances.

Emphasis on the methodical battle also resulted in a dangerous degree of rigidity within the French system for command and control, for centralization became the primary concern of higher commanders, especially as they considered how to direct the methodical battle. The French believed the locus of decision-making had to remain at the higher level, because a higher commander had to have greater control of coordinating the actions of numerous subordinate units. The army's doctrinal and organizational system stressed the power and authority of

army-group, army, and corps commanders and left little flexibility or room for initiative to lower level commanders. Each lower level had less room for maneuver than the level immediately above it. The entire system was designed to be propelled forward by pressure from above, rather than being pulled from below. In contrast to a decentralized battle in which officers were expected to show initiative and flexibility, the French preferred rigid centralization and strict obedience. Unfortunately, this resulted in a fatal flaw, the French military establishment could not respond flexibly to unanticipated demands and could hardly capitalize upon an important gain made by a lower level unit.

In addition to the constraints imposed by the doctrine for the methodical attack, the French organized their command and control in such a fashion as to limit their flexibility even more. Armies, per se, did not exist in peacetime, and higher level staffs had little or no opportunity to develop fundamental skills, other than through simulation exercises. At the highest levels General Gamelin, though he was the announced leader in the event of war, did not actually command the French forces in peacetime and had no opportunity to develop a functioning chain of command. While the eight months of the "Phoney War" gave the French an opportunity to train their higher level staffs, the deficiencies stemming from two decades of inactivity could not be overcome easily. More importantly, the French saw no need between September 1939 and May 1940 to reject the methods developed since World War I. Consequently, the skills they honed and polished supported their methodical doctrine and had little to do with a much more mobile approach.

The best example of the inadequate preparation of the French for mobile warfare occurs in the area of communications. The military leadership placed little or no stress on having highly effective and

instantly available communications. Since they expected step-by-step, controlled battles, they did not aggressively seek to establish a flexible communications network. The extremely low priority for communications perhaps is best reflected in the French having spent only 0.15% of its entire military budget for the purchase of communications equipment from 1923 to 1939. And expenditures for research and development never exceeded 15% of the measly sum spent on equipment.⁴⁴

Because of the anticipated slow pace of battle, commanders would supposedly have sufficient time to rely upon the relatively rudimentary communications provided them. In 1939-1940 Gamelin had nothing more than a telephone and an occasional courier for communicating with his subordinate commanders.⁴⁵ Communications for subordinate units functioned as long as they were stationary, but when they moved, the effectiveness of the French command and control network deteriorated dramatically. Relying upon centralization and a relatively static communications system, the French found themselves unable to react or regain the initiative once the Germans forced their unwieldy headquarters to move and severed their lines of communications. Beyond a doubt, the absence of flexibility throughout the army and the weakness of communications prevented the French from responding effectively to the unexpected. But the root cause of the failure was a rejection of the need for rapid response, not an inability to develop and obtain the means of communication.

As its command and control system became more rigid, especially in comparison to its future opponent, the French military committed itself to a strategy of forward defense in Belgium that gave it little or no room for replying to an unexpected maneuver by the Germans. The High Command doggedly determined to rush forward into Belgium, while leaving

minimum forces against the Ardennes, and while holding the northern frontier with the Maginot Line. That strategy left them extremely vulnerable to the sleight-of-hand maneuver the Germans actually used in 1940 -- holding the French attention with an attack in Belgium while pushing large forces through the vulnerable center. Ironically, the French had discounted the need for flexibility so much that its absence became their greatest weakness. Officers who had been trained to think in methodical terms could not overturn their slow-thinking habits, even when the Germans had demonstrated a far different approach.

France's doctrine thus ruled her choices of technology and her design of organizations. For example, the French preferred for their infantry-accompanying tanks to be so slow that they would not outrun the infantry. Similarly, they saw no need to upgrade their artillery and to make the longer range 105mm howitzer, rather than the 75mm gun, the standard artillery piece. While economic considerations affected her decision, few officers believed the 75mm gun was inadequate for the methodical battle.⁴⁶ Instead of altering time-tested and proven methods with new technologies, France absorbed the new equipment into the old approaches and failed to modernize her forces as much as was possible or necessary.

Finally, the French intelligence network failed abysmally during some of France's most difficult moments. Intelligence officers routinely over-estimated the size and quality of the German forces. They tended to view their potential enemy as a mirror of themselves, rather than as a separate entity with its own distinct traditions and methods. Throughout the interwar period, for example, they perceived very little potential for the infiltration tactics introduced by the Germans in 1917. Since the French believed they could not rapidly break through enemy defenses,

they also did not believe any enemy could break through their defensive positions. During the crisis of 1936, they greatly over-estimated the size of the units moving into the Rhineland and in April 1940 may have first learned of the German move to Norway by reading a dispatch from Reuters, the British news agency. An error of greater effect occurred in May 1940 when they paid scant attention to early indications of the Germans moving through the Ardennes. Even if the French intelligence had been more effective the results may have been the same; French leaders ignored warnings of large forces being in the Ardennes until it was too late to react successfully. Having convinced themselves that the Germans had to come through Belgium, they focused on intelligence supporting their preconceived conclusions, instead of viewing all evidence in a dispassionate and objective manner.⁴⁷ As with the doctrine of the methodical battle, the French closed their minds to information contrary to the accepted belief.

In the final analysis, the military's operational concepts seem to have been consistent with the strategic objectives. France desired to defend herself initially and then to attack. Her forces were organized, equipped, and trained to do this. The dissenting question is whether she may have been more successful had she prepared to fight a mobile war rather than a relatively static one. In that sense, the strategic objective of defending France against a German attack was poorly supported by operational concepts that had failed to incorporate more modern techniques available to France. The French recognized that the Germans would have the initiative in the event of an invasion, since they could choose the time and place of attack. Notwithstanding this advantage, the French believed their organization of the frontiers and their strategy would compel the Germans to react in a predictable

fashion. Needless to say, they did not, and France collapsed dramatically. In fact, the Germans had placed their strength against the weakened French areas and punched large holes through the French lines. Similarly, the French had thought they could force the Germans to fight their style of warfare, but found instead that they could not compete with the more rapid and flexible Germans. By committing themselves doctrinally, strategically, and operationally to a single course of action, they torpedoed their ability to respond to the unexpected. Doctrinal and operational inadequacies had compounded the effect of strategic errors.

IV. Tactical Effectiveness

As with operational concepts, French tactical concepts were consistent with the strategic objectives. France prepared her forces to defend and then to assume the offensive, and her tactical doctrine rested upon her belief in the deadliness of firepower, the strength of the defense, the advantages of the methodical battle, and the necessity of centralized control. These beliefs seduced her into initially preparing for a tightly controlled defense in which there was little room for maneuver, for rapid response, or for individual initiative. In 1940, however, the pace of the battle was set by Germany's tanks and dive bombers, not by France's artillery and infantry, and consequently her forces failed miserably at the tactical level. The failure, however, did not come from a wide-spread unwillingness to fight, for many French soldiers died performing their duty. Instead, the failure came from the forces being inadequately prepared for the type of combat they encountered. When the French encountered the more mobile Germans, their tactical formations collapsed miserably and could not generate a coherent and sustained response. The swift German columns cut the clumsy French units to pieces. Just as other impotent armies have discovered in the past, the French discovered that courage cannot make up for doctrinal, organizational, and materiel deficiencies.

A major failing of the French at the tactical level concerned their perception of the methodical battle; they prepared themselves to fight on a battlefield where their artillery provided the momentum and the rhythm

for their attack. When an attack began, according to French doctrine, the infantry advanced 1,000 to 2,000 meters before halting in order to readjust the artillery fire. The attack again commenced, and after advancing 1,000 to 2,000 meters, another readjustment of fire was necessary. To control the advance of the infantry and to ensure artillery support, a number of intermediate objectives were established which corresponded to these advances of one to two kilometers. After a total advance of the infantry of about 4,000 to 5,000 meters, a displacement of the artillery was required. This displacement ensured that the infantry remained under the cover of the artillery and did not go beyond its maximum range. For control purposes, the maximum advance was sometimes limited to 3,000 to 4,000 meters before the artillery began its displacement by increments. One rule of thumb was given by an instructor at the French War College when he stated the distance of the advance ought to be half the maximum range of the artillery supporting the attack. In any case, the French believed the infantry had to remain under the umbrella of artillery protection, and only the methodical battle could ensure the maximum possible coordination and integration of the artillery and the infantry.⁴⁸

Having prepared themselves to fight in this manner, the French failed to prepare themselves for anything dramatically different. For example, their doctrine for halting an armor attack resembled their doctrine for halting an infantry attack. In fact, when they had devised their antitank doctrine, their basic assumption had been that a tank attack represented nothing more than an intensification of an infantry attack. Hence, their antitank tactics were a variant of their flexible or elastic defense which had been created in World War I. In this defensive operation, as it was conducted by a division, an attacking

enemy first encountered an advance post line and then a principal line of resistance which relied upon the use of strong points. The utilization of strong points facilitated control of antitank fire and permitted a concentration of fire on particularly dangerous threats. The strong points preferably overlooked major avenues of approach for enemy armored columns and, ideally, were to be mutually supporting. Their use was particularly strongly emphasized in the 1938 infantry regulations.⁴⁹

If an enemy managed to pass through the principal line of resistance, he encountered a series of interior strong points and finally would be halted by what the French called the "stopping line." Antitank fire forward of this line protected a division's artillery, command posts, and lines of communication. But the combination of the stopping line and the other defensive lines would halt an armor attack much as an arresting cable halts a landing aircraft.

These tactics may have been successful if the French had accepted the possibility of large masses of tanks being concentrated along a narrow portion of a front and if they had acted to increase the number of antitank weapons in their divisions. However, the entire French doctrine rested upon the assumption that no more than 50 enemy tanks would be concentrated along a front of one kilometer in a major attack. Based on this assumption, the French concluded that the proper density of antitank guns should be one gun for each 100 meters, or 10 per kilometer. These guns would, of course, be arranged in depth and not stretched in a single line across a kilometer.⁵⁰ Since the standard issue of antitank guns was 58 per division (and some divisions had less in 1940), a division defending along a front of 10 kilometers, which was the standard frontage, could concentrate its weapons only along a portion of the front. Consequently, the conduct of a successful defense by a division

depended upon the ability of the commander to determine exactly where an enemy force might concentrate its attack. Clearly, in French doctrine, little or no margin existed for error, and little or no allowance was made for an enemy probing and finding the weak points in a defense. The French expected the enemy to "bull" his way forward and to use very little of his mobility in the actual fighting.

Perhaps even worse, the French misunderstood the potential depth of a modern armored attack. They never envisaged a deep defensive zone such as the one before the Kursk salient on the eastern front in July 1943 where Russian fortifications extended for a hundred miles. If a French division defended in a depth of five kilometers, very few defenses usually existed behind it. Although secondary positions were partially prepared along the northeast front, few officers saw the need for additional depth. If the unspeakable happened and the Germans did manage to break through, the French believed they could close the rupture by moving units laterally into the threatened zone. In sum, the failure was primarily one of conception; they did not believe the Germans could attack as swiftly and as deeply as they did in May 1940.

If the failure to defend successfully against the German tanks was one of conception, that failure did not originate in the violation of numerous fundamental tactical principles. For example, the need for combined arms was accepted almost as intensely as a matter of religious faith. Above all else, their doctrine emphasized the complete integration of all arms. Unfortunately, to them this meant that all weapons functioned to support the infantry. Even though the artillery established the rhythm of the battle, it too functioned solely to serve the infantry. There was little or no notion of combining the arms in a fashion to enable the strengths of one to compensate for the weaknesses

of another, or of over-turning the infantry's dominance. Nevertheless, the French frequently emphasized the importance of combined arms and always considered other factors such as mission, enemy, terrain, weather, and the qualities and training of the troops available. In terms of emphasis on combined arms, their failure was not so much one of concept as it was one of execution.

Similarly, the French believed the combining of infantry, artillery, and armor on the battlefield was an absolute necessity but that it also required extremely rigorous control measures. As an example, the 1938 infantry regulations focused primarily upon movement by successive phases closely supported by artillery fire. The regulations explained that each successive step of the commander's planned maneuver had to be coordinated with supporting fire. In its general discussion of an attack, the regulations emphasized three major points: "the attack of the first objective;" "the consolidation and occupation of conquered terrain;" and "the attack of subsequent objectives." The attack on a second objective, however, could commence only at a time fixed in advance or by a special signal from higher headquarters. The regulations explained that regimental and battalion commanders should stipulate "momentary halts" for the units under their control after the execution of certain bounds. They added that these commanders should "regulate the resumption of movement after each of the halts in such a manner as to maintain their attack in the rhythm fixed by the General commanding the division."⁵¹ Such controls were essential if the infantry and artillery were to operate together, and in the French view the addition of tanks only increased that need for control.

As the French stressed the need for centralized control, they did not formally reject the goal of rapid exploitation of opportunities.

Yet, their doctrine and practices worked against the possibility of rapid exploitation. Since they preferred to have the pace of the battle established by higher headquarters, they placed less emphasis on tactical success than on operational or strategic success. In some instances, tactical success might be restrained if it interfered with or disrupted an ongoing operational or strategic endeavor. This approach contributed to their interpretation and rejection of German infiltration tactics. The essence of these new tactics, which were created in 1917, was rapid advancement and infiltration by small infantry groups. Operating closely with artillery support and carrying light and mobile weapons, the attacking infantry groups bypassed enemy resistance and struck deeply into an enemy's rear. Succeeding waves of infantry cleared out the remaining enemy, and thus the small units making the initial attacks set the pace of movement and greatly influenced the overall success of the attack. But the French saw no advantage in such an arrangement.

Although French regulations described the use of infiltration in the attack, they did not call for driving deeply into an enemy's defenses. The French preferred to concentrate on moving to place fire, rather than moving to bypass. The January 1939 manual entitled Regulations for Rifle Units explained that the smallest infantry unit capable of maneuver was the rifle platoon and that maneuvers should always be "simple." A squad would never try to maneuver by using a few of its men to provide a base of fire while the remainder moved forward. According to the manual, when a platoon encountered fire from an enemy position, it should try with its squad to outflank this resistance rather than make a direct assault. While one squad placed fire on this point, the rest of the platoon would use favorable paths of approach toward it, move to its flanks, and then place oblique fire upon it. From the French

perspective, the movement around the flanks of an enemy utilized an infiltration maneuver. The idea was not to race past the enemy resistance but to destroy the enemy and then move on toward the company objective. The same technique could be used by a company with one platoon providing fire support, while the other platoons maneuvered around the enemy. The platoons might also move by bounds. After reaching the company objective, the company would halt, and the commander would issue a verbal order to his platoon leaders describing how the next objective would be attacked. The company would thus utilize a succession of efforts and a succession of attacks until it reached the battalion's objective.⁵²

Although the French did understand the importance of moving around the flanks of enemy resistance, they had little or no understanding of how the Germans had used infiltration tactics successfully against them in 1918. And they had little confidence in the possibility of important strategic successes beginning with the exploitation of an opportunity at the tactical level. Hence, the French military placed a very small premium on surprise and initiative at the lowest echelons and on the possibility of reinforcing success. Because of their emphasis on the methodical battle and centralized control, there was little or no room within their tactical system for audacious strokes.

Training considerations also affected the French preference for a careful methodical approach, even though the French military's training was completely consistent with its tactical system. The main problem with training in the French Army concerned the amount of time actually spent on training soldiers. During the period of one-year service, conscripts usually spent six months training and then six months in a unit. While they may have acquired some of the necessary skills, they

could not have acquired all the necessary ones. Even during the period of two-years service, the military hierarchy believed that the reserve officers and noncommissioned officers -- who would comprise 85% of the leadership corps upon mobilization -- would have very little experience and would not be highly trained if they were called to active duty in a crisis. The High Command attempted to overcome the weakness in training by having official regulations rigorously prescribe the subjects and sequence of training. The army's regulations and manuals carefully concentrated on preparing soldiers and officers to perform the tasks associated with their wartime positions. For example, the army's manuals that prescribed new tactical doctrine always addressed the training of soldiers in that same volume or in a separate but connected volume. While the French may be accused of too much detail, they certainly cannot be accused of allowing a gap to exist between doctrine and training, at least as it was expressed in the manuals and taught in the various military schools.⁵³

The High Command also tried to overcome weaknesses in training by improving the system for training the reserves. By virtue of the 1927-1928 laws, the French created mobilization centers to which reservists would report in the event of mobilization. Although these centers functioned as training camps and depots, a reservist reported to a mobilization center for his periodic training session but then was placed in a nearby regiment for training in his specialty. Should the reservist be an officer, the troops he would command might be of the same regiment if general mobilization occurred, but no system existed to ensure officers and men always served with their wartime units.⁵⁴ In the late 1930s the High Command increased the amount of training time for the reservists. Whereas only one "class" (members of the reserves who

had been conscripted in a particular year) had previously attended annual training, by 1937 three "classes" attended each year. By the eve of the war, reserve officers were required to spend twenty-one days in training every two years.

Even during the depths of the depression, the French continued training exercises for the reserves; the only constraint was the curtailment in 1932 and 1933 of the annual fall maneuvers for active units. In subsequent years the army returned to conducting large scale maneuvers in which several divisions participated. Only the several crises on the eve of World War II interrupted them. From 1932 until 1939, the credits for reserve training voted by the National Assembly averaged 87% of the credits requested by the war ministry, while those for training of the active army averaged 93% of those requested by the war ministry.⁵⁵ Although the General Staff could have been requesting credits that it thought the National Assembly might approve, there seem to have been no demands for greater sums for training, and the relatively minor reductions imposed by the National Assembly could not have seriously disrupted training programs desired by the military hierarchy. One can only conclude that adequate opportunities and resources, as deemed necessary by the High Command, existed for training.

Although the quality of training and thus readiness of the reserves undoubtedly improved in the late 1930s, no progress was made in creating cohesive, solid units in which the soldiers and officers were accustomed to working together. Since training at the mobilization centers did not normally include the active duty contingent and only a few of the reserve classes, complete units were never present at one time. In the event of a sudden mobilization, even the active units would have lacked cohesion, since each would have been broken apart to create two additional units.

Highly trained and cohesive units ready to fight immediately simply did not exist when the French Army mobilized for war. While individual skills may have been appropriately developed, unit skills and cohesion undoubtedly had not. The French military hierarchy recognized this problem and used it as another reason for avoiding an offense at the beginning of the war or for running the risk of an encounter battle.⁵⁶

After the units became more cohesive and seasoned, the High Command believed they would be capable of more challenging and complex missions.

Despite the dismal events of May-June 1940, it is important to recognize that the French had eight and one-half months to improve the training of their units from the time of mobilization until the time of the German attack. While some units made good use of this time, others did not. All in all, the capabilities and skills of the units that fought in May were not significantly better than when France had mobilized. More importantly, the military hierarchy did not attempt to use the additional time to develop new operational skills and thus to reach outside the doctrinal constraints imposed by emphasis on the methodical battle and centralization. Even with the relatively long preparation period, military leaders did not change their thinking about the necessity for the methodical battle or about the need for greater flexibility. The practices of two decades could not be easily overturned. Thus, France went into battle in 1940 with greater preparation time than she had anticipated, but she fought just as if she had had little or no time to prepare after mobilization. As in the peacetime years, the military hierarchy saw no need to develop new methods or approaches.

Having examined numerous alternatives, the military remained reasonably satisfied with the organizations and doctrine it had created.

Although lingering doubts remained about the reservists, French methods had been modified to take the weaknesses of the reservists into account and to capitalize upon the advantages of firepower and the methodical battle. But these methods were also extremely clumsy. In a real sense, their complexity ensured that any concept arguing for rapid breakthroughs and long-range exploitation could easily be dismissed as fanciful thinking, and the doctrine's emphasis on fire and the methodical battle could only serve to suppress innovative ideas in the French Army about maneuver. Similarly, the battle of 1940 demonstrated all too painfully that such techniques could not be employed on a highly mobile battlefield where the situation rapidly changed in a fluid environment.

Conclusion

During the interwar period, the French had carefully considered their options and paid close attention to the tactics, organization, equipment, and training of their forces. By 1939 France was prepared to go to war with a system that was supremely logical and closely coordinated. That system was intended to overcome the advantages of the Germans and to reinforce those of the French. At the same time, a remarkable consistency in virtually every area extended from the grand strategic through the tactical level. Except for the ill-fated attempt to rush to the aid of Holland with the Breda variant plan, French strategy in 1940 was the product of a long and careful process in which virtually every course of action was identified and analyzed. And the same can be said of the operational and tactical levels. The hope was that France could avoid losing the initial battles and that she could emerge victorious after the nation had been completely mobilized, after her military forces had been seasoned in battle, and after her allies had tipped the scales in her favor. Despite this preparation, France failed to prepare a military force as effective as that of her enemy.

An examination of France's shortcomings that became evident after the fighting began reveals inadequacies throughout her entire military system. Her higher commanders lacked a flexible, efficient means of command and control. Her strategy made her exceptionally vulnerable to a thrust through the Ardennes. Her doctrine and organizations failed to provide adequately for the tank or for tactical air support. Her

officers were not trained to respond to the unexpected. The list could go on and on, but the results are clear. While the French tried to fight a tightly controlled defensive battle, their opponent thrust a swift, mobile battle upon them, and they found they simply could not respond to the new pace of fighting. By comparison, France was much better prepared and more effective in 1914 than in 1940.

To account for these numerous failures, one could simply cite the errors of France's military leaders and leave it at that. Ultimately, France collapsed in battle for military reasons, and military explanations can sufficiently -- if not completely -- account for her defeat. Beyond a doubt, French leaders had failed to recognize how warfare had changed since 1918, and General Maurice Gamelin led French forces into the unexpected trap they encountered in May 1940. But their errors came less from their stupidity, incompetence, or decadence than from their having come up with the wrong formula for the problem that appeared in 1940. Certainly, having a more open-minded and innovative High Command may have resulted in some improvements, but in defense of the military leaders, they had exhaustively examined the problem as they saw it and had undergone numerous debates, experiments, and maneuvers. Of the errors that were made, many were concentrated in areas that could only be evaluated in a subjective, if not intuitive, fashion. Few of the most crucial issues had obviously correct solutions. By the objective criteria of weapons, equipment, training, leadership, and manning, France's forces always seemed proficient, and a sufficient margin of safety seemed to exist. Yet, she was extremely deficient in those areas that could only be tested completely in combat.

From the perspective of military effectiveness, perhaps the most important conclusion to reach is that the French experience illustrates

how no definitive measure of military readiness can be reached in peacetime. After all, as Clausewitz has reminded us, war is ultimately a chameleon, and what may be effective in one circumstance may lead to disaster in another. Had the Germans fought as expected, the French may have done better. Unfortunately, the Germans did the unexpected, and France collapsed, thoroughly humiliated by the debacle.

TABLE 1

MILITARY EXPENDITURES
AS A PERCENTAGE OF GROSS NATIONAL PRODUCT⁵⁷

Year	France	Germany	Great Britain
1933	4.5%	3%	3%
1934	4.3	6	3
1935	4.7	8	2
1936	6.0	13	5
1937	6.8	13	7
1938	8.2	17	8
1939	22.8	23	22

TABLE 2

MILITARY EXPENDITURES⁵⁸
(Per Cent of Total by Service)

YEAR	ARMY	NAVY	AIR FORCE	TOTAL EXPENDITURES(1) (Millions of Francs)
1918	95.5%	3.8	---(2)	30,466
1919	90.3	8.5	---(2)	17,734
1920	83.7	12.0	1.3	7,244
1921	73.6	14.8	2.0	7,167
1922	68.4	18.1	4.0	6,648
1923	62.8	16.4	5.9	6,397
1924	57.6	21.6	7.3	6,465
1925	60.0	18.9	7.9	6,524
1926	61.4	19.9	7.6	7,511
1927	64.5	20.3	7.1	11,181
1928	55.5	24.4	10.3	9,778
1929	55.7	24.6	11.3	11,075
1930	63.8	19.2	11.9	15,915
1931	56.5	23.9	13.0	13,852
1932	58.2	21.9	13.0	13,814
1933	60.4	21.1	12.8	13,431
1934	56.3	25.0	12.3	11,601
1935	52.0	23.6	18.8	12,797
1936	52.6	23.6	18.0	15,101
1937	54.7	21.4	19.0	21,580
1938	52.2	21.1	22.8	29,153
1939	60.7	14.2	27.0	93,687

(1) Military expenses for colonies, civilian ministries, and occupational troops are not shown.

(2) Air force figures for these two years are included within those for the army and navy.

Notes

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THE MILITARY EFFECTIVENESS
OF THE U.S. ARMED FORCES
1919 - 1939

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I. Political Effectiveness

The U.S. armed forces in the 1920s and 1930s were obliged to function in a political environment which made it extremely difficult, if not impossible, for those organizations to secure the financial, industrial, and human resources which they considered necessary to attain even the minimum level of military capability to carry out their anticipated wartime missions. A leading student of the history of the U.S. Army even suggests that "the Army during the 1920s and early 1930s may have been less ready to function as a fighting force than at any time in its history. It lacked even the combat capacity that the Indian campaigns had forced on it during the nineteenth century and the pacification of the Philippines had required early in the twentieth century."¹

The United States had traditionally avoided the maintenance of a large professional army. After 1898, it had created a large and powerful, although unbalanced, naval force but by the beginning of the

1920s, the complete destruction of one of the Navy's most powerful potential adversaries (Germany) and close friendship with another (Britain), together with popular interest in naval disarmament, had called the continued necessity for a large fleet into question.

With the dramatic rejection of the Versailles Peace Settlement by the Senate in 1919, the United States turned its back upon any involvement in international projects aimed at collective security. Efforts at disarmament were welcomed so long as they involved no political or military commitments. As President Herbert Hoover succinctly put it: "We shall enter into no agreements committing us to any future course of action or which call for the use of force to preserve peace."²

A growing mood of disillusionment with American involvement in World War I reached its peak in the early 1930s. It coincided with and reinforced the emergence of a new and strident type of isolationism which called not only for the traditional avoidance of alliances and military involvements abroad but a set of positive rules and practices designed to insulate the United States from the contagion of foreign wars.

In addition to these constraints, the political environment of the 1920s and 1930s strongly encouraged financial stringency in government. During the 1920s, Republican presidents prided themselves on operating the government on "sound business principles," the hallmark of which were taken to be low taxes and low government expenditures. Keystone of the business approach was the Budget and Accounting Act of 1921 which created the Bureau of the Budget and a unitary budget for the entire executive branch. Although the Budget Act was a sound management measure, the Bureau of the Budget, in the 1920s and early 1930s, often operated as simply a bludgeon to beat the financial requests of the executive agencies into line with the President's budget ceiling.

In the case of the military services, the unitary budget system had an even more chilling effect since officers tended to regard any direct public criticism of the President's budget as disobedience toward the Commander-in-Chief. When a congressional committee questioned the Army's Chief of Finance, Brigadier General K. W. Walker, in 1924, about whether "the President's policy of economy" would "prevent the War Department from stating its needs before this committee?" General Walker replied that "when the Budget has once been approved by the President and transmitted to Congress, it is his budget estimate and no officer or official of the War Department would have any right to come here and attempt to get a single dollar more" ³ The Great Depression of the 1930s discredited talk of "business principles" but the widespread economic hardship of the times seemed to call for even greater financial restraint on the part of the government.

The National Defense Act of 1920 provided for a regular army of 280,000 men, only about half of what War Department planners had proposed, but nevertheless a respectable peacetime establishment which allowed for some nine infantry divisions, two cavalry divisions, and various smaller units. Moreover, this modest regular force was to be backed by an organized reserve and National Guard, trained by special training detachments of the regular army. Yet neither Congress nor the President were ever prepared to make available the financial resources to pay for the implementation of the National Defense Act. As early as 1921, Congress reduced the regular army to 150,000 men and the following year to 137,000. Throughout the 1920s and early 1930s, the strength of the Army seldom exceeded 135,000. At their 1924 convention, the Republicans proudly pointed to the fact that "our standing Army is now below 125,000 men, the smallest regular military force maintained by any

great power."⁴ Upon the outbreak of World War II, the Army was still 90,000 men short of its 280,000-man strength authorized in the National Defense Act of 1920.

The large trained reserve, which was to serve as the core of the citizen Army envisioned in the National Defense Act, was largely still-born. Reserve officers continued to be commissioned through the Reserve Officer Training Corps at various colleges and universities but little money was available for them to train or serve with the Army. A projected "Enlisted Reserve Corps" never really existed because no means were available for recruiting or training the necessary personnel. The National Guard numbered about 200,000 men and continued to carry on some training but its drills and two-week encampments were inadequate preparation for modern warfare.⁵

The economic stringencies of the 1920s and 1930s forced the Army to carry out drastic, sometimes grotesque, measures to economize. Officers and NCOs were reduced two or three steps in grade. Housing was so poor and scarce that non-commissioned officers' families at Ft. Benning occupied abandoned black laborers' shacks in the Georgia countryside while some officers resigned rather than occupy the uninhabitable quarters assigned them.⁶ Tanks could train only for a few hours a day because fuel was deemed too expensive in 1920s budgets.⁷

There was relatively little that the War Department could do about the financial stringencies of the period. Yet the choices made by the Army leaders in coping with these stringencies probably made their effect all the more damaging. Rather than maintain a smaller number of units at full strength, the Army chose to retain its complete 1919 force structure of nine divisions, although few could be manned at even brigade strength. This structure not only made realistic training more difficult but

foreclosed any possibility of maintaining even a very small combat-ready force.

The Navy had emerged from World War I on a par with the British Royal Navy as the most powerful in the world. A large building program, authorized in 1916, provided for still greater expansion of the Navy, especially of the battlefleet. Ten super dreadnoughts and battlecruisers were under construction or about to be laid down as the nation returned to normalcy.

The Republican Congress and the Harding administration were unwilling to underwrite such costly naval expansion. Instead, President Harding proposed a program of world power naval disarmament and hosted the Washington Conference of 1922 which resulted in the scrapping of many old or uncompleted capital ships and put an upper limit on the Great Powers' navies in the category of battleships, cruisers, destroyers, and carriers. Ratios of relative naval strength were established between the various navies, the United States being granted equality with Great Britain and a 40 percent superiority over Japan. Capital ships, carriers, and cruisers were also subject to qualitative limitations as to tonnage and armament.⁸ A second disarmament agreement, signed at London in 1930, added limitations on the number and characteristics of cruisers which could be built by the three great naval powers and set ratios in this category at 10:10:7 for Great Britain, the United States, and Japan respectively.

Naval officers expressed great dissatisfaction with the Washington agreements, which obliged the U.S. to discontinue construction of its most advanced battleships and battlecruisers, and with the London treaty, which saddled them with warship types determined by negotiation rather than by military requirements.⁹ Yet, they reserved their loudest

criticism for the provisions of the Five Power Washington Treaty which forbade the construction of bases or fortifications in certain of the Pacific and East Asian possessions of Britain, France, the United States, and Japan.

For the United States, this meant that no additional defenses could be established for the Philippines and nothing at all done to protect the American-owned island of Guam in the Marianas. Without a major naval base at one of these locations, the Navy believed it would be impossible to carry on a successful war against Japan.

During the interwar years, the Army was not particularly well situated to make its case to the law-makers and the public. The Army enjoyed some support from veterans' groups, especially the powerful American Legion, and from publications such as the Army and Navy Journal and, on occasion, from the National Guard. Military professionals could also register their views officially in such papers as the Annual Reports of Chiefs of Arms and Services and unofficially in articles in professional and popular journals. Yet the Army lacked lobby or interest groups devoted wholly to its interests, and Army officers enjoyed indifferent success as publicists. One student of the period concludes that none of the Army's "efforts seemed to have any influence on the trend of the 1920s -- economy in government."¹⁰

In contrast to the Army, the Navy was considerably better equipped to bring its views before the public and convey its concerns to lawmakers. The Navy League of the United States, a capable civilian lobby of long-standing, faithfully beat the drums for strong naval defense through its magazine Seapower and in testimony and letters to Congress. The existence of a credible potential opponent -- the Japanese Navy -- was a definite asset in the campaign for naval appropriations and even the

popular enthusiasm for arms limitation could be used to advantage by arguing that new construction was needed to bring the fleet up to the strength provided for in the Washington and London treaties.¹¹ Naval officers like Dudley W. Knox were beginning to appreciate the importance of what would now be called public relations and emphasized the importance of selling the Navy as an institution whose functions of commerce protection, scientific research, and support for diplomacy were useful to the nation in peace as well as in war.¹²

Yet the Navy's success in conveying its vision of the country's naval needs was a limited one. Interest in naval disarmament remained strong among American leaders and the public until the late 1930s. Throughout the 1920s, Congress declined to provide for sufficient cruisers and other ships even to bring the Navy up to the strength authorized in the Washington agreement. No new battleships were begun until 1937.

On the other hand, two of the large, uncompleted battlecruisers of the 1916 program, the Lexington and Saratoga, were converted into giant aircraft carriers. In the battlefleet, the oldest battleships were converted to burn oil instead of coal and all but the latest had their turrets modified so that the main batteries could be elevated to thirty degrees, thus increasing the effective range of the guns. Congress also authorized construction of some eighteen modern cruisers, although some were not laid down until the end of the 1920s.

With the onset of the Great Depression, naval expenditure was sharply curtailed. The Navy was obliged to lay up ships and reduce its personnel. Older battleships, for example, had their complements reduced as much as sixty percent, and Congress was in no mood to appropriate funds for any new construction.¹³ The Navy's fortunes improved with the inauguration of Franklin D. Roosevelt, a long-time supporter of the

sea service and former Assistant Secretary of the Navy under Josephus Daniels. Representative Carl Vinson, the powerful chairman of the House Naval Affairs Committee was also a strong supporter of naval expansion. Beginning in 1933, naval appropriations rose every year. During the early thirties, construction of ships and aircraft was included among the public works projects initiated by the New Deal to provide emergency work relief for those hard hit by the Depression.

While the 1930s was a period of naval expansion, the U.S. Navy still failed to secure a force of the size and capability necessary to wage war against Japan in the Western Pacific. Nothing better illustrates the Navy's limited ability to sell its strategic ideas to the civilian leadership than the issue of the Guam naval base. By the late 1930s, the Washington Treaty restriction on naval bases had long since lapsed and naval leaders argued forcefully that the U.S. could delay no longer in establishing an operating fleet base in the Western Pacific. In 1938, a board headed by Rear Adm. Arthur J. Hepburn submitted a report which recommended that Guam be developed into a fully-equipped naval base. A fleet base at Guam would enable the U.S. Navy to adequately protect the Philippines, block Japanese moves into Southeast Asia, and ward off any Japanese attempt to strike east at Hawaii or Midway.¹⁴ Yet, Congress remained unconvinced. After a long and heated debate Congress, a year after the outbreak of war in China, voted to take no steps to establish a naval base in the Western Pacific.¹⁵

The 1920s and 1930s were periods of rapid growth and change in many areas of military technology. Despite extremely limited resources, the U.S. armed forces were able, in general, to keep abreast of these developments and produce weapons and equipment that were qualitatively -- if not quantitatively -- equal to the most advanced systems being developed by

the great powers. Radar, sonar, the B-17 bomber, the 105-mm howitzer, the Garand (M-1) rifle, and the dive bomber are but a few examples of the types of innovative and highly effective equipment produced by the armed forces between the wars. That such progress in technology was achieved is all the more surprising when one considers the severely limited financial resources available for research and development. The entire R and D program amounted to about one-twentieth of the cost of a contemporary battleship and less than one-fourhundredth of what it cost to develop the atomic bomb.¹⁶

In addition to stringent budgets, the large amounts of obsolescent, but still serviceable, equipment remaining from World War I tended to inhibit the efforts to provide modern equipment. Development and procurement of the 105-mm howitzer, for example, was far slower than it might have been because of the availability of so many French "75s" left over from the World War.¹⁷

Another significant obstacle was the research and development philosophy of the Army General Staff and the technical bureaus in the interwar period. These organizations frequently displayed great reluctance to standardize and produce any weapon until it had been made as nearly perfect as possible.¹⁸ Given the stringent budgetary restraints and rapid technological development of the 1920s, this "perfectionism" had some justification, but its net effect was to retard weapons development. Thus the Garand "semi-automatic" rifle (M-1) took over nineteen years to design and produce, while the Ordnance Department failed to standardize a single tank or armored vehicle "no matter how promising" from the dozens of experimental models produced during that time.¹⁹

Little effort was made during the interwar period to enlist the skill and knowledge of civilian scientists and engineers to solve the problems of weapons design and development. An outstanding exception was the long-time cooperation between the War Department and the Society of American Automotive Engineers. The Society's "Ordnance Advisory Committee" played a leading role in helping the Ordnance Department deal with problems associated with tank design in the 1930s. Yet systematic collaboration between industry, science and the military remained rare until the outbreak of the Second World War.²⁰

In general, it was the services, rather than industry, which took the lead in developing new weapons and equipment. Thus, in the case of shipbuilding, the Navy's three technical bureaus -- Ordnance, Engineering, Construction, and Repair -- prepared the specifications for new men-of-war and, so far as possible, the ships were built in government yards. When, as frequently happened, a construction program was too large to be handled entirely by government yards, private builders were utilized but naval supervisory staffs and inspection teams played a large role in the production process.²¹

Most research and development work was carried out more or less independently by the services' technical bureaus and their subdivisions. Although the Navy General Board and Army General Staff could act to some extent as coordinating bodies or courts-of-last-resort, development was inevitably uneven. For example, the Navy's Ordnance Bureau failed to produce an effective middle-range anti-aircraft gun (its 1.1-in. machine cannon was a failure) "because its staff did not keep up on improvement in aircraft performance,"²² aircraft being the province of another bureau.

Nevertheless, the decentralized style of research and development in the interwar period was probably responsible for far more successes than failures. It permitted flexibility, parallel development efforts, and the exploration of alternative paths of development. For example, it was the Bureau of Ships which let the first important contract for fire-control radar at a time when the Bureau of Ordnance had evinced a lack of interest.²³

The strengths and weaknesses of the interwar research and development system is illustrated by the story of the development of radar. In the early 1920s, Dr. A. Hoyt Taylor and Leo C. Young, of the Naval Research Laboratory, had begun research into the properties of radio wave propagation. In June 1930, Naval Research Laboratory scientists discovered that an airplane could cause interference with radio reception when it passed through electromagnetic radiation. By 1931, the possibilities appeared so promising that the Bureau of Engineering directed the Laboratory to "investigate the use of radio to detect the presence of enemy vessels and aircraft."²⁴

Research in the early 1930s seemed to suggest that "radio detection" would require a radio transmitter and receiver separated from each other by at least a quarter mile. This suggested that radar might be practical only for the Army and, in 1932, the Secretary of the Navy actually sent a summary of the Naval Research Laboratory's investigations to the Secretary of War with the suggestion that the Army might find such a device more practical than the Navy.²⁵

In fact, the Army's Signal Corps Laboratory at Ft. Monmouth was already exploring the problem but the work was hampered by lack of funds. The War Department ruled that research money had to be provided out of the regular Signal Corps budget. Moreover, the Signal Corps' Ft. Monmouth

lab, unlike the Naval Research Laboratory, which was specifically tasked with the conduct of basic research, was expected to confine its activities to practical development of equipment. For more sophisticated research projects, the Signal Corps was expected to turn to private industry. Yet in the case of radar, no private company or research institution was either competent for, or interested in, the desired field of research.²⁶

In the end, both the Signal Corps and the Naval Research Laboratory continued their research on radar. Both achieved impressive results. By 1937, the Signal Corps had developed a mobile short-range radio locator, the SCR-263, which could detect aircraft at night or in bad weather and bring searchlights or anti-aircraft batteries to bear upon it. A year later, a long-range radar, SCR-271, was in operation and the Army was beginning to experiment with radar for artillery fire control and aerial navigation as well.²⁷ The Navy's progress was equally spectacular. By 1938, radar was being installed aboard warships and, in the 1939 fleet exercises, the battleship New York, using XAF radar, was able to detect destroyers attacking in darkness at 9,000 yards.²⁸

Yet, research by the Army and Navy had been carried out independently, with little or no cooperation or consultation between the two. Moreover, the two services classified their radar development as secret, not only from the public, but even from each other.²⁹ In 1939, the U.S. armed forces were as advanced as any in the field of radar. Had the two services been given additional resources and had they cooperated and pooled their knowledge, the U.S. might have enjoyed an immense technological advantage.

In the area of manpower, the military services were affected by the stringent economy measures already described. Few military units in either service could be manned at a level which would enable them to

carry out realistic training or exercises over an extended period of time or maintain a high degree of practical readiness. The services were far better off in the matter of quality personnel. The Army and Navy had entered the twenties with a mature system of professional military education ranging from the Military Academy at West Point and Naval Academy at Annapolis to the Army and Navy War Colleges. Entry into the officer corps -- largely through the service academies -- was competitive and recruits were generally of high quality. Many of the senior officers had proven their ability in the First World War.

Yet, there were significant problems in the officer corps of the Army and Navy. Pay was stagnant, the duty was often tedious and promotion was glacially slow. Thirteen years was the normal interval between attaining the rank of first lieutenant and promotion to captain in the interwar Army, and some captains spent seventeen years at that rank. By the time the lucky survivors of the system reached the rank of general, they were normally at least fifty-nine years of age. General officers could serve at most two or three years before reaching mandatory retirement age.³⁰ Even a brilliant and well-connected officer like George C. Marshall served ten years at the grade of major and did not reach brigadier-general until he was 56 years old.³¹ Many talented officers resigned, others stagnated, lost their edge, or became indifferent to professional development.

The problem of officer quality in the Army became acute in 1940 when U.S. rearmament and expansion of the Army revealed that many regular officers were of questionable competence or physical condition for active wartime service or higher command. An even larger proportion of the senior National Guard and Reserve officers now being called to active duty had also long since risen to their level of incompetence or were

physically unfit.³² At the same time many talented and capable junior officers had to be advanced at a rate far exceeding anything allowed for in the normal promotion system. Although steps were taken to reclassify and retire marginal officers and accelerate the promotion of exceptional ones, an efficient officer selection and promotion system was not established in all its details until after Pearl Harbor.

The Navy offered somewhat more varied and active service, although with the same slow promotion as the Army. The naval officer corps between the wars was composed almost exclusively of graduates of the Naval Academy. This ensured a high level of professional cohesion and a common professional background. Yet, the institution at which these naval officers received their common education was parochial, isolated, intellectually sterile, and pedagogically backward. In 1923, the Board of Visitors to the Naval Academy reported that "a sound symmetrical general education is lacking" and that the academy was "incapable of supplying even the fundamental training in the physical sciences."³³ Perhaps such deficiencies help to account for the attitude of the naval officers who objected to the installation of radar because it spoiled the appearance of their ships. One cruiser commander refused to use it because "he hadn't asked for it."³⁴

In the area of procurement of enlisted personnel, the Navy fared very well indeed. During most of the 1920s and 1930s, Navy recruiters had to accept only one-third to one-quarter of the men applying for enlistment.³⁵ In the depths of the Great Depression, the reenlistment rate rose to around ninety percent and only one out of every eighteen applicants for enlistment could be accepted.³⁶ A similar situation prevailed in regard to recruiting for the Army Air Corps. The romance and adventure of flight together with the widespread misconception that

all Army Air Corps personnel were aviators, kept a steady stream of applicants flocking to the recruiters.

Recruiting for the rest of the Army, however, was not so easy. As in the 1970s, the Army in the 1920s was largely regarded as "the employer of last resort." A study of recruiting in the 1920s concludes that "despite its publicity about the benefits that Army service held for young men, few civilians joined except as a last resort."³⁷ An important reason, although by no means the sole reason, was the low pay. In the 1920s, a private earned 70 cents a day; some unskilled workers made 70 cents an hour. The result was that the Army experienced continuing difficulty in recruiting enough men even for the small regular force it was authorized to maintain.³⁸

The Great Depression, for a time, solved the Army's recruiting problems. The Army's enlistment quotas were easily filled. Indeed, during most of 1932, recruiting was suspended because the recruiters had already brought in too many men. The Air Corps had a waiting list of 850 highly qualified high-school graduates to fill 200 vacancies.³⁹ Enlistment and reenlistment standards were raised. By the mid-1930s, however, enlistments were dropping off again. New Deal relief measures and programs like the Civilian Conservation Corps cut deeply into the pool of unemployed potential recruits, as did the modest recovery of the 1934-1937 period. Until the advent of the draft, the Army never completely solved its manpower problems.

II. Strategic Effectiveness

Until the eve of World War II, the armed services of the United States lacked strong and consistent policy guidance from political leaders and the State Department. Army and Navy leaders complained frequently about this state of affairs and occasionally proposed measures to remedy the situation, but without success.⁴⁰ In the absence of such guidance, the military attempted to deduce for themselves what constituted basic American national policies and objectives and to plan and prepare accordingly. Army and Navy officers never consciously advanced strategic objectives or plans different from what they perceived to be the political objective of the nation. Thus, although military leaders often felt that certain American policies -- particularly those in regard to the Philippines and China -- exceeded military capabilities, they believed it was not the function of the military to change those policies but merely to point out the military implications. A member of the war plans division told Stanley K. Hornbeck of the State Department, "policy making ... [was] ... a State Department responsibility. But ... the War Department was responsible for the military aspects of any policy adopted and that it was a duty of the War Department to point out the extent to which we might become involved through military commitments and make recommendations accordingly."⁴¹

In the 1920s and 1930s, military and naval leaders perceived that American national policy implied the following military missions: defense of the continental U.S., Alaska and Hawaii, and the Panama Canal;

defense of the Monroe Doctrine; defense of the Philippines; and protection of American rights and interests in China. The first two caused little difficulty but the defense of the Philippines and support of American interests in China in the face of increasingly militant Chinese nationalism and Japanese expansionism was another matter.

American strategic planning for the Far East was embodied in the so-called Orange Plan (Orange was the color assigned to Japan in war games and planning exercises, prior to World War I; Mexico was "Green," Great Britain "Red," and German "Black.") The Orange Plan assumed that upon the outbreak of war, Japan would immediately mount an attack on the Philippines. The planners knew that the Japanese could probably land at least 50,000 men in the islands during the first week of the war and almost three hundred thousand during the first thirty days. The American garrison in the islands consisted of about 17,000 men. In the pre-World War I period, when the Orange Plan was first conceived, it was hoped that this force could at least hold open Manila Bay until the arrival of the American battlefleet, expected in about 60 days.⁴²

By the 1920s, with Japan in possession of the former German-owned island chains of the Pacific, even this slim hope appeared unrealistic. Nevertheless, Army and Navy planners did not feel free to urge political leaders to modify or abandon the American commitment to the Philippines or American policies in the Far East.⁴³ In the case of war with America's most likely hypothetical enemy then, Army and Navy leaders obviously considered the risks entailed to be high and the consequences of failure grave. Yet, they felt themselves to be powerless to change the policy which dictated such a course.

One reason military and naval officers felt themselves to be in such a position was the almost complete lack of communication and

coordination between political and military leaders in the United States during the 1920s and 1930s. From time to time, the military had proposed the establishment of some co-ordinating agency in regard to foreign and military affairs. As early as 1911, Representative Richmond P. Hobson of Alabama had introduced a bill, at the urging of officers of the Naval War College, which called for the establishment of a "Council of National Defense" to include the Secretaries of War, State and Navy, the chairman of the House and Senate Military and Naval Affairs Committees, and the professional heads of the Army and Navy. The bill failed to pass.⁴⁴

Again, in 1922, the services proposed to Secretary of State Charles Evans Hughes that representatives of his department sit with the Joint Board and its planners to provide guidance on national policy. However, Hughes rejected this idea because he feared it would lead to undue military influence on foreign policy.⁴⁵ In 1938, a Standing Liaison Committee of the State, War, and Navy Departments was established but it met infrequently and confined itself mainly to Latin American matters.⁴⁶

In specific crisis situations or problem areas such as Navy and marine deployments in Latin America and China during the 1920s, very close working-level coordination prevailed between the services and the State Department.⁴⁷ Yet, at the policy level, the lack of coordination and consultation remained a problem. In fact, it was in some ways a problem which was never solved, since beginning in 1940, the heads of the services were permitted to by-pass the State Department and report directly to the President.⁴⁸

During the 1920s and 1930s, the force size and structure of the U.S. armed forces was wholly inadequate to achieve their strategic goals. This is most apparent in regard to the Orange Plan where the size and composition of the U.S. fleet, particularly the lack of sufficient

fleet auxiliaries, made it unlikely that the Navy could carry out its mission of fighting through to the Philippines in sixty days. Even should this be the case, the largest initial reinforcement feasible, given the small size of the Army, was only 18,000 men to face 50,000 Japanese invaders.⁴⁹

Even in regard to the more basic mission of defending the continental United States, the size and structure of the interwar armed forces left much to be desired. In 1929, the Army General Staff estimated that in attempting to form even the "initial protective force," which was intended to see the country through the first few months of war with a major power, they would be short at least six infantry regiments, seven tank battalions, seventeen battalions of field artillery, and twelve engineer regiments. The Army Air Corps would be short over 500 planes and all Army tactical units would be short a total of 600,000 gas masks, 2,300 .30-calibre machine guns, and 2,200 .50-calibre machine guns.⁵⁰ By 1935, the situation had not greatly improved. The Army Air Corps required an additional 200 bombers and 179 pursuit planes merely to reach the strength level recommended by the Baker Board in the 1920s. Mechanized units were short \$16,000,000 worth of equipment and Army units as a whole were short 400 3-in. anti-aircraft guns and over 2,000 .50-calibre machine guns.⁵¹

At the outbreak of World War II, the total strength of the U.S. Army was about 190,000. Of these more than 50,000 were serving in the outlying possessions. On paper the Army was organized into four armies, and nine corps areas, each corps area with one regular and two National Guard Divisions. In fact, of all these impressively large formations, only three of the regular divisions could operate as such, and they were at less than half strength. A rudimentary armored force, the 7th Cavalry

Brigade (Mechanized), and two horsed cavalry divisions of about 1200 men each, together with a few smaller independent units completed the Army's order-of-battle.⁵²

The regular Army had begun the process of conversion from the World War I style "square" division, of two brigades of two regiments each, to a smaller, but far more flexible "triangular" division of three infantry and one artillery regiments. This smaller, more mobile formation could, if necessary, operate as three independent infantry-artillery combat teams. At its existing strength the Army could field at most five of the new type divisions together with most of their support troops.⁵³

The experience of World War I had impressed upon U.S. Army leaders the importance of large scale mobilization of industry to support the demands of total war. World War I had found the Army unprepared for the enormous problems involved in wartime production and procurement. In the course of the war, the War Department's archaic and inefficient bureau system had broken down and reorganization had been forced on the Army by the President, acting on the advice of business leaders like Bernard Baruch.⁵⁴

Taking account of this experience, the National Defense Act of 1920 reorganized the War Department's supply and purchasing system and created the post of Assistant Secretary of War. The Assistant Secretary had responsibility for coordinating War Department planning for supply and procurement in the event of war and supervised the various bureaus involved in those activities. In 1922, an Army-Navy Munitions Board was created to coordinate planning between the services and two years later, the Army Industrial College opened its doors to train military and naval officers in the mysteries of finance, procurement, transportation, and manufacturing.

Between the wars, Army officers and civilian industrialists cooperated to produce a number of "Industrial-Mobilization plans" under the direction of the Assistant Secretary of War. In their final form, the plans called for a War Resources Administrator with broad powers to mobilize the economy and allocate manpower and resources. The plans, as such, were never implemented but the years of interwar planning provided invaluable experience for military officers and business leaders and greatly eased the transition to a war economy after 1939.⁵⁵

Nevertheless, industrial planning in the interwar period failed to address certain important issues. From a social and political point of view, the plans contributed nothing toward dealing with the economic and ethical issue of excess, not to say scandalous, wartime profits which invariably accrued to the largest and most efficient war industries. From a strategic point of view, the plans were deficient in failing to address the question of gearing military planning to industrial capacity. "Throughout the 1920s and the 1930s," writes the leading student of the subject, "the Army's command structure refused to acknowledge that supply and procurement set limits for tactics and strategy."⁵⁶ Although Army supply officers sometimes attempted to enlighten their colleagues, industrialists showed little interest in this critical question and played little part in the debate. Businessmen were far too preoccupied with perfecting the details of industrial coordination (and insuring wartime profits) to worry about the strategic implications of industrial mobilization.⁵⁷

Because of the United States' long-standing policy of avoiding military alliances, the issue of coordinating and integrating strategic objectives with allied armed forces was never addressed in interwar planning. The sole exception occurred during the late 1930s when the

outbreak of the Sino-Japanese War led to increasing friction between the U.S. and Japan culminating in the Panay incident in late 1937. In the wake of this incident, Captain Royal E. Ingersoll, Chief of the U.S. Navy's War Plans Division, was directed to open discussions with the British Royal Navy on cooperation in the event of hostilities with Japan.

Ingersoll and his British counterparts had relatively little difficulty in agreeing upon a common strategy. Yet, since neither government could say with assurance how, when, or under what circumstances it might agree to go to war against the common enemy, the talks had little immediate practical value for planning purposes.⁵⁸ They did help to lay the foundations for British American military cooperation and provided an opportunity for exchange of ideas but, up to the final weeks before Pearl Harbor, British and American commanders in East Asia were unable to integrate totally their plans and preparations because of continuing uncertainty about what the U.S. might do.⁵⁹

Because of Army political commitments in East Asia, the United States was committed to a strategic plan (War Plan Orange) which did not, and could not, place the strengths of the Army and Navy against the weaknesses of their potential adversary, Japan. Army and Navy strategists were, of course, aware of this shortcoming in the Orange Plan, but naval strategists had, in general, avoided any suggestion that the Plan be drastically modified or abandoned. A trans-Pacific war, as embodied in Orange, provided the Navy with its chief mission and claim on the nation's resources.

Army strategists were far less reticent, however. The most vocal and persistent critic of the Orange Plan was Brig. Gen. Stanley Embick, an officer with long experience in the Philippines who, in the mid-1930s, was Chief of the War Plans Division. Embick argued that the American line

of defense should be pushed back to the triangle formed by Alaska, Hawaii, and Panama. The Philippines were indefensible and an indefensible base was an invitation to disaster.⁶⁰ Embick's chief planner, Col. Walter Krueger, argued that the Philippines were of no great strategic, economic, and political benefit to the U.S. and that attempts to maintain American interests and the "open door" in China were outdated and quixotic.⁶¹

Despite such arguments, Army and Navy leaders felt obliged to continue to plan for the defense of the Philippines because national policy seemed to require it. Military professionals in the interwar period believed it to be their duty to refrain from attempting to remake policy, whatever they might think of it.

III. Operational Effectiveness

American leaders of the interwar Army and Navy well understood the principle of integrating the many different types of weapons, arms, and units for mutual support on the battlefield. As an Army general staff memo declared, "experience has shown that combined employment of all arms is essential for success."⁶²

The problem lay in deciding what types of missions would be assigned to the various different units and weapons systems, or, put another way, who supports whom? Did tanks support infantry or did infantry screen tanks; would "the bomber always get through" or could a well-organized fighter defense stop it; were carrier to provide reconnaissance and spotting for the battlefleet or were they an offensive element of their own? The Army memo, referred to above, asserted that "recent operations abroad have shown that the combatant arms will fight in their traditional roles."⁶³

For the Army the major questions were the role to be played by the new motorized and mechanized vehicles which were then becoming available, particularly the tank and other combat vehicles, and by that revolutionary new weapon, the airplane. During the years 1918-1920, the U.S. Army had included a separate Tank Corps, many of whose leaders advocated an independent role for tanks as an instrument to achieve decisive breakthrough, pursuit, and exploitation in future battles. These were ideas similar to those held by J.F.C. Fuller and his followers in the British Army.⁶⁴

The National Defense Act brought this trend of development to a screeching halt by abolishing the Tank Corps and assigning tanks exclusively to the infantry. This organizational arrangement meant in the words of the Army's official history that tanks "were regarded solely as support for the riflemen in attacks. Infantry concepts in their use necessarily predominated."⁶⁵

During the late 1920s, Secretary of War Lwight Davis, impressed by a visit to the British Experimental Mechanized Force, encouraged the U.S. Army to develop a similar unit. After a rocky start, the American mechanized force gradually evolved into a mechanized cavalry regiment, then into the 7th Cavalry Brigade (mechanized), equipped with cavalry tanks, labeled "combat cars" to comply with the dictum of the 1920 Act which assigned "tanks" only to Infantry. Under the leadership of Col. Adna R. Chaffee, Jr. the mechanized cavalry made considerable progress in the development of armored warfare tactics and concepts. Yet attention continued to be focused on fulfilling a traditional role, in this case the reconnaissance and exploitation role of cavalry.

Unlike the Tank Corps the Army Air Corps managed to survive and develop as a distinct organization during the 1920s and 1930s. Aviation was a far more interesting and controversial subject, both to the public and the military, than was mechanization. General William Mitchell, the articulate and colorful spokesman for an independent air service, kept the subject before the public eye as did the spectacular exploits of American and foreign aviators in the areas of exploration, long-distance flight, and aerial racing. Claims and counterclaims about aerial warfare continued to make good new stories. Between 1919 and 1935 no less than fifteen different government boards and committees were established to wrestle with the question of the proper role and organization of aviation

in the nation's defense establishment.⁶⁶

The basic question, as Air Corps Major Harold George phrased it, was whether "the advent of air power has brought into existence a method for the prosecution of war which has revolutionized that art, and given air forces a strategical objective independent of either land or naval forces, the attainment of which might, in itself, accomplish the purpose of war."⁶⁷ The answer of George and his fellow theorists at the Air Corps Tactical School was an emphatic "yes." The development of the fast multi-engine all-metal bomber and the amazingly accurate Norden bomb sight appeared to open the way for the Air Corps to carry out its independent mission of leapfrogging deadlocked armies to strike at the "vital centers" of the enemy.

Pursuit of such an independent "strategic" mission naturally led not toward planning for use of airpower as part of an integrated combined arms team but away from it. Air Corps thinkers resisted concepts or doctrines which threatened to tie aviation to the support of ground operations. Students at the Air Corps Tactical School in the 1930s were told that the use of all offensive aircraft in independent air operations would best "further the success of ground forces because their purpose is to weaken the enemy's material and moral capacity."⁶⁸

Ground forces were, in any case, a poor target for aerial attacks since "a properly organized attack on front line objectives cannot be denied in any event."⁶⁹ Ground troops in future wars would have to rely on "passive measures of defense to force the enemy to attack at low altitudes" where he would be vulnerable to anti-aircraft weapons.⁷⁰

Whether aviation could properly defend anything was the subject of considerable controversy within the Air Corps. Major Claire Lee Chennault, head of the Pursuit Section of the Air Corps Tactical School

argued that the newest bombers appeared invincible only because American fighters were obsolescent. Modern high performance monoplane fighters together with centralized fighter control and an efficient early warning system could mount an effective defense against any type of air attack.⁷¹

Chennault's views were far from representative of most Air Corps leaders, however. A survey of Air Corps thinking "as to the efficacy of pursuit and anti-aircraft artillery" found that "the trend is toward [the Italian air power extremist] Douhet."⁷² Air Corps Chief General Oscar Westover declared fighters to be unnecessary altogether observing that "high speed and otherwise high performance bombardment aircraft together with reconnaissance planes of superior speed will suffice for defense of the country."⁷³

The Navy no less than the Army was obliged to come to terms with aviation. With some difficulty the airplane was integrated into the traditional concept of naval warfare. This concept continued to center around the battleship as the most powerful and indispensable element of a "balanced fleet." Phrases such as "the fire action of the Battle Line, by reason of its power, dominates" and "the dominating phase in battle is the gun fight between the heavy ships" continue to be found in naval doctrinal literature throughout the interwar period.⁷⁴

Nevertheless, naval aviation was recognized as having important uses in scouting and in gunfire spotting. Since most modern battleships could open fire at over 30,000 yards when their targets were still below the horizon, this last function was especially important. In addition, naval tacticians recognized that bombing planes could attack and destroy enemy ships.

Yet aerial bombing and torpedo attacks were viewed as one part of a single integrated battle between surface ships. "In a typical fleet

action" (as described by Commander John H. Towers, submarines and mine-layers are disposed to intercept the enemy; carriers follow the battle divisions closely, ready to launch planes and take up position on disengaged side of the battleline. Carriers may also be pushed out ahead to wear down the enemy main body but such an attack would not be effective as an attack during the main engagement."⁷⁵ As late as 1940 the Naval War College was pointing out that "it takes 108 planes to carry as many large torpedoes as one squadron of destroyers and 1200 to carry as many large bombs or large projectiles as one battleship."⁷⁶

Like the Air Corps, the U.S. Marine Corps was absorbed in the development of a new type of warfare. Yet because amphibious warfare unavoidably required the support of other arms and services, Marine Corps amphibious doctrine perforce devoted a great deal of attention to the integration of all arms and services. With the establishment of the Fleet Marine Force in 1933, and the reorientation of the Marine Corps schools at Quantico toward landing operations, the Marine Corps was committed to the mission of seizing naval bases and other strategic points by assault from the sea.⁷⁷ The Tentative Manual for Landing Operations, published by the Marine Corps Schools in 1934, devoted considerable attention to the integration of naval gunnery, aviation, and ground forces all in support of the amphibious landing.⁷⁸

A general appraisal of operational developments during the interwar years thus 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.

Yet there are good reasons for the apparently short-sighted decisions and policies of the services in the interwar period. The 1920s and 1930s were a period of rapid and continuous changes in many different fields of military technology. Yet the economic austerity of the period usually prevented the services from acquiring a sufficient number of new weapons systems or testing them extensively enough to gain an accurate idea of their real effectiveness. The continued availability of large quantities of World War I era equipment left over from that conflict made the acquisition and testing of new weapons appear wasteful and redundant.

In the case of tanks for example, many models were left over from World War I. A new tank cost \$35,000, in an era when the annual appropriation for tank development averaged around \$60,000 a year.⁷⁹ In addition, money spent on mechanization or aircraft had to come out of the hide of some other component of the Army, thus "unbalancing" the total force. The Air Corps Act of 1928, intended to strengthen the air arm, actually reduced the efficiency of the rest of the Army since the War Department was obliged to deactivate five infantry battalions to find the men for the increases mandated in the air corps.⁸⁰

A similar case prevailed in regard to naval aviation. The only sure way to determine the proper role of this new arm was through extensive experimentation and experience with various types of carriers and aircraft. Treaty limitations and budget restrictions, however, severely restricted the number of ships and aircraft that would be procured. Also, a carrier took a long time to build. The first American warship built as an aircraft carrier from the keel up, the Ranger, was designed before much had been learned from the operations of the

Lexington and Saratoga. The Ranger's successor ships, Yorktown and Enterprise, had to be designed before the Ranger was even launched.⁸¹

Naval aircraft were improving rapidly during the late 1930's; but they had also proved highly dependent on good weather and visibility. Tactics that were to prove decisive in the air sea battles of the 1940s appeared impossible with the aircraft and equipment of the 1930s.

While American military leaders readily accepted (at least in principle) the concept of integration of all arms within a service, there was relatively little interest in, or desire for integration or close coordination between the services. The War and Navy Department doctrinal publication Joint Action of the Army and Navy, prepared by the Joint Army Navy Board and revised periodically throughout the 1920s and 1930s, recognized only three types of operations as requiring coordination: "joint overseas movements," "landing attacks against shore objectives" and "coastal frontier defense." The primary consideration in Joint Action of the Army and Navy and in most other contemporary discussions of multi-service operations was not so much to ensure the closest possible integration and coordination of the services involved but rather to "minimize overlap and duplication" in the operations of the services.⁸²

In practice, the subject of joint overseas movement received little attention, while preparation, location, and training for landing attacks against shore objectives was left largely to the Marine Corps. Marine Corps involvement in amphibious warfare was not so much the result of conscious decisions by the Army, Navy or civilian authorities as it was the product of the initiative of Marine Corps leaders who saw their best chance for organizational survival and growth in this type of mission. The state of interservice politics ensured, as Marine General Rufus Lane observed in 1923, that the marines could be confident of being left alone

to develop amphibious warfare because the Navy would never assign its ships' crews to such activities and the Army would never allocate troops to train with the Navy.⁸³ Even in the case of the Marine Corps the Navy was generally unwilling to make available sufficient transports and small boats for amphibious exercises.⁸⁴

Joint exercises, involving Army, Navy and Air Corps units, were held occasionally but the results were unimpressive. Confusion, lack of coordination, and frequent breakdowns in communications characterized most of these attempts. As an Air Corps officer observed after one such exercise, "In the military services, taken separately, years of indoctrination and background enable them to act in mutual support of each other -- even though the operation may have had no previous preparation. When the military services are acting in a joint operation there has not been sufficient previous indoctrination and training to produce a completely smooth coordination."⁸⁵

The most abysmal failures in interservice coordination and integration were in the venerable field of coastal defense. The coastal defense mission of the armed forces dated from the earliest years of the republic. Prior to World War I the division of responsibility for this mission had been clear enough. The Navy would attack and seek to destroy hostile fleets or raiders at sea while the Army would deal with any attacking seaborne forces that came within range of its shore guns or attempted to stage a landing.

The introduction of the airplane, however, threw this neat division of labor into confusion. Army and Navy leaders consistently disagreed over such questions as whether the Navy should be permitted to operate reconnaissance and strike aircraft from land-bases, and whether Army aircraft should operate against targets far out to sea. Army Air Corps

partisans claimed that land based bombers could deal with attacking fleets more effectively and decisively than the Navy. General Billy Mitchell's spectacular battleship bombings of the early 1920s were intended to make this point to the public.

Haggling continued for almost a decade with the Army claiming the sole authority to operate planes from the land, the Navy claiming the sole responsibility for all air operations over the sea and the Air Corps arguing that the entire coastal defense mission must be allocated to them. A short-lived informal understanding between Chief of Naval Operations Admiral William V. Pratt and Army Chief of Staff General Douglas MacArthur which appeared to allocate all naval aircraft to the support of the fleet and leave coastal defense to the Army was followed by renewed bickering. By the mid-1930s Air Corps was planning and training for attacks on enemy vessels independent of either the Army or the fleet. The 1935 version of the Joint Action of the Army and Navy gave exclusive jurisdiction to no single service but attempted to define situations in which one service or the other would have "paramount interest." Yet the arrangements outlined in Joint Action were so complex and ambiguous as to preclude any real coordination or integration of effort.⁸⁶

As air defense replaced coast defense as a leading concern at the end of the 1930s a similar muddle prevailed as to responsibilities. As late as November 1941 the Army and Navy were still haggling over a common plan for the defense of the West Coast and three weeks before the attack on Pearl Harbor, the Joint Board reported that a unified defense arrangement for Hawaii was undesirable because of the difficulty of determining "in advance when hostilities will begin and the nature and extent of operations. For that reason it is difficult to foresee which

service will play the major part in the defense and will have primary interest."⁸⁷

The physical mobility of the Army and Navy in the interwar period was severely limited by the conditions already described. At the intellectual level, however, the armed forces displayed an impressive degree of originality and flexibility in adapting new weapons and technology to fulfill their traditional missions and acquire new ones. There were conservatives and downright mossbacks like General John K. Herr, the Chief of Cavalry, in the 1930s, who reputedly declaimed "not one horse will I give up" for mechanization.⁸⁸ Yet the armed services also produced important innovations in organizations and tactics. The development of basic concepts, tactics, and techniques of aerial warfare at the Air Corps Tactical School during the 1930s is one example.⁸⁹ Another is the contemporary development by the Marine Corps of amphibious doctrine at Quantico, the establishment of the Fleet Marine Force, and the production of the first "Tentative Manual for Landing Operations."⁹⁰ Still another is the development of mechanized warfare principles and techniques by officers like Adna R. Chaffee and other cavalry officers at Ft. Knox during the 1930s.

These developments were paralleled by equally important advances in fire direction techniques at the Field Artillery School at Ft. Sill during the 1930s. The development of a modern fire direction center together with a forward observer system utilizing new and more effective firing charts and improved communications enabled American artillery to mass fires quickly and accurately on a target. By the end of the 1930s, several battalions of field artillery could open surprise massed fires on a target within three minutes of receiving data from a forward observer.⁹¹

All of these innovative developments were brought about by officers working with severely limited resources. The weapons and equipment for which they were developing operational doctrine often existed only in rudimentary form or had not even been designed. Yet their work laid the foundation for the great campaigns of the 1940s. Indeed, without these efforts, the success of the U.S. armed forces in World War II would probably have been impossible.

Like other aspects of the U.S. armed forces, support activities -- especially maintenance and supply -- suffered from a paucity of resources during the interwar years. Even more detrimental was the attitude of senior Army and Navy leaders toward the combat service support function. Although officers in the supply and technical bureaus were aware of the importance of logistics in warfare, leaders of the combat services were not. The remark attributed to Admiral Ernest J. King, "I don't know what this 'logistics' is that Marshall is always talking about -- but I want some of it!", may be apocryphal but it accurately represents the outlook of many senior Army and Navy commanders.

The consequences of this attitude can be most clearly seen in the Pacific theaters during World War II. The progress of the campaigns in the central and southwest Pacific depended largely on the successive capture and development of air bases. Thus the Pacific War was an engineer and construction war as well as a naval, air and amphibious war. Yet, theater commanders, with a poor understanding of the role of service and support personnel, were usually unwilling to sacrifice scarce shipping space for combat troops to make room for service forces. The net result was chronic shortage of service troops in the Pacific theaters. As the Army's official historians observe, "The shortage of port battalions contributed to every instance of ship congestion; the

shortage of quarter-master troops to every instance of spoiled rations; that of engineer troops to every instance of failure to build airfields, roads, and other facilities on time."⁹²

Of the non-logistic support services, the most capable were undoubtedly the intelligence organizations -- specifically the communications intelligence organizations -- of the Army and Navy. Beginning in the 1920s, the two services made rapid strides in all fields of communications intelligence, particularly code-breaking. Their best known achievement is, of course, the breaking of the Japanese "purple" diplomatic cypher. This was the work of an Army Signal Intelligence Service team headed by Colonel William F. Friedman, with cooperation and support by the Navy. However, there were other important developments as well. During the 1920s, the Navy's Communication Security Unit, or OP-20-G, under Commander Laurence F. Safford, established radio surveillance units throughout the Pacific and, by the late 1930s, was publishing a weekly "Summary of Radio Intelligence" which reported on information gained concerning Japanese naval activities.⁹³

In terms of operational concepts, the Navy and Marine Corps were fairly well prepared for the war they would fight against Japan in the 1940s. Nearly twenty years of fleet maneuvers and war games at the Naval War College had helped to identify and refine the operational concepts which would be required to achieve the strategic objective of defeating Japan. By the early 1920s, most knowledgeable Navy strategists recognized that a war with Japan would be a protracted one. U.S. forces could be expected to reach the Philippines, not in sixty to ninety days, but in two to four years.⁹⁴ Experience in scores of Naval War College games had illustrated the necessity for a step-by-step approach through the island chains of the central Pacific. Even many of the details of

amphibious campaigns such as close air support, specialized landing craft, and naval gunfire were anticipated on the game boards at Newport.⁹⁵

Whether these concepts placed American strengths against Japanese weaknesses is a cloudier question. As it turned out, they did, since the Japanese allowed themselves to be drawn piecemeal into a hopeless war of attrition and since the island fortresses which the U.S. was attacking were easily isolated and subjected to massive air and naval power. Yet, American strategists conceived the island-to-island advance more as a measure of necessity than as a wise strategic ploy to bleed the Japanese.

IV. Tactical Effectiveness

Since the U.S. Army and Navy engaged in no large-scale military operations against a major power in the period 1919 to 1939, observations about their tactical effectiveness must be highly speculative. For the most part, this section will discuss tactical developments which appear to have influenced Army, Navy and Air Force performance in World War II. Even in this case, conclusions must be highly tentative since wartime experience quickly modified many prewar tactical concepts or gave birth to new ones.

Since the U.S. Army and Air Corps lacked a well-defined strategic objective in the interwar period, the extent to which their tactical approaches were consistent with their strategic objectives remains mute. The Navy, which had been preparing for a Pacific war against Japan for two decades, had developed a body of tactical concepts highly consistent with strategic objective which was to defeat Japanese seapower and drive the Japanese from the Philippines. Naval thinking had held that this would require a large scale engagement, or series of engagements, with the Japanese fleet and seizure of bases in the central or southern Pacific. The Navy's tactics, which emphasized engagements between opposing battlefleets, were consistent with this concept.

Naval maneuvers of the 1930s were rigorous and realistic. An Army officer who attended the 1935 maneuvers or "Fleet problem", reported that "The fleet operated as if war conditions existed. The crews were constantly at battlestations, ships darkened at night, radio silence,

destroyers fueled at sea from larger ships. Steaming at night with no lights made heavy demands on the judgement and skills of commanders of all grades ... planes were catapulted from battleships and carriers without any particular regard to weather, frequently when the sea was so rough it was difficult to see how they could be recovered ... "96

Yet naval exercises, planning, and war gaming, by emphasizing engagements between opposing battlefleets, somewhat like the Battle of Jutland in World War I, left insufficient scope for the development of air and submarine tactics. They also gave inadequate attention to night fighting, at which the Japanese excelled.

The Army, between the wars, had never really made a choice between a doctrine of applying mass and overwhelming power to crush the enemy and a doctrine which emphasized mobility and maneuver. The Field Service Regulations (Tentative) Operations (FM 100-5) tended to emphasize mass, firepower and the annihilation of the enemy's forces. They contained such sentences as: "The ultimate objective is the destruction of the enemy's armed forces in battle," and "An objective may sometimes be attained through maneuver alone; ordinarily it must be gained through battle."97

On the other hand, advocates of flexibility, speed, and maneuver had their views embodied in another doctrinal publication, Manual for Commanders of Large Units. Major General George A. Lynch, Chief of Infantry, referred to "the glaring inconsistencies in doctrine" between the two publications in a speech to the Command and General Staff College in 1939. "Those two documents," he argued, "are based upon two distinct military philosophies as opposite as night and day."98 General Lynch himself belonged to the maneuver school and denounced those "who want to organize an Army on the basis of globular masses rather than as an

integration of individuals" and wished to "reduce the human element to a material factor ... make the man an adjunct of the weapon."⁹⁹

Russell F. Weigley points out that, while the tactical concepts which the Army followed in World War II emphasized the principle of applying mass, overwhelming power to crush the enemy in protracted battle, the American Army entered the war with weapons and equipment more suited to the tactics of mobility and maneuver. Thus, American tanks and tank destroyers were light and fast, but undergunned and poorly protected. This classic mismatch between tactical concepts and operational capabilities, Weigley suggests, was to cause major problems in the 1944-1945 campaigns in northwest Europe.¹⁰⁰

As has already been made clear, both the Army and Navy recognized and accepted the concept of integration of all arms. Yet, they tended to believe that arms and units would continue to be employed more or less as they had in World War I. Thus, the Army's 1938 guidance on "employment of mechanized units" discussed the "combined employment of all arms" but "in their traditional roles,"¹⁰¹ meaning that foot infantry would predominate and other arms act in support.

Similarly, the Navy embraced the concept of "the balanced fleet" which called for the orderly development of a number of different ship types. Yet, "however the balance was struck the battleship remained the weightiest element."¹⁰² That the battleship had been displaced as "balancer" by other types did not become apparent until well after 1939.

The Air Corps made little attempt to maintain a "balanced force" but put most of its severely limited funds into bombers. The result was that its advanced modern bombers far outperformed its old, mediocre fighters, giving Air Corps leaders a false idea of the relative effectiveness of fighter defenses against bombing.¹⁰³

Neither the U.S. Army nor the Navy put much emphasis on surprise and rapid exploitation of opportunities. Naval thinking traditionally emphasized the importance of large-scale surface engagements between opposing fleets. In such situations surprise was considered mainly in the context of scouting and patrolling to locate the enemy's seaborne forces and screen ones own from discovery.

The Army's Field Service Regulations recognized "surprise in some degree as necessary" to success in warfare.¹⁰⁴ Yet the concept of "surprise" employed was a rather narrow one. Surprise was defined as moving forces faster than expected, or in greater numbers than expected, or over greater distances than expected. The idea that surprise might involve deliberate measures to deceive or mislead the enemy was almost wholly absent from doctrinal discussions.

Because knowledge of the tactics and techniques of potential enemies was spotty and imprecise during the interwar period, U.S. tactics were seldom developed with the aim of exploiting specific enemy vulnerabilities. An outstanding exception, however, was in the area of fighter tactics. Prior to the U.S. entry into the war, Clare L. Chennault of the Army Air Corps and Lieutenant Commander James E. Thach of the Navy developed defensive fighter tactics specifically designed to deal with the threat posed by better-performing Japanese Zeros. These tactics such as "the Thach Weave" were designed to take full advantage of the few superior features of American fighter aircraft and nullify those of the Japanese.

Nevertheless, in a more general sense, U.S. tactics did aim at the goal of placing strength against weakness, or at least of making the most of American strengths. For example, the organization of infantry units in the smaller and more flexible regiments of the new "triangular"

divisions was designed to take advantage of what the Army believed to be the special qualities of initiative and intelligence of the American soldier. The introduction of the new Garand rifle was expected to enhance both the freedom and striking power of the individual rifleman. As Major General George A. Lynch, the Chief of Infantry put it,

We ought definitely to reject the theory so current in many armies, that a rifle company is merely a collection of so many automatic rifles We want the man in the front line to be a fighting man not an ammunition carrier. We want him to feel that the issue of combat depends on his personal conduct. The semi-automatic rifle restores the infantry soldier's individuality. It gives the infantry squad a fire power equal to or greater than that of any other Army. At the same time it releases the soldiers from bondage to the machine. It makes him again a fighting man. And in spite of mechanization that is what the infantry soldier must never cease to be."¹⁰⁵

On the eve of World War II American military leaders were well aware that their forces lacked sufficient training, adequate experience,, and organization to carry out the operations called for in their tactical system. For example, although the Marine Corps had devoted much thought and planning to amphibious warfare, the actual maneuvers and training exercises usually produced far from satisfactory results due to the unavailability of landing craft, outmoded equipment, lack of coordination, inexperienced personnel, and shortage of manpower.¹⁰⁶

Joint training involving Army and Marine Corps units proved even less successful. In amphibious maneuvers at Cape Henry, Virginia, in January 1942 involving elements of the U.S. Army's 1st Division, "the Navy failed to provide suitable transports or combatant vessels and aircraft vessels had not practiced shore bombardment in the last year, naval aircraft were untrained for cooperation with ground troops, and the Navy failed to land troops on the designated beaches."¹⁰⁷

The Army as a whole had had no real large scale unit training before 1940. When the Army held its "first genuine corps and Army maneuver in history" in August 1940 they revealed a large number of shortcomings ranging from deficient small unit training to poor signal communications, to inadequate artillery support.¹⁰⁸ As for the National Guard units, they were characterized by observers of the maneuvers as in need of "squad and platoon problems rather than division and corps problems." Most of their troops required at least ninety days additional basic training.¹⁰⁹

In Louisiana in September 1941 the Army assembled over 350,000 men for the largest peacetime maneuvers in U.S. history. These maneuvers once again revealed grave weaknesses in areas such as small unit tactics, reconnaissance, communications, and intelligence, yet the maneuvers did enable Army leaders to pinpoint areas where additional training and practice were needed and to evaluate the competence and ability of some of the services' more senior leaders.

Despite their inability to successfully carry out large scale unit training, the armed forces did succeed in training a core of elite units and specialists such as pilots, amphibious forces, code breakers, and paratroopers who were to prove invaluable in imparting these skills to newer entrants and serving as commanders and organizers.

An exception may be the case of the Navy's submarine commanders. Although these officers were all carefully selected graduates of the Naval Academy, and many had years of experience, a significant number proved unsuited to the demands of commanding a submarine on extended war-time patrols.¹¹⁰ Almost thirty percent of all submarine commanders were relieved for unfitness or lack of results during 1942 and an additional fourteen percent were relieved for these same reasons during 1942 and 1943.¹¹¹ On the other hand, submarine crews, in general, proved to be of very high quality, so much so that almost fifty percent of the initial enlisted force had become officers by the close of the war.¹¹²

The U.S. submarine force also provides a good example of an approach to training inconsistent with the Navy's tactical system. Submarines were intended to act as a tactical arm of the battle fleet. They would lie in wait across the enemy fleet's likely avenues of approach or outside his bases. In a fleet action, they would act as underwater ambushers, attacking the enemy battleline from below. Yet prewar training of submariners was conservative and unrealistic, and ill-prepared them for either the role envisioned in prewar doctrine or the role of commerce destroyers, which they would adopt after Pearl Harbor.¹¹³

Experience in peacetime maneuvers had given Navy leaders an exaggerated idea of the vulnerability of submarines to detection by destroyers and aircraft. Destroyers and patrol planes had little difficulty detecting submarines at periscope depth in the calm seas and excellent sound conditions of peacetime maneuvers. Submarine commanders were chastised for being caught at periscope depth and encouraged to make "sound attacks" from 100 feet or more, a tactic which was to prove

totally ineffective under wartime conditions. Night battle practice with submarines was avoided as too dangerous.¹¹⁴

A contrasting example is provided by the experience of the mechanized forces between the wars. Despite severely limited equipment and manpower available for Army maneuvers between the wars, these maneuvers clearly demonstrated the practicability and utility of mechanized forces. Experience in these maneuvers and other training exercises clearly demonstrated the potential of armored forces to carry out independent missions as well as fulfill traditional cavalry missions in a manner superior to horse cavalry.¹¹⁵

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THE BRITISH ARMED FORCES, 1918-1939

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Introduction

The basic problem in judging the effectiveness of Britain's military institutions between the two world wars lies in the catastrophes of 1940 and 1941. It is almost unavoidable that inadequacies so glaringly exposed in those dismal years should influence judgements on the institutions that had evolved military policies in the interwar period. Yet one must temper such judgements with a sense of the limited framework which society and the political atmosphere imposed on Britain's military institutions. Moreover, from our perspective the coming war, World War II, is of consuming interest, but for those who saw policy in the interwar period, as well as for popular opinion, the dominating concern lay in the horrors of the last war.

This last point deserves emphasis. In the 1920s it was difficult to foresee a major war against any of Britain's potential opponents. In

the mid to late 1930s memories of the last war so dominated the thinking of politicians and population alike that rearmament in the face of terrible dangers was tardy, ill-conceived, and in general unrealistically minimized (especially for the army). The initial reaction to victory in 1918 had been relief and pride in British military accomplishments. By the 1920s, however, popular attitudes, particularly in the upper and educated classes, had shifted to a fundamentally pessimistic assessment of "victory." It became commonplace to argue that little separated the lot of the victors from that of the defeated (an assessment not shared by those across the North Sea). Mixed in with a revulsion against the war was a simplistic trust in the efficacy of the League of Nations. Many believed that no "rational" statesman would embark on war in view of the horrors of World War I and that all international conflicts were amenable to negotiation and discussion. In the 1920s, in a world in which most great powers accepted such assumptions and where those that did not (namely Germany and Russia) did not possess the economic or military power to disturb the status quo, the British people and leaders could afford such views without harmful consequences to national security. In the harder world of the 1930s, such views came close to destroying Great Britain and were a major contributing factor to the catastrophes of 1940 and 1941.

Beyond the terrible shadow cast by World War I, one must also recognize that Britain's economic and strategic standing had undergone substantial erosion since the 19th Century's days of "splendid isolation."¹ World War I had, of course, further exacerbated the process of economic decline. Britain had carried much of the economic burden of the war at considerable cost to herself. Moreover, the economic distress and troubles of the 1920s heralded the collapse of the great depression. For

a nation that depended on trade for her economic viability, the world's economic climate in the 1920s and 1930s could not have been worse. The silence of factory closures, long lines of unemployed, and the empty slipways of the Clyde all underlined how much Britain's position had declined. They also helped to center the national attention on the social and domestic issues of the day and distracted even the politicians from the growing dangers on the international scene. As Winston Churchill warned in an article in the Daily Mail in the summer of 1934:

I marvel at the complacency of ministers in the face of the frightful experiences through which we have all so newly passed. I look with wonder upon the thoughtless crowds disporting themselves in the summer sunshine, and upon this unheeding House of Commons, which seems to have no higher function than to cheer a Minister; and all the while, across the North Sea, a terrible process is astir. Germany is arming!²

For the bulk of this period of twenty years Britain's national objectives were the preservation of the political status quo in Europe and the Empire, radical measures of disarmament, and the avoidance of a major war at almost any price. The memories of the Somme and Passchendaele, of course, were major contributors to this last aim, but of growing importance throughout the interwar period was a national obsession with the aerial bombing of cities -- one that predated the appearance of the Luftwaffe.³

It is tempting, of course, to work backwards and judge Britain's armed forces in the 1920s and 1930s by their performance in World War II,

but such an approach would be misleading. In the 1920s the overwhelming concern was with imperial defense, the Soviet Union seemed the most likely potential enemy, and there was even a naval rivalry with the United States! But even after the emergence of more credible potential enemies such as Japan and Germany, the British government was hesitant to give up hopes for disarmament and a general appeasement. When it reluctantly began rearmament in 1935, it intended increased military strength to deter potential enemies rather than as a practical preparation for war. In particular the Royal Navy's expansion was primarily intended to deter Japan, while the Royal Air Force (more specifically Bomber Command) was meant to deter Germany. The Army, precisely because the government did not regard it as having a deterrent role, received the lowest priority in rearmament. Not until February 1939 did Prime Minister Neville Chamberlain finally agree to a minimal commitment of British ground forces to the continent.⁴

One must also note considerable defects in Britain's political leadership throughout the interwar period. After the collapse of the Lloyd George coalition in 1922, few Cabinet ministers and none of the Prime Ministers had a substantial grasp of strategic or military issues. The British ambassador to Berlin in the late 1930s, Neville Henderson, epitomized governmental attitudes that regarded strategic issues as déclassé. Writing to the Foreign Minister, Lord Halifax, in summer 1938 Henderson noted:

Personally I just sit and pray for one thing, namely that Lord Runciman will live up to the role of impartial British liberal statesman. I cannot believe that he will allow himself to be influenced by ancient history

or even arguments about strategic frontiers and economics in preference to high moral principles.⁵

The historian Louis Namier underlines the results of such a Weltanschauung in commenting on the massive published volumes of British diplomatic documents, The Documents on British Foreign Policy:

In the 1250 large pages of the British pre-Munich documents, the question of Europe's political and strategic configuration after Czechoslovakia had been obliterated is nowhere dealt with On the British side a blind wall is raised against the future, at least by those vocal in the documents. All they know is that war must be averted.⁶

With few British politicians possessing either interest or background in strategic affairs, it is not surprising that the British military, especially the Army, found it difficult to persuade ministers of their needs and requirements.⁷

Within this climate and framework the services faced considerable difficulty just in subsisting, much less in preparing for a great conflict. Nevertheless, not all of the faults and weaknesses that appeared in 1940 and 1941 were the result of governmental parsimony or civilian unwillingness to face the hard world of the 1930s. When all is said and done, the services themselves bear considerable blame for the disasters. Not only was their strategic advice often unimaginative and generally gloomier than deserved but they did miss significant opportunities to expand the pace of rearmament (particularly in 1934 and

1935). Moreover, one can also doubt how seriously many serving officers, including senior ones, took the business of preparing for war. As Michael Howard has noted in regard to the interwar army: "the evidence is strong that the army was still as firmly geared to the pace and perspective of regimental soldiering as it had been before 1914; that too many of its members looked on soldiering as an agreeable and honorable occupation rather than a serious profession demanding no less intellectual dedication than that of the doctor, the lawyer or the engineer."⁸

I. Political Effectiveness

For much of this period, the services conspicuously failed to obtain the resources necessary to maintain efficiency and to meet even their routine obligations. As the 1920s wore on, the Chiefs of Staff and individual service leaders repeatedly advised their political masters that their forces were too small, ill trained, and lacking in modern weapons and reserves to meet a sudden crisis, such as fulfilling the terms of the Locarno Treaty or resisting a Soviet attack on Afghanistan.

In the aftermath of the First World War it was natural that the government would drastically reduce its military forces. In the succeeding years of high unemployment and social unrest the British military naturally took a low priority. The annual naval estimates, for example, fell steadily from £157,529,000 in 1919-1920 to a nadir of £50,476,000 in 1932-1933. There was to be no significant increase until 1935-1936. The number of naval personnel on active service had fallen from 280,000 in 1919-1920 to 90,300 in 1934-1935.⁹ Put in another form, the Royal Navy had received 25 percent of total governmental expenditures in 1913; by 1932 it was receiving only 6 percent.¹⁰ As one commentator has observed: "In retrospect the very savage cuts in defense expenditure might be strongly questioned, not only on political and strategical grounds but also on economic ones."¹¹

In the 1920s and early 1930s, the services could not have done much more to halt the slide in financial allocations and the resultant decline in efficiency. Between 1919 and 1932 the Cabinet directive known as the

"Ten Year Rule" (i.e., the Service ministries were advised that major war was not to be anticipated or prepared for for at least ten years) dominated British defense planning and expenditures. Some historians have suggested that this rule merely reflected financial and political realities and did not necessarily inhibit innovation and experiment. The view, however, that it positively harmed the services is surely more persuasive.¹² The protests of the Chiefs of Staff eventually led to the cancellation of the 'Rule' in 1932 but the dangers implicit in such a formula were borne out in the 1930s.

The reluctance of British governments to fund the services in the diplomatic climate of the 1920s or the economic difficulties of 1931 is understandable; what is less explicable is the casual, unhurried approach to rearmament in the mid-1930s and the dogged refusal to recognize the dangers in the late 1930s until the last moment. The result was that British rearmament was belated and not fully suited to the strategic dangers confronting the country. Much of the blame rests squarely on the shoulders of the politicians, but the military also deserves its share of criticism.

The British system for strategic policymaking was as clear and direct a system as one could want. It allowed for direct lines of communications between the services and their civilian masters. The system (with a few adjustments by Churchill) played a major role in the winning of World War II.¹³ Unfortunately, in the pre-war period without the drive that Churchill provided, the system allowed for maximum delay by both civilian and military bureaucracies. The initial effort to begin a rearmament program in the early 1930s is an excellent example. Beginning in November 1933, several of the government's senior civil servants (Sir Robert Vansittart, Sir Maurice Hankey, and Sir Warren

Fisher) formed with the Chiefs of Staff the Defense Requirements Committee.¹⁴ In March 1934 after considerable inter-service wranglings and arguments as well as a general reluctance on the part of the service chiefs to ask for anything more than minimum increases in defense spending, the Committee recommended that over the next five years Britain increase the defense budget by the modest sum of £71 million in order to correct deficiencies.¹⁵ This worked out at less than £15 million per year.

The modest nature of the proposals did not prevent the Cabinet from delaying for over a month before taking up the Committee's recommendations. The government, then, bizarrely referred the report to the Committee on the Disarmament Conference. After considerable infighting involving politicians, the Treasury, and the services, the Cabinet agreed to the amended recommendations at the end of July 1934. The changes reflected the civilian prejudices that marked British defense policy throughout the 1930s. The RAF received more than the DRC had recommended, the Navy kept even, and the Army received a drastic reduction.¹⁶ As Stanley Baldwin suggested, the Cabinet's rationale was that the program would "act as a deterrent to Germany and inspire confidence at home."¹⁷ The latter was probably the major aim. The British government's priorities are clear when one realizes that at the same time it was trimming the DRC program, it was providing £24 million in subsidies for a new Cunard liner and various agricultural sectors of the economy (including £5 million to beet-sugar farmers).¹⁸

The Abyssinian crisis of 1935, Japanese aggression in the Far East, and evidence of massive German rearmament soon made a mockery of the DRC program. By the mid-1930s the Chiefs of Staff were engaging in a battle with the Treasury over proposed increases in defense spending. Neither

Ramsay MacDonald nor Baldwin were willing to take a firm stand; the drift characterizing their regimes led to modest rearmament but not much more.

In late spring 1937 Neville Chamberlain became Prime Minister. As Chancellor of the Exchequer (head of the Treasury) he had already established his opposition to a major rearmament program. In a May 1937 Cabinet meeting, Chamberlain attacked proposed defense expenditures in the following terms:

He could not accept the question at issue as being a purely military matter. Other considerations entered into it. He himself definitely did challenge the policy of their military advisors. The Country was being asked to maintain a larger Navy than had been the case for very many years: a great air force, which was a new arm altogether: and in addition, an Army for use on the Continent, as well as facilities for producing munitions which would be required not only for our forces but also for our Allies.¹⁹

Dominating his colleagues in a fashion no interwar Prime Minister had done since Lloyd George, the new Prime Minister insured that the Treasury viewpoint would dominate the rearmament debate through to the spring of 1939. As a result in 1938 British rearmament barely reached 8 percent of GNP - a rate that Germany had reached in 1935 and one half of the rate at which Germany was expending her national income for military purposes in 1938. Ironically, during the 1935 to 1938 period Britain barely outspent Fascist Italy on military expenditures.²⁰ Even after the disastrous outcome of the Munich conference and the confrontation

over Czechoslovakia, Chamberlain allowed only the most modest increases in British rearmament.²¹

The impact of financial limitations varied from service to service. The Royal Navy and the RAF suffered to a certain extent: the Navy could not build up to a two power standard; the Royal Air Force did not receive funding for its four engine "strategic" bomber force until well into 1939. But it was the Army that suffered most. From the beginning of rearmament through to spring 1939 the Army remained in limbo. Its senior officers knew that in a major European conflict they would have to fight on the Continent, but they were explicitly denied the funding to make even the most minimal preparation for such a contingency.²²

Complicating the underfunding of service requests and prospects for rearmament was the fact that government defense policy in the 1920s and early 1930s had allowed Britain's military-industrial complex to run down dangerously. Of the thirty or more great arms factories that had supplied the Army with its guns, ammunition, tanks, and trucks during World War I, only Vickers Armstrong and the Royal arsenals remained in existence by 1930. Britain lost her lead in armored forces in part because of the lack of production facilities for even experimental models or for undertaking small orders that did not justify expansion of factories or skilled workers. When the Chamberlain government finally removed financial restrictions in spring 1939, the Army had no choice but to convert railway engine workshops and other civil engineering works to military production -- a process that was both lengthy and expensive.²³

The lack of an industrial base would condemn British ground forces for the first years of the war to fight with thoroughly inadequate equipment such as the 2 pound anti-tank gun -- a gun which the Army fully recognized as inadequate for use against a continental opponent.²⁴

The Royal Navy suffered similarly from the decline of the ship building industry. As a consequence of the Washington Naval Treaty of 1922 no new capital ships were constructed for the next fifteen years. This factor hit especially hard at British naval power because the majority of the Royal Navy's battlefleet had been constructed in the period before World War I. Admiral Earl Beatty, Chief of Naval Staff in 1922, warned that it would prove impossible to build rapidly all the vessels due for replacement when the treaty provisions expired. His warning proved prophetic: when naval rearmament began in the mid-1930s, "skilled labor had drifted away. Old plants remained. Designs were out of date ... and the explicit favoring of the Royal Yards had led to the winding up of Navy firms in the private sector ...".²⁵ Consequently when rearmament began the Admiralty could do little more than replace aging vessels and bring its strength up to what the Washington Naval Treaty had authorized in the early 1930s.²⁶

The aircraft industry in the early 1930s was, if possible, in even more desperate straits. For fifteen years it survived on repair and overhaul contracts doled out by the Air Ministry, supplemented by an occasional order for new aircraft. When rearmament began, the work force had dwindled to about 35,000, while production techniques were obsolescent in view of the coming switch to all metal designs. Moreover, production procedures were so complex and rigorous that even a simple biplane took five years to reach the squadrons. The government dealt only with established firms and placed orders for small quantities that barely sufficed to keep the industry alive. Lord Swinton, Air Minister from 1935 to 1938, achieved remarkable improvements, most notably by ordering aircraft directly from the drawing board and by the establishment of the so-called "shadow factory" scheme.²⁷ In its

financial support for a reserve capacity for aircraft production, the Chamberlain government made its most sensible strategic decision of the late 1930s. One suspects, however, that this support was more a result of the scheme's relatively low cost, than of strategic foresight.

On the question of manpower, the services generally found sufficient manpower to fill the ranks, but just barely and largely as a result of their miniscule size. The Royal Navy and the RAF were elite services which met their manpower requirements by their innate appeal, though the quality of recruits was not always satisfactory.²⁸ The Army, however, had a more difficult time. It suffered periodic recruiting crises despite high unemployment (never less than one million throughout the interwar period).²⁹ British governments were reluctant to impose any form of compulsion and, contrary to their critics, the generals were not eager to acquire a mass, conscript army to send once again to France and Flanders.³⁰

Perhaps the greatest damage done to the British military in the interwar period lay in the inadequate caliber of officer recruitment. In these pacifistic and anti-militarist decades the military were not an attractive career option for the bright and ambitious. Compounding national prejudices was the fact that promotions in the interwar officer corps came with appalling slowness. In the artillery, a branch notoriously slow in promotion, officers would remain a subaltern for nearly 14 years, serve another 6 years as captain, and as many as 9 years as a major. But even officers in the Irish Guards could look forward to nearly 20 years of service before promotion to major.³¹ In the most handicapped arms officers reached senior regimental rank at an age that effectively barred them from further promotion. The deadening impact on the officer corps hardly needs emphasis; the unattractiveness of such a

system to bright and able young men is obvious. As one Colonel candidly admitted the most critical cause for the shortage of suitable officer candidates lay in the public perception that "the profession of officer in the Army does not call for high qualities, and does not recognize ability to anything like the extent as other professions No one," he added, "would attempt to make officers into bookworms, and any such attempt would certainly not succeed, but you cannot do away with the idea that the fool of the family is good enough for the Army."³²

II. Strategic Effectiveness

At least in the 1920s the international climate allowed the British to regulate means and ends reasonably well. They tacitly recognized their reduced standing in the world by concentrating dwindling military resources on imperial defense, while upholding the post-1918 treaties in Western Europe and the Near East through diplomacy. At the risk of oversimplification one could argue that the services' strategic objectives were consonant with national objectives at least through the mid-1930s: the Royal Navy sought to deter Japan and preserve the Far Eastern Empire; the Army provided garrisons for India and the Middle East; and the RAF played a key role in home defense and imperial policing.

Even with the wisdom of hindsight, it is not easy to see how the British could have dealt in military terms with the emergence of three major potential enemies in widely separated theaters. As the Chiefs of Staff starkly stated the strategic dangers in the spring of 1938: "Without overlooking the assistance we should hope to obtain from France and possibly other allies, we cannot foresee the time when our defense forces will be strong enough to safeguard our territory, trade, and vital interests against Germany, Italy, and Japan simultaneously."³³ The steadfast opposition of the Treasury and particularly the Prime Minister to anything other than a "business as usual" approach to rearmament brought the Chiefs close to despair. In late 1937 they commented that "we cannot, therefore exaggerate the importance, from the point of view of Imperial defense, of any political or international action that can be

taken to reduce the number of our own potential enemies ...³⁴ Lord Chatfield, Chief of Naval Staff, admitted to his colleagues in early 1938 that he found Chamberlain's swing back to financial stringency inexplicable and indefensible given the threatening international situation.³⁵ As the servant of a democratic government, he had no choice but to obey or resign. He obeyed.

And yet one comes away from the study of British military advice in the late 1930s with a sense that the government's military advisers painted an overly dark picture on one hand by minimizing the real as well as latent strengths of Britain and her Allies. On the other hand, they maximized the potential of their possible opponents in their estimates. It was hardly realistic to expect Japan to embark on a massive attack on the South East Asian Colonial Empires after her invasion of China. Moreover, one can only characterize British estimates of Italian military potential as bizarre. Even in the case of Germany the Chiefs of Staff tended to paint a too gloomy picture of German economic, air, and ground strengths.³⁶ The combination of the military's "worst case" approach in weighing the strategic balance and the government's "best case" analysis of German and Italian intentions proved deadly. And in one of the few cases where the Chamberlain government got a strategic issue correct, the vulnerability of Italy in 1939, the Chiefs of Staff talked the politicians out of sensible strategic action.³⁷

In the circumstances confronting Britain in the 1930s, a reduction in worldwide commitments would have been prudent. But imperial powers rarely give ground voluntarily and in this case historical tradition and the upbringing of the ruling classes made it difficult to contemplate reducing military commitments in the Far East, India, and the Middle East to concentrate on the German threat to the British Isles. It was clear,

for example, that Hong Kong could not be held against a determined Japanese attack. More seriously, the ability to dispatch a sizeable fleet in time to hold Singapore became increasingly doubtful in the 1930s.

Taking a global view of the Army's dispositions in relation to the German threat in the 1930s, the garrisons of India and Palestine were far too large. Senior soldiers such as Field Marshal Sir Cyril Deverell (CIGS 1936-1937), Field Marshal Lord Ironside (CIGS 1939-1940), and Field Marshal Lord Wavell tended to think in terms of the Army's traditional role in defending India and the Middle East. They also shared the public's revulsion at the possibility of another continental war of attrition. Consequently, few senior soldiers in the 1930s actively urged the need to prepare for a continental war, as Sir Henry Wilson and others had done before 1914. In fact, the Army's small size and complete unreadiness for a major war convinced generals like Ironside and Burnett-Stuart that the government should renounce a continental commitment and concentrate British efforts on home and imperial defense.³⁸ This reluctance to face the continental issue appeared even in 1938 when most senior Army officers had begun to feel that a continental commitment would be unavoidable in a European war. How else to explain the complete absence of any discussion by the Chiefs of Staff of the strategic consequences of a peaceful surrender of the Czech Army to Hitler.³⁹

Of all the major powers, the British had developed the most clear-cut system for discussion of strategic issues. In particular, the CID (Committee of Imperial Defense), established in 1902, allowed for a clear channel of communications between ministers, service chiefs, and other interested parties, such as Dominion representatives. The creation of the Chiefs of Staff Committee in 1922 provided the services with the bureaucratic means to examine the strategic issues facing Britain.⁴⁰

This system allowed a thorough airing of major questions and as most subjects were thoroughly studied and recorded, there could be few complaints that service chiefs were unable to communicate their ideas to responsible ministers. Indeed, the Chiefs of Staff were empowered to raise strategic issues that they considered urgent without awaiting a Cabinet initiative. Unfortunately, the system could clog itself into inertia with a flood of studies and counter studies. As the Foreign Office's Permanent Secretary warned in 1938:

The other point which I wish to make is that relating to procedure It seems clear that all the machinery here contemplated will involve the maximum delay and accumulation of papers. We surely do not want any more written 'European Appreciations.' We have been snowed under with papers from the Committee of Imperial Defense for years. Moreover, this procedure by stages implies a certain leisureliness which is not what we want at the present moment.⁴¹

In the aftermath of the Munich Conference, Chamberlain, opposed to any substantial increase in rearmament, used the bureaucratic system to study the services' proposals to death.⁴² Only after the German occupation of Prague in March 1939, did his government substantively increase the tempo of rearmament -- six months after the September 1938 crisis had shown glaring deficiencies in Britain's defenses.

The harsh fact remains that thorough analysis could not offset over-commitment. Even in the 1920s service chiefs such as General Sir George Milne complained that the Army was fully stretched to meet routine

commitments and could not cope with an emergency. In far worse circumstances in the mid-1930s, the Chiefs of Staff repeatedly pointed out that there were no military solutions to the problems being put to them. They urged the government to appease at least one of Britain's potential enemies.⁴³

However, the services' ability to persuade ministers that their requirements were necessary was seriously undermined by the internecine conflicts that often raged between them. The two senior services struggled to eliminate the RAF. In the 1920s, the RAF campaigned to supersede the Army in the role of imperial policing; and the RAF and Navy struggled into the late 1930s for control of Fleet Air Arm. These quarrels are merely the best known of numerous inter-service disagreements. This disunity was well-known to politicians who fully exploited it to their advantage. On some important issues the Treasury or Cabinet intervened to impose decisions on strategic priorities which owed more to political and financial than to military considerations. Whether these political interventions were on the whole beneficial or not remains a matter of debate.⁴⁴

One can only deal speculatively with the issues of the comparative effectiveness of the services as lobbyists because of the absence of scholarly monographs, though Paul Kennedy has laid the foundations in a valuable survey.⁴⁵ It seems likely that the Royal Navy as the senior, most prestigious, and popular service with a strong Parliamentary and private lobby was the most effective in influencing the political leadership;⁴⁶ the RAF followed behind with its image of a modern, technical, and defensive Service; the Army, embarrassed by popular reaction to the First World War and saddled with the cartoonist David Low's deadly caricature of Colonel Blimp, brought up the rear

As suggested earlier, the size and structure of the British armed forces were somewhat arbitrarily determined after the First World War. The Regular Army, composed of some 200,000 troops, reverted to its pre-1914 role of providing for home defence and imperial garrisons under the Cardwell system. This system, established in the 1870s, ideally required an equal number of cavalry and infantry battalions at home and overseas so that the personnel system could carry out regular exchanges on a roster. Despite frequent imbalances between the number of units serving at home and overseas the system worked fairly well and persisted until the Second World War. Its great drawback lay in a rigidity that inhibited significant redistribution of units or the expansion of new arms, such as the Royal Tank Corps. Doubtless more progressive military leaders than Britain possessed between the wars would have revised or even scrapped the Cardwell system. The excuse of interwar CIGSs (Chief of the Imperial General Staff) was that the bitterness and disorganization that would have resulted was an unacceptable price to pay for reorganization. However, had it not been for the Cardwell system the Regular Army at home could have raised a much larger field force than five infantry divisions and devoted more resources to armored and mechanized forces.⁴⁷

The RAF and the Royal Navy rapidly expanded after 1935 mainly with a view to deterring Germany and Japan respectively. The urgent political need for 'window dressing' to counter Hitler's claims that he had achieved air parity led to a preoccupation with numbers at the expense of quality, technical innovation, and adequate reserves. A recent study⁴⁸ emphasizes the resultant gulf between the RAF as a diplomatic counter and the operational goals of the Air Staff. This should not suggest that Bomber Command's ineffectiveness against Germany in 1939-1941 was wholly

due to political interference, but professional and political needs certainly clashed.

As Admiral Sir Herbert Richmond remarked, British strategic policy in the Far East rested on "the illusion that a Two-Hemisphere Empire can be defended by a One-Hemisphere Navy." Moreover, the Admiralty's attempt to deter Japan represented "a grand exercise in futility" because Japanese naval planning paid scant attention to Great Britain before 1940.⁴⁹ Faced with the increasing likelihood of war with Germany and perhaps Italy before Japan intervened, the Royal Navy found it increasingly dubious whether it could spare the fleet units required for the defense of Singapore.⁵⁰ In this respect the Royal Navy's force size and structure fell short of its strategic goals. At least, on the outbreak of war the Royal Navy did enjoy a massive superiority in most types of warships over its immediate enemy, Germany.⁵¹ However, in its preparation to meet the submarine threat to Britain's trade routes, the Royal Navy did a most inadequate job.⁵² As one retired naval officer warned in 1939:

The great amount of battleship and heavy cruiser tonnage that has been laid down since rearmament started has been much in excess of our requirements in European waters and was, therefore, clearly designed for Far Eastern use At the same time we have been left seriously short of small ships for anti-submarine and anti-aircraft work in home waters. The Admiralty, therefore, seem to have been committing the grave error of preparing for ambitious operations in a far distant theater without first taking steps to ensure the safety

of the home base.⁵³

In terms of long range planning, Britain benefited considerably from her experiences in the last war. By the late 1930s, the CID and its sub-committees had compiled comprehensive blueprints for conversion of industry and manpower to military needs and the acquisition and stock-piling of vital raw materials. These preparations played a major role in the speed with which British industry caught up and surpassed German production for such critical weapons systems as fighter aircraft early in the war.⁵⁴ The establishment of "shadow factories" for aircraft construction, of course, represented a significant step towards expansion of the air industry. Pre-World War II British governments, given their strategic Weltanschauung, were, however, most unwilling to prepare industrial support for the Army. In the area of fuel, pre-war preparation did enable British industry to refine large quantities of high octane aviation fuel in Britain, so that stocks actually rose during the Battle of Britain.⁵⁵

In general, pre-war governments were reluctant to interfere with profits or to impose compulsory measures on private firms before the outbreak of war. It was symptomatic of governmental attitudes that it refused to create a Ministry of Supply until July 1939. On a wider view the government was only too well aware of Britain's financial brittleness and the vulnerability of her imported raw materials in a long war. Economically, any major war would have Britain as a loser whatever the military outcome.⁵⁶ What was disastrous was the government's unwillingness to see the probability of conflict until after Prague; even then the Treasury waged a stubborn rearguard effort to hold down defense spending.⁵⁷ Some serving officers cynically described the Treasury's

effort as one that aimed to save sufficient capital to pay for reparations after Britain had lost the next war.

Given her strategic and economic difficulties, Britain depended on others as well as herself to contain the threats to her possessions. She was not noticeably successful in this endeavor. British policy failed to secure an integrated system of imperial defense with the Dominions and even in the late 1930s could not assume that they would automatically intervene, if Britain became involved in European war. For varying reasons, her armed forces did not succeed in integrating their strategic objectives with those of Canada, Australia, or South Africa. Moreover, in 1937 the Chamberlain government attempted to win the political good will of the Southern Irish Republic (still a dominion) by surrendering British treaty rights to the use of southern Irish ports in war. It did not in fact persuade de Valera's government to improve relations; when war came the Irish refused to allow British destroyers to use those ports -- with a disastrous impact on the war against submarines. It is worth noting that the Royal Navy raised no significant objections to the surrender of the ports despite the threatening international atmosphere of 1937.⁵⁸

More importantly, relations between Britain and her most likely continental ally, France, remained distinctly cool until summer 1939. This coolness largely reflected the British government's unwillingness to give any military commitment to France, lest this encourage French intransigence towards Germany and undermine British hopes of appeasing Hitler. The Chiefs of Staff fully acceded to such an approach and went so far as to argue in January 1938 against the extension of the English-Channel Islands undersea cable to France because "the consequent effect on any political advances towards a better understanding with

Germany would be serious."⁵⁹ At the beginning of the next month, they argued against any staff conversations with the French because "the very term 'staff conversations' has a sinister purport"⁶⁰ The general refusal of both government and military to countenance staff talks with the French resulted both from fear that such talks would reveal the paucity of the British contribution to the Alliance as well as from a deep fear of being drawn into a continental conflict. In 1911 Foch supposedly told Sir Henry Wilson that "one British Tommy" would suffice (as a guarantee of a British presence in France), but after 1935 even two under-equipped British divisions would not have impressed Foch's successors. Soon after Munich, the French placed strong pressure on the Chamberlain government for a British effort du sang in the form of conscription⁶¹ -- an ironic result of Britain's policy of surrendering Czechoslovakia without considering Czech ground strength.

Belatedly, however, in the spring and summer of 1939 British and French staffs of all three services worked frenetically to make up for lost time. Plans were made for the dispatch of the field force to France and its concentration on a sector of the front. The British also provided for an Advanced Air Striking Force to operate from French airfields. In contrast to 1914 the two Allies agreed on an integrated command structure and a Supreme War Council. Staff talks also covered contingency plans for other potential war theaters such as North Africa and the Levant. Unfortunately as the "Phony War" period and the events of May 1940 showed, this Anglo-French accord remained superficial and the two nation's strategic objectives, though overlapping at some points, were far from identical.⁶²

Generally it is hard to evaluate how well the British placed their strategic strengths against the weaknesses of their political adversaries

over the whole interwar period. Since there was no war, it is difficult to judge effectiveness; but in 1939 one can judge British policy by the results. Anglo-French strategic analysts in 1939 quite correctly judged that Germany possessed considerable economic vulnerabilities and that the Western Powers should aim for the "maximum interruption of supplies of ... goods in all cases where practicable."⁶³ The problem was that such a strategic policy required active measures as well as passive measures, and the British Chiefs of Staff talked the Allied governments out of taking serious measures to stop the Swedish ore trade through the Norwegian leads and from including Italy within the blockade measures taken against Germany.⁶⁴ The result, as a strategic survey of April 1940 summed up, was that:

Hence, the Reich appears to have suffered relatively little wear and tear during the first six months of war, and that mainly as a result of the Allied blockade. . . . Meanwhile, it has profited from the interval to perfect the degree of equipment of its land and air forces, to increase the officer strength and complete the training of its troops, and to add further divisions to those already in the field.⁶⁵

Thanks to the strategic inaction of the Western Powers, the Germans had managed to maximize fully their military potential -- with catastrophic results for everyone, including themselves in the long run. One might conclude this section ironically by suggesting that in the 1930s and in the early part of the Second World War the British contrived to place their weaknesses against enemy strength.

III. Operational Effectiveness

The British possess a long and proud military history. Generally, they have been able and were able during this period to develop an officer corps that was loyal, dedicated, and honorable -- especially considering the terms of employment and the prospects of promotion. Nevertheless, each service faced difficulties that hindered the establishment of effective military institutions. The Regimental system of the British Army was an efficacious means to socialize officers and establish the loyalties and trust on which military organizations depend. However, the system also encouraged a parochialism and "we-they" syndrome that got in the way of inter-arms cooperation. On the other hand, the dogmatism of Trenchard's "strategic" bombing doctrine seriously hindered the Air Staff's willingness to cooperate with its sister services.

The result of service parochialism was a general lack of inter-service and inter-arms cooperation that spilled over into World War II with disastrous results.⁶⁶ The two senior services had long, independent traditions, interspersed with fitful and half-hearted cooperation in wartime. Unfortunately, institutions like the CID and the newly-created Imperial Defense College (1927) had only superficial success in breaking down parochial loyalties among senior officers. As a newly independent service (1918), the RAF had to fight for its existence in the 1920s and not surprisingly thereafter displayed a marked reluctance to cooperate with either Army or Navy. Control of Fleet Air Arm bedeviled relations with the latter, while air support to ground forces was limited and

grudging. After a 1939 combined exercise, Wavell despairingly noted that the RAF had obviously given no thought to support ground operations, and thus its pilots were incapable of performing that mission.⁶⁷ Indeed, the Air Staff on occasion reprimanded RAF officers who showed too much interest in cooperation with the Army.⁶⁸

On the air force side there was little scope for inter-arms cooperation in peacetime. In the RAF, some officers in Bomber Command regarded Fighter and Coastal Commands as rivals, while the Air Staff regarded them as poor relations detracting from the RAF's real mission of "strategic" bombing. At least within Fighter Command an excellent team spirit had developed by 1940 between the fighter squadrons, the command centers, and the radar sites.⁶⁹

In the Army the cherished independence and individual traditions of regiments and arms fostered a localised pride and high morale, but did not assist inter-arms cooperation in peace or war. A vivid example of the problems of incorporating a new arm in the British system is that of the Royal Tank Regiment. Tanks, armored cars, and mechanized transport were clearly on the way in and horsed cavalry on the way out in the interwar period. Nevertheless, the War Office and General Staff refused to create more tank battalions (only four existed in 1932) or to abolish cavalry regiments. As the Secretary of State for War, Alfred Duff Cooper, told the House of Commons in 1935, asking the cavalry to give up horses for trucks "was like asking a great musical performer to throw away his violin and devote himself in the future to the gramophone."⁷⁰ The Army gradually converted the cavalry regiments to armored cars in the late 1930s but it refused to use the Royal Tank Regiment as the basis on which to create armored brigades and divisions. One must also note that there appears to have been a consistent policy from the interwar period

through to the end of the Second World War of refusing to employ general officers with experience in armor to command armored formations.⁷¹ Of course, other factors, such as lack of resources and production capacity also inhibited the development of armored forces in the 1930s, but inter-arms rivalry played the major role in the absence of a single armored division ready for war in Europe in 1939.⁷²

On a wider view, there was a conspicuous lack of drive toward inter-arm and inter-service cooperation in the 1930s. The resulting ill effects became all too apparent in Norway and the Western Desert. Even in the area of combined operations (the use of air, sea, and ground to make a landing on enemy held territory) where the British excelled in World War II, the record is less than impressive. In early 1938 the head of the Naval War College at Greenwich suggested that Britain develop a significant amphibious capability -- a capability that certainly fit in with the government's strategy of "limited liability."⁷³ The Deputy CIGS replied that the Army had no units to spare for a special amphibious role and that training in amphibious techniques was more than adequate.⁷⁴ His colleague on the Air Staff, possessing a deep knowledge of military history, suggested that the landings at Gallipoli indicated that nothing was wrong with British amphibious techniques except for a few minor breakdowns in communications.⁷⁵ Admiral Andrew Cunningham staked out the Navy's attitude in November of that year when he stated that the Royal Navy "at the present time could not visualize any particular combined operation taking place and they were, therefore, not prepared to devote any considerable sum of money to equipment for combined training."⁷⁶

Among the criteria by which one can judge military organizations and their effectiveness is their flexibility in adapting to changing situations. The Army was in some ways the most flexible and the most

inflexible of the services in both physical and intellectual senses. On one hand, a serving officer, J.F.C. Fuller, did make major intellectual contributions to the development of armored forces in the 1920s. Moreover, in a time of deep financial stringency, the British Army carried out the essential tactical and operational tests of mechanized forces in maneuvers that revealed the problems as well as the potential of armored, mechanized forces. The Germans watched these tests closely and circulated reports of the British experiments widely throughout their Army.⁷⁷ Not surprisingly, General Oswald Lutz, the German armor pioneer, "with some pride" told Sir John Dill during the latter's visit to Germany in 1935 "that the German tank corps had been modelled on the British."⁷⁸ Unfortunately on the other hand, the British squandered that experience in the 1930s and had to learn the harsh lessons of armored warfare on the battlefields of North Africa.

As regards the RAF, many within the Air Staff and Bomber Command were probably too rigid in their commitment to "strategic" bombing as the decisive element in a future war. This resulted not only in a marked unwillingness to see the wider issues involved in airpower but in a fixed belief that air warfare alone would win the next war. A paper written by the Air Staff in 1924 suggested that the air forces employed in attacking an enemy nation:

Can either bomb military objectives in populated areas from the beginning of the war, with the objective of obtaining a decision by moral[e] effect which such attacks will produce, and by the serious dislocation of the normal life of the country, or, alternatively, they can be used in the first instance to attack enemy

aerodromes with a view to gaining some measure of air superiority, and when this has been gained, can be changed over to the direct attack on the nation. The latter alternative is the method which the lessons of military history seem to recommend, but the Air Staff are convinced that the former is the correct one.⁷⁹

The issue here is not whether the Air Staff got the future conduct of air war right or wrong in the interwar period. It is rather the single-minded persistence of such attitudes in Bomber Command through to the Nuremburg raid of March 1944, and the resulting marked reluctance to take heed of unfavorable intelligence or to adapt to other types of operations.⁸⁰ In fairness to the RAF, however, one must also note the number of extraordinary airmen who came out of the interwar air force (men like John Slessor, Keith Park, Arthur Tedder, and of course, Hugh Dowding). These airmen showed enormous adaptability to the conditions of war and in developing operational and tactical concepts to master real world difficulties. Moreover, whatever the ideological preconceptions of Trenchard in favor of "strategic" bombing, one must also note that most of these younger, flexible officers were his "boys."

British military institutions during the interwar period had an ambivalent attitude toward the introduction of technology into operational conceptions. The RAF may have had the best and worst record on this score. On one hand, Lord Dowding's contribution to the inclusion of technology in the establishment of an air defense system in the 1930s is one of the extraordinary successes of the interwar period. He provided critical support for the development of radar as well as the single-seater fighter, as the head of the RAF's research establishment. Then as

the commander of Fighter Command, he waged a lonely struggle with the Air Staff to build an integrated air defense system.⁸¹ Finally, he conducted and won the Battle of Britain with the force structure and operational concepts for which he was largely responsible -- surely as great a conceptual triumph as the creation of the German panzer force.

On the other hand, even though "strategic" bombing lay at the heart of its operational concepts, the RAF did surprisingly little to seek technological aids to support such an effort. It did virtually nothing to solve the intractable problems of navigation, night bombing accuracy, marking techniques, etc. When asked in the late 1920s how trained aircrews would find their targets, the future Lord Tedder replied, "You tell me!"⁸² Regrettably, most RAF commanders did not face up to this problem until 1941 and then only after analysis of mission photography suggested that Bomber Command was mostly killing cows.⁸³

The Royal Navy enthusiastically (in fact one could say almost too enthusiastically) adapted Asdic (Sonar) as the solution to the U-boat problem. Developed at the end of World War I, Asdic did in fact allow escort vessels to detect and track submarines. Unfortunately, the full complexities of not only identifying but also attacking successfully the enemy below did not become clear until one was actively involved in wartime operational conditions.⁸⁴ It is clear that the Navy eagerly grasped Asdic technology as its best hope to defeat the submarine threat, but overconfidence in Asdic's potential and in the Navy's tactics resulted in an underestimation of the threat. An Admiralty paper of the late 1930s claimed that the techniques of anti-submarine warfare had reached the point where Britain could "face the future with confidence . . . ," and where "it can be stated that in future warfare submarines will have to face a form of defense which to a large extent [has] robbed them of their

chief advantage, i.e., their invisibility."⁸⁵

On the role of airpower and its technological and operational impact on naval warfare, the Royal Navy's record was less satisfactory. This partially resulted from the fact that it did not finally gain full control of even Fleet Air Arm from the RAF's tenacious hold until 1937. As a result, the capabilities of British naval aircraft fell considerably behind those of the Japanese and American navies. Nevertheless, the British naval air attack on the Italian Fleet lying in Taranto in November 1940 does suggest an imaginative and innovative use of available technology.

Of the three services, the Army's record was the poorest in adapting modern technology to the battlefield. British tank development in the 1930s lagged behind that of most other nations. The financial stringencies offer a partial explanation, but the Army was not all that interested in the issue. In addition, the development of technological support for target location and direction of artillery was less than satisfactory.⁸⁶

In general, Britain seriously neglected the support and auxiliary services before 1939. In the Army, the existing Territorial Army units were inadequate to man Britain's anti-aircraft defenses; supply and construction services for the field force had many deficiencies; and the logistical infra-structure for supporting an Army in extended operations around the world barely existed. The Royal Navy was in better shape, given its permanent bases and logistical support structure across the Empire. It was certainly not, however, prepared to support the fleet in extended operations in the Far East which after all was a major cornerstone of British strategy throughout the interwar period. Finally, the RAF was not prepared for world wide operations or even for the extensive

logistical support that a major "strategic" bombing effort would require. Even in intelligence, the British were underfunded and handicapped through to the beginning of the war.⁸⁷ Nevertheless, the British did think clearly about many of their future logistics problems before the outbreak of war. By 1942, they were supporting a major ground war in the Far East, a massive ground, sea, and air battle in the Mediterranean (both around the Cape of Good Hope), and laying the ground for a massive air assault on Germany's homeland. Not only was the logistical support outstanding but the success of intelligence (and not just "Ultra") was of enormous importance to the Anglo-American effort. The British thus avoided repeating the most serious mistakes of the previous war.

The strategic objectives likely to be assigned to the services in wartime were so uncertain in the 1930s that it is hardly surprising that their operational concepts proved ineffective or inapplicable. As one prescient observer noted in 1936:

Here is of course the salient difference between us and Germany that they know what Army they will use and, broadly, how they will use it and can thus, prepare ... in peace for such an event In contrast we do not even know yet what Army we are to contemplate for purposes of supply preparation between now and April 1939.⁸⁸

As a result, the Army was equipped for imperial operations in the late Thirties and prepared neither intellectually nor in terms of its table of organization to meet the German Army on the continent. Nevertheless, in February 1939 Chamberlain reversed course and the Army found itself in

September of that year plunked down in a defensive role on the Franco-Belgian frontier under a French command structure with which it had no dealings until March 1939. Bomber Command's initial concepts of accurate "strategic" bombing by daylight immediately proved impractical and it had to evolve new operational concepts by trial and error. Fighter Command's operational concepts for home defense were flawed, but its early warning system did give it great advantage against an attacker who could not remain long over the target areas and who switched from one target profile to another. As in 1914 the Royal Navy soon destroyed or blockaded Germany's surface ships but the enemy's submarine campaign severely stretched its operational concepts. Moreover, it proved impossible, as the Chiefs of Staff suggested in the late 1930s, to maintain or even send a great fleet to the Far East at the same time the Royal Navy was committed to the Mediterranean and to the North Atlantic struggle against the Germans. The dispatch and destruction of the Repulse and the Prince of Wales underline this point. In terms of the submarine campaign in the North Atlantic, it is not reasonable to expect that the Admiralty could have predicted that Germany would control the coasts and bases of Europe from the Bay of Biscay to the North Cape.

As we have seen earlier in this essay, Britain's foreign and defense policies had almost completely surrendered the initiative to Germany by 1939. Only at sea was the Royal Navy able at once to go over to the offensive against a much weaker opponent. But even here the Germans determined when and where the fleets would meet and as their Norwegian venture showed this gave them an important advantage. The RAF had placed much reliance upon Bomber Command as an offensive instrument against military targets within Germany, but the flaws in the operational concept (including target location and bombing accuracy) eventually

became apparent.

Only when the enemy became over-extended or took undue risks, did opportunities occur to pit operational strengths against enemy weaknesses: a minor example might be the air battles over Dunkirk and a major example was obviously Fighter Command's victory over the Luftwaffe in summer 1940. It can scarcely be claimed, however, that these successes were the result of pre-war doctrine. There were several notable successes that directly resulted from pre-war operational concepts and training. The attack on the German destroyers in Narvik early in the Norwegian campaign and the handling of the Mediterranean fleet in summer and fall 1940 against the Italians indicated that the Royal Navy's operational training and concepts allowed the British to place their strengths against enemy weaknesses. The most interesting case is that of the British victory over the Italians in the desert at the end of 1940. That triumph resulted from the pre-war armored capability developed in Egypt by Percy Hobart. His operational conception of a hard hitting, rapid exploitation armored force was not all that different from that developed by the Germans at the end of the 1930s. The problem was that the British Army in general was unwilling to accept such an approach. By fall 1939 Hobart was on his way home from Egypt in disgrace. The division that he trained, of course, performed in spectacular fashion against the Italians. But the attrition of combat steadily eroded its capabilities, while some of its best commanders such as Brigadier Caunter, largely responsible for the initial victories, were shuffled off to backwater assignments in India. Their replacements from England had no conception of armored warfare. Consequently, one of the saddest stories of the war is the gradual erosion of the Army's operational conceptions and capabilities in the desert, so that by May 1942 its defensive approach

was not all that different from that which the Italians had possessed in November 1940. The performance of British armored forces in the first attacks against the Italians does suggest what the British might have achieved with a more serious effort. It certainly indicates that the lack of resources in the 1930s is not the only explanation for operational and tactical weaknesses.

IV. Tactical Effectiveness

One truism with which historians love to berate military institutions is the argument that the Colonel Blimps consistently prepare for the last war. This is not the case with British military institutions in the interwar period. In fact, one could argue that the British would have performed far better on the battlefields of World War II had they ruthlessly prepared to fight the last war. It is worth, therefore, asking what kind of war the British military services were fighting in 1918 and how they responded to the tactical and operational problems that they faced. By November 1918, after the hard defeats occasioned by Ludendorff's "Michael" offensive, the British Army had essentially copied the German tactical conception of defense in depth. As the offensives launched in 1918 (beginning with the August 8th attack and crowned by the breakthrough of the Hindenburg line) indicate, British tactical conceptions on the attack were not far behind those of the Germans in exploitation, speed, flexibility, the coordination of arms, and particularly in the use of tanks. It is worth underlining the fact that the German panzer victories of 1939-1941 rested almost entirely on the exploitation doctrine of 1918 German infantry tactics and their gradual extension throughout their Army in the interwar period.⁸⁹ In the air in 1918, the RAF fought and won the battle to win general air superiority over the Western Front. Its performance rested not only on the skill of its pilots and the technological capabilities of its aircraft, but also on the massive outpouring of British industry. Moreover, the RAF had

developed tactical capabilities that allowed it to render significant contribution to the ground battle.⁹⁰ In the naval war by summer 1918, whatever its initial reluctance might have been to introduce the convoy system, the Royal Navy had fully mastered the German U-boat threat. Through the use of extensive convoys, intelligence information gained by the decodes of U-boat traffic,⁹¹ and the extensive use of aircraft, including some equipped with searchlights for night operations over convoys in home waters,⁹² the British had devised a tactical and operational system that had robbed the U-boat of its early war successes. In all three areas, then, the tactical problems that the British had, for the most part, successfully addressed by 1918 were precisely the same tactical problems (admittedly in slightly altered form) that they would face at the outbreak of the Second World War. An examination of the tactical developments in the interwar period, unfortunately, suggests that the British did anything but build on the lessons of the last war. In fact, the whole sorry story of the interwar period suggests that British military institutions, like British society in general, made every effort to escape the realities of the last war and to forget the hard lessons of that conflict. The story of the Brigadier who exclaimed at the end of the war that at last "now we can get back to the real business of soldiering" may be apocryphal, but it surely represents a mentality all too prevalent.

For the Royal Navy, World War I had been anything but successful. For an officer corps brought up on the triumphs of Nelson and Howe, Jutland, even though a strategic victory, had been a considerable operational and tactical disappointment (especially considering the Royal Navy's expectations). And in the interwar period it was to Jutland, and not to the long hard defense of the trade routes against submarines in

the 1917-1918 period, that the Royal Navy looked. The emphasis on flexibility, initiative, and aggressive battle leadership between the wars went far towards correcting the deficiencies that had appeared at Jutland. The training and tactical effectiveness of fleet units was high: certainly the performance of the Royal Navy's destroyers at Narvik, victory over Italian fleet units in the battles of Calabria and Cape Matapan, and the sinking of the Italian battleships at Taranto suggests a higher standard in the Navy in 1939-1940 than was the case with the other services. Certainly, the leadership of admirals like Cunningham, Mountbatten, and Vian was very high.

There were, however, serious problems. The conflict with the RAF exacerbated the underestimation of the menace of land based air to fleet units. The First Lord of the Admiralty, in fact, introduced the 1937 naval estimates by arguing that anti-aircraft guns had made the fleet the most costly target enemy aircraft could select.⁹³ The RAF's stranglehold over the Fleet Air Arm through 1937 substantially retarded the development of naval airpower. The raid on Taranto indicates that in the operational and tactical uses of naval air power, the British were not far behind the Japanese and American navies. The equipment used, however, the Swordfish bi-plane, underlines how deeply inter-service squabbles had retarded the capabilities of British naval airpower.

It was in its preparation to meet the submarine threat that the Royal Navy is most open to criticism. There were, of course, mitigating circumstances. It was difficult to estimate how effective Asdic would be in mastering the submarine. And, no one could have foreseen that Germany's submarine force would utilize bases ranging from southern France to the North Cape. Moreover, the squabbles between the RAF and the Navy impinged on the development of effective anti-submarine tactics.

The RAF demanded control of all land based air for itself; however, its love affair with "strategic" bombing, prevented it from devoting resources to the air defense of convoys against submarine attack. Not until 1936 did the RAF establish Coastal Command as an independent force, and that command remained a poor relation within the RAF until well into World War II.⁹⁴ This factor clearly affected the vulnerability of Britain's trade routes, for it is worth underlining that by the end of World War I not only the importance but also the tactics of air support for the defense of convoys were clear. As the Air Historical Branch official historian notes:

The conclusion of the Naval Staff in 1918 on the correct usage of air escort was that 'a single escorting machine should keep close to the convoy as, for for fear of being betrayed by the track of their torpedoes, the U-boat commanders refrain from attack on convoys with aerial escort.' The ideal was that a convoy should be escorted by at least two aircraft, one keeping close and one cruising wide to prevent a submarine on the surface from getting in a position to attack. The rear of the convoy should not be omitted, for a submarine may be following on the chance of getting in an attack after dark.⁹⁵

But when all is said and done, the Royal Navy did underestimate the threat. The result led to too few resources and a slackness in tactical preparations. Most tests of anti-submarine tactics between the war took place in daytime, during periods of good weather, in limited locations,

and for only short periods of time.⁹⁶ Moreover, naval exercises dealt almost exclusively with the protection of a high speed battlefleet and not with the problems involved in protecting slow moving convoys.⁹⁷ Some pre-war optimism on the U-boat threat resulted from the mistaken belief that German submarines would attack while submerged. A close look at emerging U-boat tactics at the end of World War I would have indicated that the Germans would make coordinated night-time surface attacks.⁹⁸ Finally, the Admiralty compounded tactical weaknesses by basing its estimate of escort requirements on the size of enemy submarine fleets rather than on the number of escort vessels needed to protect British shipping.⁹⁹

On the whole, the Royal Navy did the best job of the three services in preparing its tactical approach for war. Admittedly, it underestimated the aircraft and submarine threat, but then so did virtually every other Navy. It did provide its officer corps with a sense of flexibility, drive, risk taking, and adaptability. And those qualities, particularly the latter one of adaptability, enabled it to play the crucial role in winning the Battle of the Atlantic.

The RAF's performance in the interwar years was less satisfactory. Even in air defense, serious problems emerged. Fighter Command, as suggested above, did an excellent job of working out the operational problems of coordinating its radar system with the single-engine fighter force. On the problems involved in air-to-air tactics, its solutions were less satisfactory. Its fighter pilots flew in close formation vics rather than in the looser finger-four formation adopted by the Germans on the basis of experience in the Spanish Civil War. Not until it had run into the buzz-saw of German Bf 109 fighters did the RAF adapt -- at considerable cost to itself. If Fighter Command had problems with its

tactical approach to air-to-air combat, it possessed a better conception of air tactics than did many within the Air Ministry. Sir John Slessor, the Air Staff's chief planner in the late 1930s, suggested in 1936 that the RAF needed only a few single-seat fighters for air defense since a two-seat fighter offered better prospects.¹⁰⁰ As late as 1938 the Air Staff argued vigorously for a two-seat fighter (the ill-fated, disastrous Boulton Paul "Defiant") over the "Spitfire" and "Hurricane." A memorandum generated in spring 1938 suggested:

The speed of modern bombers is so great that it is only worthwhile to attack them under conditions which allow no relative motion between the fighter and its target. The fixed-gun fighter with guns firing ahead can only realize these conditions by attacking the bomber from dead astern. The duties of a fighter engaged in "air superiority" fighting will be the destruction of opposing fighters For the purpose, it requires an armament that can be used defensively as well as offensively, in order to enable it to penetrate into enemy territory and withdraw at will. The fixed-gun fighter can not do this.¹⁰¹

Dowding's spirited objections, however, kept such unrealistic thinking from influencing either Fighter Command's tactical approach or procurement program.¹⁰²

The difficulties involved in hitting a target accurately from the air had emerged by the end of World War I. In September 1917, Lt. Cmdr. Lord Tiverton of the Royal Naval Air Service reported to the Air Board

that "experience has shown that it is quite easy for five squadrons to set out to bomb a particular target and for only one of those five ever to reach the objective; while the other four, in the honest belief that they have done so, have bombed four different villages which bore little, if any, resemblance to the one they desired to attack."¹⁰³ By the late 1930s, there was little in RAF tests to suggest that it had mastered either the navigational problems or the issue of hitting the target effectively once aircraft had arrived. A 1937 experiment underlined the extent of the accuracy problem. The RAF placed 30 obsolete aircraft within the circumference of a circle possessing a 1,000 yard diameter. For one week, Bomber Command attacked the stationary aircraft from high and low level. At the test's completion, the effort had destroyed only 2 aircraft, had damaged 11 beyond repair, had left 6 damaged but reparable, and had missed 11 entirely.¹⁰⁴

These difficulties in finding and hitting targets whether by day or night plagued British airmen throughout World War II despite the immense resources that were available to solve the problem. It is not surprising then, given limited resources, that the technological and tactical solutions remained beyond the capabilities of the interwar RAF. What, however, is less excusable was the fact that many on the Air Staff and Bomber Command never recognized the existence of a serious problem. Admittedly some did recognize the problem. In May 1938, the Assistant Chief of the Air Staff admitted that:

it remains true, however, that in the home defense exercise last year, bombing accuracy was very poor indeed. Investigation into this matter indicates that this was probably due to [the] failure to identify

targets rather than the fatigue.¹⁰⁵

The general belief, however, was that in a future war the RAF would find and hit its targets with relative impunity.

The inaccuracy of Bomber Command had obvious implications for the RAF's ability to support the Army. Given the love affair with "strategic" bombing, the RAF had little desire to help the Army with close air support missions. An Air Staff memorandum of November 1939 sums up twenty years of rigid refusal to prepare to support the Army.

Briefly the Air Staff view -- which is based on a close study of the subject over many years -- is as follows: The true function of bomber aircraft in support of the Army is to isolate the battlefield from reinforcement and supply, to block or delay the movement of reserves, and generally to create disorganization and confusion behind the enemy front But neither in attack nor in defense should bombers be used on the battlefield itself, save in exceptional circumstances All experience of war proves that such action is not only very costly in casualties but is normally uneconomical and ineffective compared with the results of the correct employment by aircraft on the lines above.¹⁰⁶

The above is indeed a surprising document when one considers that the Polish campaign had just ended. The result was that the tactics of close air support had to be worked out on the battlefields of North Africa -- at considerable cost to Army and RAF alike.

In short, the myopia of the Air Staff hindered the development of a broadly based conception of airpower and the capability to render inter-service support to the Army and the Royal Navy. Admittedly, Trenchard's devotion to his service and his advocacy of airpower saved the RAF as an independent service. But too many of those in the higher positions of the Air Staff allowed doctrine to become dogma and failed to examine the difficulties that had emerged even in peacetime flying.

Air forces picture themselves as possessing an inherent flexibility and capacity to inflict surprise attacks on their opponents. What they have been less willing to recognize are the inherent disadvantages of airpower: its dependency on fixed, vulnerable air bases, the necessity of favorable weather conditions, the difficulties involved in identifying and hitting targets in unfavorable circumstances, and finally the vulnerability of aircraft to enemy counter-action. It is not surprising, and perhaps more excusable, that the RAF should have possessed a Weltanschauung similar to that possessed by even air forces today,¹⁰⁷ but the weaknesses in tactical preparation before the war to meet combat demands placed the RAF in a position from which it could not take advantage of airpower's "inherent" flexibility.

The British Army during the interwar period provides the widest disparity in terms of adaptation and preparation for war in the modern world. The most obvious explanation was the desire of not only British society but also the Army's officer corps to escape the last war's horrors. This was undoubtedly a part of the problem, but other factors were also at work. As the years passed, more and more of the officer corps consisted of officers who had no battle experience -- a phenomena that obviously takes place in all armies.¹⁰⁸ Consequently, unless an Army possesses mechanisms to insure that those at the sharp end, the

combat arms, receive realistic training in peacetime based on a doctrine that grasps the fundamental complexities of combat, it will gradually lose contact with the hard lessons learned on the battlefields of the last war. The German Army between the wars obviously possessed such a mechanism, one that insured that the lessons of the last war were realistically incorporated into both doctrine and hard, realistic training. That mechanism was the general staff.

In the British Army, there was no such mechanism. The Army had no general staff as was the case with the Germans. There were some British officers, of course, who fully grasped what the armies were doing tactically at the end of World War I. Liddell Hart, working in the early post-war period as a junior officer for General Sir Ivor Maxse, fully understood the principles behind the operational experience of 1918. In his early work on infantry tactics, he sought simplicity in the hope that NCOs and soldiers as well as officers could grasp these principles to the point that they could react automatically in battle. The crux of the matter, however, was not how intelligently individuals within the Army devised solutions to the tactical problems of World War I, but rather how deeply and thoroughly such conceptions reached throughout the Army. As Liddell Hart's boss, Maxse, noted on Liddell Hart's 'ten commandments' for infantry tactics in 1919:

The above reply to your letter is easy. What is difficult, and will require ten years of strenuous endeavor, will be to get the doctrine understood, adopted and actually practiced over a scattered Empire like ours! It is a big training task -- and implies a mental effort on the part of a number of officers who

dislike thinking. But we can do much to start on good lines.¹⁰⁹

Unfortunately most of the senior leadership had little of Maxse's interest in the tactical or training lessons of the last war. Not until 1932 did the Army establish a committee to study the war's lessons -- much too late to have a significant impact on either doctrine or training.¹¹⁰

Consequently, without a central direction to Army doctrine and training, approaches within the Army varied widely from unit to unit. In some areas, particularly with regards to the Royal artillery,¹¹¹ the lessons of the last war remained much at hand in interwar training and a real doctrine existed. Most regiments, however, did not achieve a realistic level of training, nor did they possess a common doctrine. The approach of doctrine and training remained thoroughly idiosyncratic -- driven by individuals rather than a coherent, well thought out program.¹¹²

One of the great strengths of the British Army in the interwar period was its regimental system. That system provided for intense unit loyalty, strong unit cohesion, and a tradition of military accomplishments -- all of which are important contributors to effectiveness on the battlefield. The British soldier, in most cases, remained a dogged and tenacious combatant on the modern battlefield with a firm sense of loyalty to his comrades and to his unit. The problem was that the regimental system also engendered a "we-they" syndrome. Thus, it proved impossible to inculcate a standard doctrinal approach to training throughout the Army. It also made it difficult to achieve close cooperation between the arms at the tactical level. There were those within the services and outside who argued for a close integration of arms. Liddell

Hart and J.F.C. Fuller both strongly supported such an approach as did the interwar manuals.¹¹³ Unfortunately there is little sign that the Army exercised itself to achieve such a close integration of combat arms.¹¹⁴

The regimental system with its emphasis on sociability and conformity also impeded the development of professional thought. Writing in 1932, George Lindsay, by then a brigadier, suggested:

The day is past when it suffices for an officer to be a good regimental officer, a good sportsman, and a practical soldier; the value of these qualities good as they are, will be negligible in the next war unless combined with a degree of knowledge hitherto considered unnecessary. Such knowledge is not to be picked up casually by virtue or ordinary military routine, hunting or playing games; it requires properly organized instruction by competent teachers, such as cannot, in my opinion, be given by infantry battalions as now organized in 'penny packets.'¹¹⁵

Finally, the regimental system impeded expansion of the armored and mechanized forces in the late 1930s. Rather than expand the Royal Tank Regiment which had carried out the basic development work on armored warfare, the War Office ordered the cavalry regiments to give up their horses for mechanized weapons of which they had not the slightest technical conception. The official explanation was that "the present [1937] would be a most unfortunate moment to disturb an organization which has valuable traditions and has survived the lean years through

which it has passed since the war."¹¹⁶ The CIGS at the time, Lord Gort, was blunter when he admitted to Liddell Hart that "we mustn't upset the people in the clubs by moving too fast"¹¹⁷

If there was little conception of inter-combat arms cooperation, there was virtually no preparation in the Army to integrate the other services into tactical doctrine. The Army was scarcely more interested in close air support than was the RAF. Significantly, the War Office's 28-page booklet, 'Notes on Lessons of the Great War,' (not published until 1934), contained only one anodyne sentence on the subject of close air support: "The addition of low flying assault fighters as maintained by some foreign countries is also worthy of consideration."¹¹⁸

The notion of seeking surprise and gaining the initiative was featured in much of the writings of the British reformers. Both Fuller and Liddell Hart placed such conceptions at the heart of their argument for creating an armored mechanized force. Such a force, they argued, with its emphasis on surprise and mobility would be a significant step towards the prevention of another tactical stalemate. Liddell Hart's writings, in particular emphasized surprise as well as the exploitation of any breakthrough by deep penetrating armored forces.¹¹⁹ Such arguments by an outsider struck a responsive chord within a portion of the officer corps. The experimental maneuvers with armored forces and the work of those like Hobart, Broad, Lindsay, and Pile made major contributions to working out the problems involved in applying theories to the battlefield. When he commanded a brigade in Egypt in the early 1930s, Pile practiced a night crossing of the Suez Canal to illustrate the value of surprise. Wavell and Montgomery were also similarly interested in emphasizing surprise in the Army's tactical approach to war. The most interesting case is that of Percy Hobart who in training

the 7th Armored Division in Egypt during the 1938-1939 period insured that the key principles on which the division's training was established were tactical surprise and rapid exploitation.¹²⁰

In general, however, the Army only paid lip service to surprise. Hobart soon found himself shuffled off to retirement and service in 1940 as a corporal in the Home Guard. The Army's leaders and the War Office remained cautious and conservative in their outlook. In 1938 the Chiefs of Staff (reflecting undoubtedly the Army's point of view) commented that a German advance through the Low Countries "despite mechanized forces, would be considerably slower than in the last war."¹²¹

In a direct sense the Army's ability to support tactical conceptions rested on weak foundations. From anti-tank guns, to tanks, to the logistic base, the government's unwillingness to prepare the Army for war until March 1939 shackled British tactical capabilities throughout World War II. In June 1939, Laurence Carr, Director of Staff Duties at the War Office, graphically described the difficulties resulting from the government's tardy awakening.

The main difficulty has been the gradual broadening of the basis of calculation. If only it had been possible to go large from the start, all would have been well now. You will recall that in April 1938 we received a charter to prepare for a F.F. [Field Force] of 4 divs and a mobile div to be rearmed for a war in the Middle East, the rearmament to spread over 5 years. The T.A. [Territorial Army] did not come in except for the necessity of providing them with a bare minimum training equipment. With this mill stone of 5 years in which to

rearm the provisions department could not develop a very large increase in armament factories. As the basis of our readiness for war had been progressively increased, the original layout has proved quite inadequate. For heavy armaments like Cruiser and 'I' [infantry] Tanks and medium guns no new factory can start production in much under a year. In Oct 1938 our charter was changed to a continental war with a second Mobile Div and 4 T.A. divs added to the F.A. [Field Army]. We worked out all requirements for this, and the provisions departments had just gotten under weigh [sic] as to how the additional equipment might be produced. Then in February 1939 the Cabinet in order to save money reduced the rate of dispatch of the above mentioned F.F. knowing that by so doing there would not be so many reserves to be held in peace. This meant another reevaluation. At the end of March 1939 the P.M. [Prime Minister] suddenly announced the scheme of doubling the T.A. ... and at the same time stated that the necessary equipment and war potential for the 32 divs regular and T.A. would be provided ... This has meant a complete new conspectus involving a mass of work ... You will realize the vast increase of all types of equipment (both unit and reserve) required to meet this charter ... Even now working night shifts the factories can only make minor improvements on our output. So new factories have to be found and we know that roughly speaking they will produce nothing for a year.

In the light of the government's belated acceptance of a continental commitment it is not surprising that the Army was badly equipped to face the Germans. "It must be said to our shame," Montgomery records in his Memoirs, "that we sent our Army into that most modern war with weapons and equipment which were quite inadequate."¹²³ The real question is not so much the inadequacies of British equipment to support the Army's tactical approach in the early part of the war but rather its failure to catch up to the German lead throughout the whole war.

Given the Army's weaknesses, it was simply impossible to avoid placing British weaknesses against German strength in the early part of the war. The result was the wreckage of burnt out British tanks and dead soldiers spread from Norway, to France, to Greece, and to North Africa from 1940 to 1942. At least the Royal Navy and the RAF faced similar weaknesses on the other side of the hill to their own flawed tactical forces. The number of German U-boats was miniscule, and their numbers would grow only slowly. Given the relative newness of airpower, both the RAF and the Luftwaffe held forces with flawed tactical conceptions. The RAF in many ways adapted faster than its continental opponent and whatever the difficulties of the first air battles the RAF was rarely in a position of placing weakness against strength.

Conclusion

This summary treatment of the British services between the two world wars is bound to appear unduly critical in that their "effectiveness" is inevitably related to their performance in the Second World War. Given that successive governments were overwhelmingly concerned to avoid war and gave domestic problems priority until the last possible moment, the armed forces were bound to emerge badly in comparison with the militaristic and aggressive nations like Germany and Japan. As we have seen, the "Ten Year Rule" actually discouraged the services from preparing for war, and for many years after its cancellation reasonable requests for increased expenditure were rejected or reduced. Service leaders held few illusions about the unpreparedness of their forces and fervently endorsed the Government's policy of buying time by appeasing potential enemies. In political discussions much play was made with the notion that the Services, particularly the Navy and the Air Force, were being rearmed as 'deterrents' to would-be aggressors. The concept, however, was completely lacking of the sophistication it acquired after 1945, and no attempt was made to check whether in fact 'deterrence' was having the desired effect. Events were to show that Germany and Japan were not deterred but, ironically, Britain was herself deterred from an all-out bombing offensive for fear of German retaliation. Moreover, in some important respects, the quest for 'deterrence' actually hindered the services' (and especially the RAF's) preparation for war.

It is perhaps worth adding that British tradition, manifest in the Services as well as in many aspects of civilian life, set more store on improvisation and 'muddling through' than on what was regarded as the Teutonic obsession with 'efficiency.' Faultless drill, beautifully groomed horses, and polished metalwork might well be rated above accurate shooting or proficiency on maneuvers.¹²⁴ It would, however, be a mistake to assume that battalions who prided themselves on sporting prowess or 'spit and polish' necessarily performed badly in combat.

Furthermore, Britain's strong points in preparing for 'total war' lie in a certain sense on the margin of pure military effectiveness. For example, the British had evolved an excellent committee system for the analysis of strategic issues and for civil-military cooperation which stood the test of war and provided a foundation for Anglo-American cooperation. Britain's record of technological invention was also impressive and if some weapons systems (e.g., the tank) were not intelligently exploited, others (e.g., modern fighters in conjunction with radar and radio communications) were rapidly developed and were not equally emulated by Germany. Finally, though little was actually done before the outbreak of war, peacetime planning for the near-total mobilization of manpower and resources was far advanced.¹²⁵ These broader aspects of efficiency in war-making have to be set against the services' tactical, strategic, and structural shortcomings on which this paper has laid such heavy emphasis.

Notes

1. For an excellent discussion of this point see Paul Kennedy, The Rise and Fall of British Naval Mastery (London, 1976). See also Professor Kennedy's excellent study on the comparative economic shift away from Britain to the new German state: Paul Kennedy, The Rise of the Anglo-German Antagonism, 1860-1914 (London, 1980).
2. Martin Gilbert, Winston Churchill, Vol. V, 1922-1934 (London, 1976), p. 550.
3. Barrie D. Powers, Strategy Without Slide-Rule (London, 1976); Uri Bialer, The Shadow of the Bomber (London, 1981); I.F. Clarke, Voices Prophesying War (London, 1966).
4. Brian Bond, British Military Policy Between the Two World Wars (Oxford, 1980), pp. 287-311; and Williamson Murray, The Change in the European Balance of Power, 1938-1939; The Path to Ruin (Princeton, 1984), pp. 276-278. For the general issue of Britain's continental commitment in the inter-war period see: Michael Howard, The Continental Commitment (London, 1972).
5. Documents on British Foreign Policy, 3rd Series, Vol. II, Doc 590, 6.8.38., letter from Henderson to Halifax.
6. L. B. Namier, In the Nazi Era (New York, 1952), p. 162.
7. For a general critique of this lack of background in strategic issues see: Correlli Barnett, The Collapse of British Power (London, 1972).

8. Michael Howard, "The Liddell Hart Memoirs," Journal of the Royal United Services Institute (JRUSI) (February, 1966), p. 61.
9. Steven W. Roskill, Naval Policy Between the Wars, Vol. II (London, 1976), pp. 489-90.
10. Kennedy, The Rise and Fall of British Naval Mastery, p. 270.
11. Ibid.
12. Bond, British Military Policy Between the Two World Wars, pp. 94-97.
13. Hankey's biographer Stephen Roskill is quite correct to credit the efficiency of the strategic policy making system with playing a major role in the winning of World War II. See Stephen Roskill, Hankey, Vol. III (London, 1974), p. 419. The whole British approach to strategic decision making stands out in marked contrast to how the Germans operated. See Williamson Murray, "The Case for JCS Reform: A German Example?," Naval War College Review (December, 1985).
14. Public Records Office (PRO), CAB 16/109, 14 Nov. 1933, 1st Meeting of the D.R.C.
15. PRO CAB 24/247, CP 64 (34), 5.3.34.
16. See the discussion in Robert Paul Shay, Jr., British Rearmament in the Thirties (Princeton, 1977), pp. 38-44.
17. Ibid., p. 43.
18. G.C. Peden, British Rearmament and the Treasury, 1932-1939 (Edinburgh, 1979), p. 69.
19. PRO CAB 23/88, Cab 20(37), 5.5.37.
20. Based on the table in MacGregor Knox, Mussolini Unleashed (London, 1967), pp. 294-296.
21. See the discussion in Murray, The Change in the European Balance of Power, pp. 269-74.

22. See the discussion in Bond, British Military Policy Between the Two World Wars, pp.244-86.
23. Ibid., pp. 176-179, 186. See also the British official histories: M.M. Postan, D. Hay, and J.D. Scott, The Design and Development of Weapons (London, 1964); and M.M. Postan, British War Production (London, 1952).
24. For a further discussion of this issue see the essay on British military effectiveness in World War II in Volume III of this study.
25. Kennedy, The Rise and Fall of British Naval Mastery, p. 275.
26. Ibid., p. 287.
27. D. Wood and D. Dempster, The Narrow Margin (London, 1961), pp. 93-97; and J.A. Cross, Lord Swinton (London, 1982), pp. 135-219.
28. T.E. Lawrence shows in The Mint (London, 1955) that life in the ranks of the RAF in the mid-1920s could be squalid and standards low, but he used his influence with Trenchard and others to secure improvements; see H. Montgomery Hyde, Solitary in the Ranks (London, 1977).
29. See Gerald Spillan's 1985 Oxford D.Phil. thesis on British army recruiting between the wars. When he became War Minister in May 1937, one of Leslie Hore-Belisha's most urgent tasks was to increase the number and raise the quality of recruits. See R.J. Minney, The Private Papers of Hore-Belisha (London, 1960), pp. 39-49.
30. Peter Dennis' main thesis in Decision by Default (London, 1972) is that conscription was the essential element missing in British Army organization in the 1930s, but there is little evidence that senior officers wanted it. For a typical generals' reaction to the modest measure of conscription introduced in April 1939, see the diaries

of General Sir Henry Pownall, DMO and I in the War Office in 1939 in: Brian Bond (ed.), Chief of Staff, Vol. I, The Diaries of Lt. General Sir Henry Pownall (London, 1972).

31. Bond, British Military Policy Between the Two World Wars, p. 48.
32. Col. Wingfield in the Journal of the Royal United Services Institute (August 1924).
33. PRO CAB 53/37, COS 698 (Revise) (see also paper DP[P]22), CID, COS Sub-Committee, "Military Implications of German Aggression Against Czechoslovakia," 28.3.38., pp. 145-46.
34. PRO CAB 23/90A, Cab 46(37), Meeting of the Cabinet, 8.12.37., pp. 265-66.
335. PRO CAB 53/8, COS/227th Meeting, 19.1.38., COS Sub-Committee, p. 276.
36. For the impact of such "worst case" analyzing on the 1938 Czech crisis see: Murray, The Change in the European Balance of Power, chapters VI and VII.
37. Ibid., pp. 314-21.
38. Bond, British Military Policy Between the Wars, chapters 7, 8, and 9. For representative military views see R. Macleod and D. Kelley (eds.), The Ironside Diaries (London, 1962) and Bond, Chief of Staff.
39. Murray, The Change in the European Balance of Power, pp. 210-11.
40. By the late 1930s the Joint Planning Committee, made up of the chief planning officers of the three services was playing a key role in advising the chiefs.
41. PRO FO 371/22922, C 1545/281/17, Minute by Sir Robert Vansittart, 10.2.38., criticizing CP 40(39), "Staff Conversations with France and Belgium."

42. Murray, The Change in the European Balance of Power, pp. 269-74.
43. N.H. Gibbs, Grand Strategy, Vol. I (London, 1976); Michael Howard, The Continental Commitment (London, 1972), and Murray, The Change in the European Balance of Power.
44. Compare for example Bond, British Military Policy Between the Wars, and Peden, British Rearmament and the Treasury. There was one issue in the late 1930s where the government was dead right: that was in its insistence that the RAF build up Fighter Command instead of Bomber Command.
45. Paul M. Kennedy, The Realities Behind Diplomacy (London, 1981), chapters 5 and 6.
46. When transferred from the War Office to the Admiralty in 1937 Duff Cooper summed up the Royal Navy's superior status in the following terms: "The First Lord (of the Admiralty) has one of the finest houses in London, and a yacht in which to sail the sea. He knows also that in any encounter he may have with his colleagues, he has the country on his side." Old Men Forget (London, 1955), p. 195.
47. Bond, British Military Policy Between the Two World Wars, on the Cardwell system, pp. 73-74, 99-126, 188, and on the compromise over the tanks and cavalry issue, pp. 175-176.
48. M.A. Smith, British Air Strategy Between the Wars (London, 1984).
49. Arthur J. Marder, Old Friends, New Enemies: The Royal Navy and the Imperial Japanese Navy (London, 1981), pp. 65, 506.
50. P. Haggie, Britannia at Bay (London, 1981). J. Neidpath, The Singapore Naval Base (London, 1981).
51. Kennedy, The Rise and Fall of British Naval Mastery, p. 293. S.W. Roskill, Naval Policy Between the Wars, Vol. I. (London, 1968), p. 577. In January 1939 the British Commonwealth had 12 battleships

against Germany's 2, 62 cruisers against 6, and 159 destroyers against 17. The naval balance in favor of Britain stood out starkly in summer 1940 and is one of the most underrated factors in analyses of the Battle of Britain.

52. Murray, The Change in the European Balance of Power, pp. 74-76.
53. Russell Grenfell, "Our Naval Needs," JRUSI (August 1939), p. 495.
54. M.M. Postan, British War Production (London, 1952), pp. 19, 40.
55. Wood and Dempster, The Narrow Margin, p. 98.
56. Kennedy, The Rise and Fall of British Naval Mastery, pp. 297-98.
On the government's reluctance to interfere in private industry see Shay, British Rearmament in the Thirties.
57. Murray, The Change in the European Balance of Power, pp. 295-96.
58. See among other papers: PRO, CAB 53/35, COS 664, 12.1.38., CID, COS Sub-Committee, "Defended Ports in Ireland;" CAB 53/8, COS 1226 Mtg., CID, COS Sub-Committee, "Minutes," 22.12.37; CAB 23/90A, Cab 48 (37), Meeting of the Cabinet, 22.12.37.; CAB 24/271, C.P. 228(37), 6.10.37., "Relations with the Irish Free State;" and CAB 27/642 INC(38), 17-18.1.38., 1st-3rd Meetings.
59. See PRO CAB 53/8, COS/228th Meeting, 28.1.38., COS Sub-Committee, p. 297; and FO 371/21597, C842/38/17, CID Paper 1395-B, 4.2.38., "Cable Communications Between the United Kingdom and France."
60. PRO CAB 53/36, COS 680, COS Sub-Committee, 4.2.38.
61. Murray, The Change in the European Balance of Power, p. 296.
62. On Anglo-French relations generally in this period see John C. Cairns "Perplexities of a 'Nation of Shopkeepers' in Search of a Suitable France," American Historical Review (June 1974). In Chief of Staff, Vol. I, Pownall provides many instances of suspicion and unfriendliness towards the French. For a tragic-comic episode

illustrating the non-meeting of minds between Gamelin and Devereil
see André Beaufré 1940: The Fall of France (London, 1967), pp.
52-53.

63. PRO CAB 47/14, A.T.B.181, "Plan for Economic Warfare Against Germany," 22.7.38.
64. Murray, The Change in the European Balance of Power, chap. 10.
65. PRO CAB 85/16, M.R. (J) (40) (5) 2, 11.4.40., Allied Military Committee, "The Major Strategy of the War, Note by the French Delegation."
66. See the essay in Volume III of this study by Williamson Murray on the general lack of inter-arms cooperation, particularly in regards to the army.
67. John Connell, Wavell, Scholar and Soldier (New York, 1964), p. 204.
68. Derek Waldie, "The Third Dimension: A Study of Army-Air Force Relations, 1918-1939," unpublished Ph.D. dissertation, University of London, 1979.
69. Wood and Dempster, The Narrow Margin, p. 175.
70. B.H. Liddell Hart, Memoirs, Vol. I (London, 1965), p. 227.
71. For further examination of the issue see the essay on British Military Effectiveness in World War II in Volume III of this study.
72. Bond, British Military Policy Between the Wars, chapters 5 and 6; see also Liddell Hart, Memoirs, Vol. I, chapters 10 and 11.
73. PRO CAB 54/4, DCOS 61, 13.1.38., CID, DCOS Sub-Committee, "The Establishment of a Special Striking Force for Amphibious Operations."
74. PRO CAB 54/4, DCOS 62, 7.2.38., CID, DCOS Sub-Committee, "The Establishment of a Special Striking Force for Amphibious Operations."

75. PRO CAB 54/4, DCOS 64, 8.2.38., CID, DCOS Sub-Committee, "The Establishment of a Special Striking Force for Amphibious Operations." For the real state of British capabilities see the report on a small test carried out in July 1938: PRO Adm 1/9552, "Combined Operations Exercise, 5th and 6th of July, 1938," Combined Report: Issued by the GOC in Chief Southern Command and Admiral of the Fleet, C in C Portsmouth, Part III, Remarks by GOC in Chief, Southern Command, p. 66.
76. PRO CAB 54/2, DCOS/30th Meeting, 15.11.38., CID, DCOS Sub-Committee, p. 4.
77. Among other important German intelligence reports on British armored maneuvers see: Reichswehrministerium, Berlin, 10.11.26, "Darstellung neuzeitlicher Kampfwagen," National Archives and Records Service (NARS), T-79/62/000789; Reichswehrministerium, "England: Die Manöver mit motorisierten Truppen, September 1929," NARS T-79/30/000983; and Der Chef des Truppenamts, Dez. 1934, "England: Manöver des Panzerverbandes, 18. bis 21.9.34," NARS T-79/16/000790.
78. PRO CAB 16/112, DRC 31, 9.10.35., p. 271.
79. PRO AIR 20/40, Air Staff Memorandum No. 11A, March 1924.
80. Charles Messenger, 'Bomber Harris' and the Strategic Bombing Offensive (London, 1984). See also Max Hastings, Bomber Command (London, 1979).
81. See in particular: Francis K. Mason, Battle Over Britain (Garden City, N.Y., 1969), pp. 82-83.
82. Guy Hartcup, The Challenge of War (London, 1967), p. 126.
83. See particularly the report of Mr. Butt to RAF Bomber Command, "Examination of Night Photographs, 15 August 1941," in Sir Charles

- Webster and Noble Frankland, The Strategic Bombing Offensive Against Germany, Vol. IV, Appendices (London, 1961), p. 205.
84. One could hardly ask one's own submarine crews to subject themselves to Asdic coordinated attack from the surface in peacetime (or wartime for that matter).
 85. PRO CAB 4/26, 1318-B, 24.3.37., CID, "Defense Against Submarine Attack," p. 39.
 86. Shelford Bidwell and Dominick Graham, Fire-Power (London, 1982), pp. 248-275.
 87. See F.H. Hinsley, British Intelligence in the Second World War, Vol. I (London, 1979).
 88. PRO CAB 63/14, Letter from Sir A. Robinson to Sir Thomas Inskip, Minister for the Coordination of Defense, 19.10.36.
 89. Murray, The Change in the European Balance of Power, pp. 30-38.
 90. See Paul Kennedy's essay on British Military Effectiveness in Volume I of this study.
 91. Patrick Beesly, Room 40 (London, 1978).
 92. D. Macintyre, The Battle of the Atlantic (London, 1965), pp. 25-26.
 93. R. Grenfell, Seapower in the Next War (London, 1938), p. 66.
 94. Stephen Roskill, The White Ensign (Annapolis, 1960), p. 29.
 95. Quoted in John Terraine, The Right of Line, The Royal Air Force in the European War, 1939-1945 (London, 1985), p. 226.
 96. Grenfell, Seapower in the Next War, pp. 60-61.
 97. Stephen Roskill, Naval Policy Between the Wars, Vol. I, The Period of Anglo-American Antagonism, 1919-1929 (New York, 1969), p. 533.
 98. Macintyre, The Battle of the Atlantic, pp. 25-26.
 99. Grenfell, "Our Naval Needs," p. 493.
 100. John Slessor, Air Power and Armies (London, 1936), p. 51.

101. PRO AIR 2/2964, 17.6.38., Air Staff Note on the "Employment of Two-Seater and Single-Seater Fighters in a Home Defence War;" see also Air 2/2964, 20.6.38., Minutes by DDops (Home).
102. PRO AIR 2/2964, Headquarters Fighter Command, RAF Stanmore, Middlesex, 25.6.38.
103. Quoted by Group Captain R.A. Mason, "The British Dimension," in Airpower and Warfare, ed. by Alfred F. Hurley and Robert C. Ehrhard (Washington, 1979), p. 32.
104. Basil Collier, The Leader of the Few (London, 1957), p. 170.
105. PRO AIR 2/2598, Air Ministry File, #541137 (1938).
106. PRO CAB 21/903, 18.11.39. "Bomber Support for the Army," memorandum by the Air Staff.
107. The reader is urged to consult the current U.S. Air Force Manual 1-1, the manual on basic doctrine, for a heavy emphasis on the inherent flexibility of airpower with little concomitant discussion of its disadvantages.
108. This phenomena came to the attention of one of the authors of this essay (Murray) when he served as visiting professor in the Department of History, United States Military Academy.
109. Maxse to Liddell Hart, 8 November 1919, Liddell Hart Papers, Center for Military Archives, King's College, University of London, 7/1920/56.
110. Howard, The Continental Commitment, p. 32.
111. See Bidwell and Graham, Firepower.
112. Lest one be misled by the German example, one must note that the French also had a coherent well-thought out doctrine -- one, however, that was completely wrong. So the British example is not entirely without merit -- it did allow for alternate approaches to

war, not all of which were unrealistic.

113. See especially J.F.C. Fuller's Lectures on Field Service Regulations II and III (1931 and 1932).
114. The small-scale but tactically significant British counter-attack at Arras on 21st May 1940 exposed many weaknesses in inter-arm combination, notably between the two tank battalions engaged and the supporting infantry and artillery units, see Kenneth Macksey The Shadow of Vimy Ridge (1965) and Brian Bond "Arras: A case Study in the Counter-Offensive," Brasseus (forthcoming).
115. WO32/2820.WO163/38, "Report of Committee on Regimental Officers, May 1932." Lindsay to Knox, 29 Oct. 1932, Lindsay Papers.
116. PRO CAB 24/269, CP 115(37), 23.4.37., "The Organization, Armament, and Equipment of the Army," Memorandum by the Secretary of State for War, p. 138.
117. Liddell Hart, Memoirs, Vol. II, p. 88.
118. PRO WO 32/3115, "Notes on Certain Lessons of the Great War," p. 12.
119. See among many works in the 1920s: B.H. Liddell Hart, Paris, or the Future of War (London, 1925). For a discussion of the evolution of Liddell Hart's thought see: Brian Bond, Liddell Hart, A Study of His Military Thought (New Brunswick, N.J., 1977).
120. See Kenneth Macksey, Armored Crusader: Major General Sir Percy Hobart (London, 1967).
121. PRO FO 371/22915, C 1503/30/17, COS 833, "The Strategic Position of France in a European War," late 1938.
122. L. Carr to P.C.S. Hobart, 2 June 1939, Hobart correspondence with Liddell Hart (folder 1) in Liddell Hart Papers.
123. Field Marshal Viscount Montgomery, Memoirs (London, 1958), p. 35.

124. See Shelford Bidwell's personal recollections in Fire-Power, pp. 149-66.
125. Arthur Marwick, Britain in the Century of Total War (1970). Brian Bond, War and Society in Europe, 1870-1970 (1984), pp. 175-76.

JAPANESE MILITARY EFFECTIVENESS:

THE INTERWAR PERIOD

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Introduction

From the Meiji Restoration in 1868 to 1945, the Japanese armed services provided the foundation for plans to identify, protect, modernize, and expand Japan's national interests. By the end of the First World War Japan was recognized as one of the great powers. At the same time the East Asian newcomer started to face its severest test -- a struggle of traditional national and cultural values against the modern challenges and opportunities as a new member of the international community of first class powers. Political, economic, and military power rested at the heart of Japan's new-found position on the international scene, but it was also painfully evident to the Japanese that they were not recognized as an equal by the great powers, particularly by the United States.

At the Versailles Peace Conference in 1919 Japan proposed the acceptance in the preamble of the Covenant of the League of Nations of a general principle recognizing racial equality: signatories were to

accord to all alien nationals equal and just treatment in every respect while making no distinction on account of their race or nationality. Although 11 out of 17 votes in the League Commission were recorded in favor of the Japanese amendment, U.S. President Woodrow Wilson, as chairman of the commission and with the support of the British and Australians, declared it lost, under the unanimity principle. On the other hand, through the insistent demand of Wilson, the Monroe Doctrine reservation was inserted in the Covenant of the League of Nations.¹ Yet recognition of Japanese regional ambitions and rights on the east coast of the Asian continent was not included in the great charter. Indeed, in an awkward showdown the Japanese delegation was obligated to give personal assurances at the Versailles Peace Conference that Japan's armed forces would withdraw from the Chinese province of Shantung. Slowly and reluctantly the Japanese complied, but only after Western insistence at the Washington Conference of 1921-1922. Many Japanese viewed that disparity with much mistrust at the outset of the interwar years.

Japan faced two possible courses of action. It could stand up for justice and equal treatment as a new nation-state among first class powers, in spite of the fact that the international community was dominated by Anglo-Saxon interests and by American wealth. Such a course of action would implicitly require Japan to sacrifice its longstanding special interests in China. Conversely, Japan could adhere to its traditional and narrowly conceived nineteenth century principles of power and very cautiously follow a more independent course of action as a rival of the other great powers. For either course of action, however, the effectiveness of Japanese armed services at the political, strategic, operational, and tactical levels would be of dire importance to the welfare of that new nation-state and its people.

In the turbulent times and changing international conditions between the world wars, Japan's armed services at first sought to retain and then to elaborate upon their historical role in Japanese society. Tradition- ally they enjoyed legal independence and the ability to coerce cabinets, but in the interwar period until the early 1930s the armed services were obligated to seek informal coalitions or working agreements with career civilian bureaucrats.²

It was not unusual for the military, particularly the Army, to initiate military operations that, in turn, had the potential to influence the strategy of the armed forces and the political policy of the government. A case in point was the military's interventionist activities in Siberia starting in 1918. The Japanese government agreed originally to participate in an allied expedition of modest proportions, but the Japanese military and the expansionists seized the occasion for rapid escalation of military operations by trying to rally anti-Bolshevik forces and to keep the Bolsheviks from capturing important matériel intended earlier for the Czarist government. Well over three divisions of the Japanese Army were stationed deep in Siberia as far west as Lake Baykal, some 1,500 miles from the Sea of Japan. But the excess of the operation became a source of embarrassment for the government, therefore, the military involvement in the government's foreign policy had to be curtailed. As a result of negotiations during the Washington Conference, the Japanese were obligated to withdraw their troops from eastern Siberia. And in a separate agreement with the Soviet Union in 1925, Japan agreed to withdraw occupation troops from northern Sakhalin in return for various Soviet commercial concessions. The same year, 1925, diplomatic relations were established between Moscow and Tokyo. By then military interventionist activities in Russia were severely criticized in

Japan's parliament, the Imperial Diet, for the announced aim of the expedition had been fulfilled somewhat earlier.

Similar criticism centered on the Shantung expedition from 1927 to 1928.³ Foreign Minister Kijūrō Shidehara assumed office in 1924 with a new policy: disengagement in China. Thereafter, he retained that portfolio in several additional cabinets in the 1920s until shortly after the Mukden Incident in 1931. It is not surprising, therefore, that when a new policy of unilateral action in Shantung advocated by General Giichi Tanaka, prime minister and foreign minister from April 1927 to July 1929, failed and his cabinet fell, Shidehara, again foreign minister, claimed that the use of force was a discredited policy. It had caused an extensive anti-Japanese movement in China and severely damaged Sino-Japanese relations. Thus, it seemed prudent for the military to exercise a certain amount of circumspection until its ability to coerce cabinets became more substantial in the 1930s.

Leaders in the Japanese Kwantung army boldly seized the initiative in September 1931. They blew up a section of the Japanese-controlled South Manchurian railway just north of Mukden, blamed the explosion on the Chinese, and thereby justified swift Japanese military occupation of most of Manchuria. After the military's aggressiveness in the Mukden Incident, however, political values of expansionism and national prestige increasingly took precedence over economic values and diplomacy in the process of foreign policy decision-making. A new approach to international affairs, known as the Kōdō or Imperial Way policy, included the acceptance of the use of military force in implementing Japan's foreign policy. Imperial Way thinking was at first supported by the right wing and the military, but gradually it gained influence in other groups, particularly many foreign service officers who were led by Toshio

Shiratori, later named ambassador to Fascist Italy.⁴ Thus, dramatic military activity seemed to be effective and, therefore, many highly right wing, nationalistic Japanese saw it as viable substitute for the civilian government's weak-kneed policy towards China. Moreover, military values were widely shared by the civilian population and the elites.

From the beginning of Imperial Way policy in the early 1930s and the formulation of military strategic objectives of eliminating Western influence in Asia, there was not much concern over the question whether it was practicable for Japan to do so at all. Only in a secondary fashion did advocates of the Imperial Way consider the question of what reaction might be expected from Western nations or what means the Japanese had available for carrying out such expansionist policies. Too often the legitimacy and reasonableness of these goals for foreign policy, a leading Japanese scholar has written, "were assumed to have existed throughout the long history of the Japanese nation, and so were to be realized regardless of the sacrifices."⁵

Modern readers may well marvel at Japan's folly, for such a course led to the attack on Pearl Harbor and a suicidal war against the ADB (American-Dutch-British Commonwealth) coalition. The end came with the Carthaginian ruin of the Japanese nation in August 1945. But the professional myopia of most Japanese military leaders in the 1930s, and of many political leaders as well, was total, and their persuasiveness in tailoring policy to fit their own views sealed Japan's destiny.

I. Political Effectiveness

The best illustration of Japanese military organizations securing for themselves a regular share of the national budget is the case of the Army. Army elites maneuvered with much political adroitness to strengthen the Army during the burst of post First World War democratic sentiment. Conditions were facilitated by the ascendancy of Japanese political parties, lucrative international trade, and world prosperity. In the early 1920s most armed services in the world were losing ground within the structure of their respective governments. In the atmosphere of a broad Japanese retrenchment program that cut the civil bureaucracy by 20,000 men, War Minister Kazushige Ugaki felt obligated, if reluctant, to agree to cut four divisions out of the Army. Bitter Army protests were to no avail at the time. Indeed, total military expenses, which had comprised up to forty-two percent of the national budget during the Siberian Intervention, were pared to twenty-nine percent by 1925 and to twenty-eight percent in 1927. The standing Army from 1924 to 1931 was only seventeen divisions, or about 250,000 men.⁶ But the Army did not suffer in proportion to its small share of the national budget.

But the credibility of the Army and the high regard in which the military profession was traditionally held in Japanese society enabled it to mitigate the impact of financial restrictions. The Army effectively presented arguments to the political leadership that money saved by reducing its size should go into sorely needed mechanization and modernization programs. Civilian cabinet ministers could not deny Army

assessments that the more highly industrialized Western societies, potential adversaries of Japanese interests in East Asia, also had more modern land forces. Japanese military professionals were regarded as the best judges of the nature and capability of foreign armies, for the fate of China was an ever-present warning of foreign menace and the price another East Asian society paid for military weakness. Historically the Japanese Army had served well the needs of the new Japanese nation-state, and conventional wisdom dictated that the Japanese Army's equipment must not remain antiquated by Western standards.

In the aftermath of the First World War the Japanese Navy was subject to the same budget restraints as the Army. Japan scrapped ten ships (nearly 164,000 tons) as a result of accepting the third position, after Great Britain and the United States, in the 5:5:3 capital ship ratio negotiated at the Washington Conference, 1921-1922. The conference illustrated the Navy's political effectiveness when cooperation with the Western democratic nations was a chief feature of the government's foreign policy. Navy Minister Admiral Tomosaburō Katō argued effectively before the budget committee of the House of Peers that the American agreement to halt expansion of Philippine defenses enabled Japan to accept the terms of the Naval Limitation Treaty. His professional advice was highly regarded. Furthermore, that Katō's work and attitude on reduced defense expenditures was generally approved in Japan was attested to by his elevation to prime minister in June 1922. He then also continued to serve as Navy minister, until May 1923.

The Japanese Navy, like the Army in the early 1920s, felt that it was politically expedient to accept a reduction in size; moreover, the Navy realized it was necessary to forgo certain shipbuilding programs. Nevertheless, Navy professional efficiency was not to be sacrificed in

spite of reduced defense expenditures. The Navy effectively argued that successful technological innovations seen in the First World War must be studied, refined, and incorporated, particularly in the air and submarine branches of the Imperial Navy. Sufficient funding of these new programs was essential to the Navy's defense of the nation, and civil ministers would dismiss the arguments of the admirals at their own peril and that of the nation.

It was clear that the Navy had played an important role in the rise of Japan, as evidenced by its victories over the Chinese in the Battles of the Yalu (1894) and Weihaiwei (1895) and over the Russians, especially in the Battle of Tsushima (1905). Japanese gunnery and seamanship, proved superior to that of the enemy -- the historical lesson of the importance of quality in the fleet was not wasted on civil ministers when they considered the professional advice of Japanese admirals early in the 1920s. Size of the fleet was not always crucial, but its quality, at a time when foreign navies were benefiting from technological innovations, was of utmost importance. Thus, no civil minister in the 1920s could turn down relatively modest naval estimates for upgrading existing naval forces when in the spirit of cooperation with the government's foreign policy the Navy had sacrificed larger and more expensive projects.

The Washington Treaty saved the Japanese government enormous expenditures for defense, and for ten years military costs and national benefits were proportional. Japan was working toward a so-called eight-eight program, the object of which was to build a capital fleet of eight battleships and eight battle cruisers, all of modern type. A large number of ancillary craft was to complement the sixteen leviathans. In addition to scrapping ten ships, under the terms of the Washington Treaty the Japanese agreed to scrap six post-Jutland capital ships then under

construction and to cancel eight more not yet laid down. Japanese economists estimated that completion after 1922 of an enlarged building program started late in the First World War would cost an additional 660,000,000 yen. That estimate was made without counting maintenance charges. Simultaneously, Japan was engaged in far-reaching plans for the modernization of such dockyards as those at Yokosuka, Kure, and Sasebo as well as the creation of a large infrastructure of insular bases. Costs were estimated to be at least 120,000,000 yen. Moreover, it would have been necessary to expand the arsenals, training depots, and other shore installations pari passu with the growth of the fleet. When the fleet planned originally reached its full strength in the latter 1920s, it could have been maintained only by arduous effort and an expenditure disproportionate to national requirements and revenue. It was estimated that by the early 1930s naval expenditures would absorb 40 percent of the total national budget. With at least 20 percent written off for Army requirements, Japan would have had to face the prospect of spending probably more than 60 percent of the national budget on armaments. Such a prospect would over the long haul place an enormous strain on Japan's industrial-technical base. It would be made worse by the nation's limited access to some raw materials and its high dependence on the import of strategic materials.

Armament expenditures were much lower up to the early 1930s than they might have been under other circumstances. For instance, Army expenditures in 1930 and again in 1931 were thirteen percent of the national budget; they increased to nineteen percent in 1932. Thereafter, ever-increasing military expenditures continued to absorb a larger percentage of an ever-increasing national budget. Increased military involvement in what turned out to be a China quagmire produced greater

risks to Japan's policy, and the military convinced government authorities that escalation would resolve the dilemma and that, therefore, higher levels of funding were essential. Thus, the national budget for 1933 rose to the unprecedented sum of 2,239,000,000 yen, of which the Army absorbed twenty percent and the Navy seventeen percent -- thirty-seven percent of the national budget was spent on armaments in 1933.⁷ In 1936, on the eve of the Sino-Japanese War, the national budget hit a new record -- 2,303,300,000 yen -- of which the Army's share was twenty-two percent and the Navy's share amounted to twenty-four percent -- forty-six percent of the national budget was spent on armaments in 1936. More significant, the increase in the Navy's budget between 1932 and 1936 (approximately 238,000,000 yen) was almost equal to the Navy's average annual budget between 1923 and 1931 (approximately 249,000,000 yen), when its share represented about fifteen percent of the national budget.⁸ The Army's budget increased about 135,000,000 yen during the same five-year period, or by about sixty-two percent of its average annual budget between 1923 and 1931 (approximately 219,000,000 yen). The Kwantung Army, in particular, clashed many times in the 1930s with Soviet forces along the Manchurian frontier. Greater mechanization and a numerical superiority usually gave the Russians the upper hand, nevertheless, the Kwantung Army officers always claimed the victory of flesh-versus-steel. The government agreed, however, that positions in Manchuria could not be relinquished; thus, it sent some additional tanks and aircraft, but, more to the point, the Tokyo government paid the costs for increasing the size of the Kwantung Army from two infantry divisions in 1931 to twelve in 1940.⁹ And after the beginning of the Sino-Japanese War in July 1937, military expenditures quickly soared toward sixty percent of the national budget.¹⁰ With growing military

influence in the decision-making process at the political level, the spiral increase of military expenditures and military strategic objectives committed Japanese society to a dangerous course. The Sino-Japanese War as it developed offered no escape.

Since late in the nineteenth century Japan strove to develop an economic base, particularly in heavy industry, that would support major-power status. Steady progress was made, and Japanese armed services figured prominently in the nation's economic rise. The growth of Japanese heavy industry was far more important to the rise of the Navy than it was to the strengthening of the Army. At the time of Admiral Togo's victory over the Russians at Tsushima in 1905, not one of the principal units in his battle line had been built in Japan. Later the same year the first large warships to be built in Japan -- the armored cruisers Tsukuba and Ikoma, each of 13,750 tons displacement -- were laid down at Kure.¹¹ Elaborate government dockyards were established at Yokosuka, Kure, Sasebo, Uruga, Ishikawajima and Maizuru. Several private dockyard companies were also established and they too built naval vessels. The largest such dockyard company was Mitsubishi -- with facilities at Nagasaki, Hiroshima, and Shimonoseki -- which built 244 naval vessels between 1899 and August 1945. Among the naval vessels built by Mitsubishi were the 65,000-ton super-battleship Muzashi, a 30,000-ton battleship, a 26,000-ton battle cruiser, six aircraft carriers, seven heavy cruisers, five light cruisers, and twenty-three destroyers, and thirty-one corvettes.¹² Moreover, by 1920 the Japanese were able to build capital ships using solely Japanese labor and material, Navy Minister Admiral Kato announced, whereas only eight years earlier, as then Navy Minister Admiral Makoto Saito admitted, thirty percent of the material for the construction of capital ships had to be

made abroad and merely fitted together in Japan.¹³ In 1924, after the Navy completed testing former German U-boats received as reparations and studying their design, the first of a new class of large cruiser diesel submarines was built and launched by Kawasaki, a private dockyard company.¹⁴ Two years earlier, in 1922, Japan's first aircraft carrier, the Hosho, was completed. She was the first ship in the world to be built from the keel up as an aircraft carrier. A contemporary internationally recognized expert on the Japanese Navy wrote that "the Hosho is on the whole a success. It is not the least achievement of Japanese constructors that they should have succeeded in producing an efficient aircraft carrier on a displacement of less than 10,000 tons."¹⁵ In the twentieth century shipbuilding was a key heavy industry and the Japanese Navy, third largest in the world in 1921, always had ready access to such government as well as private resources. Furthermore, shipbuilding technology remained completely modern in spite of the Washington Naval Limitation Treaty concerning capital ships. For Japan continued building smaller naval vessels and merchantmen, and extensive modernization of existing capital ships was carried out in Japanese dockyards throughout the interwar years.

With the abrogation of the Washington Treaty, a construction program to gain parity with the United States and Great Britain began in the mid-1930s. Japanese industrial and technological resources were fully capable and ready to take advantage of the new arms construction programs. It is not surprising, therefore, that work on the design of the world's largest class of battleship, the Yamato-class, was started in 1934. Not long thereafter the keels for four such leviathans were laid down at different government dockyards and at one private dockyard.¹⁶ And the Navy, mindful of the superior battleship strength of its chief

potential adversary, the United States, persuaded the government to finance the costly construction of such an unorthodox weapons system.

Since the Japanese military had ready access to the national budget, and its share increased proportionate to the mounting national crises in the 1930s, Japanese financial cartels (the zaibatsu) were presented with new challenges and opportunities. The older zaibatsu had benefited in some way from contracts with and patronage from the Meiji government. With ownership vested in zaibatsu families, such as Mitsu, Mitsubishi, Sumitomo, and Yasuda, the conservative cartels maintained close contacts with politicians and bureaucrats. In the 1930s, with growing military influence in the government, they became targets of criticism, notably from right wing ultranationalists who demanded arms production without much consideration for the financial consequences. Some of the older zaibatsu acted as a restraining force, but most of them eventually acted as a promoting force, and all of them eventually tailored their interests to fit those of the government during the decade. Those zaibatsu with concerns tied by organic or heavy industry, rather than by financial interconnectedness, played a special role in materially strengthening Japan's armed forces before the summer of 1941.

Still another dimension of the armed services' ability to acquire their growing material needs from domestic sources can be seen in the rise of so-called new zaibatsu. For example, the Army, in particular, was primarily responsible for the success of Yoshisuke Ayukawa after he took over the Kuhara mining business and reorganized it as Nissan (Japan Industries) in 1928. Through military demand and government orders, Ayukawa expanded his business interests to the control of seventy-seven companies in 1938, when Nissan was the largest of the newer zaibatsu. Concentrating on heavy chemicals and the construction of military

vehicles, Nissan was favored by the Army and, therefore, chosen to provide much of the capital for the government-sponsored Manchukuo Heavy Industries Development Corporation in 1937. Thus, relationships between the military and zaibatsu were both reciprocal arrangements and evolutionary developments, for growing military influence over the political leadership was facilitated by much zaibatsu support, and the financial cartels, in turn, often profited from their liaison with the government.

Service in the armed forces was always popular since the Meiji Restoration, and military organizational manpower requirements were easily met during the period of material expansion between the world wars. The Army required much more manpower than the Navy, and its long-term military promotional program was very effective. Military training was introduced in the secondary and higher schools (pre-university). Starting in 1925 active duty army officers were assigned to the schools, and military training became part of the regular curriculum. Moreover, local military training units were established for males who did not continue their education; they were obligated to participate in a four-year program of 400 hours of military instruction. Instructors in these units were frequently officers of the four divisions eliminated in 1924. At the end of 1925 the size and long-range influence of the relatively small number of troops on active service were significantly augmented by more than three million former active duty soldiers in veteran organizations, about six hundred thousand secondary and higher school students, and nearly a million trainees in local military units. The Army threw its training net wide, particularly to catch youth in a conformist education of jingoistic ideas.¹⁷ It is clear that the Army was engaged in a system of indoctrination in the 1920s.

The Army program of indoctrination contributed to the growing number of ultranationalists within its ranks during the next decade. For if the size of the standing Army remained at seventeen divisions between 1924 and 1931, its fervor as the arbiter of patriotism reached new heights by the time major expansion programs were undertaken. By 1937 there were twenty-four divisions in the Japanese Army, thirty-four in 1938, forty-one in 1939, fifty in 1940, and fifty-one by the summer of 1941.¹⁸ The Army always enjoyed the manpower provided through the conscription system established in 1873 and revised several times. The latest revision in 1927 stipulated that all able-bodied male subjects between the ages of seventeen and forty were required to serve as conscripts.

The military used laws and education as instruments of coercion and manipulation to keep the populace submissive. Yet it ought to be noted that the military had long enjoyed a respected place in Japanese society and that there was a patriotic desire to serve. There was little controversy over the draft, and cases of illegal resistance, such as, refusing military service, secret resistance at home, and resistance overseas, were extremely rare in the interwar period. Most evaders or deserters acted for personal reasons -- there were fewer than 670 cases in 1939 -- and almost no desertion occurred for political reasons. Extensive Army authority and prerogative were exercised among the people to meet fully the increasing manpower requirements of the 1930s.¹⁹ In this area, Japanese military effectiveness was extremely high in the interwar period.

Although the size of the Army was, in part, regulated by the civil government, shaping its character fell strictly within the purview of the Army. So effective were the Army's indoctrination system and its program

to promote Army-community integration that Japanese military leaders, one scholar has concluded, "probably would have increased their influence in the 1930s even if the depression, the Manchurian Incident, and the assassinations of party prime ministers had never taken place."²⁰

The Navy's manpower requirements were modest compared to the Army's, and although conscription was used on occasion, for the most part the Navy was manned by volunteers. Reenlistments were also high. In 1926 personnel strength of the Navy was the smallest in the interwar period, with about sixty-three thousand officers and enlisted men afloat and ashore, about twelve thousand fewer than on the eve of the Washington Conference.²¹ But by the summer of 1941, Japanese naval personnel numbered well over two hundred thousand. The following table shows the increase in manpower of the Japanese Navy during the 1930s.

Japanese Navy Manpower in 1932-1939

(officer and enlisted strength)

	AFLOAT	ASHORE	TOTAL
1932	55,198	31,918	87,116
1933	59,193	32,139	91,332
1934	61,798	38,241	100,039
1935	61,272	40,803	102,075
1936	62,392	44,736	107,128
1937	63,399	45,812	109,211
1938	?	?	?
1939	85,258	62,802	148,060

SOURCES: Office of Naval Intelligence File, Naval Attaché Reports, 1886-1939, Nos. 13366-C & D, E-8-a, Record Group 38, National Archives, Washington, D.C.

Large reserves were also readily available in the interwar period. For example, a U.S. naval intelligence report of 1939 estimated that there were nearly sixty thousand officers and enlisted men in the Japanese first and second reserves, made up of those who had served in the regular Navy, and at least two thousand in the special reserve, composed of officers and men who graduated from merchant marine schools.²² The same report, which was prepared for U.S. congressional hearings, observed that fifty-three percent of the enlisted men in the rapidly expanding Navy of 1939 had served less than four years, twenty-five percent were between their fourth and eighth year of service, twelve

percent between their eighth and twelfth year, six percent between their twelfth and sixteenth year, and four percent were serving over sixteen years. It is significant, however, that all really important duties on board ship were performed by well-trained, long-service men, and the quota of raw recruits in newly commissioned ships was very small between the wars. The quality of seamanship in the Japanese Navy was very high. It was easy for the Navy to increase and indeed double its manpower in the interwar years when its matériel strength also doubled -- total tonnage of capital ships, aircraft carriers, cruisers, destroyers, and submarines in the Japanese Navy increased from 547,000 in 1922 after scrapping by the Washington Naval Limitation Treaty to 784,000 in 1936, to 1,095,000 in 1941.²³

II. Strategic Effectiveness

The strategic effectiveness of Japan's armed forces was satisfactory in the interwar period until the mid-1930s. Funding generally increased, if at times only after struggle, debate, and compromise with career civil bureaucrats, to match the growth in size and quality of the armed forces. Strategic effectiveness was best when foreign and economic policy goals were well-focused on consolidating Japanese hegemony in East Asia and the Western Pacific. An aggressive military strategy was neither necessary nor desirable, but pervasive changes occurred in the 1930s and very early 1940s. As the military became more influential at the political level and the government's policy changed to one aimed towards the expansion of Japan's interests on the Asian mainland, no matter what the costs and efforts, strategic objectives became too grandiose for military means. The risks of strategic failure increased. Ever-increasing military dominance over Japan's foreign policy resulted in ever-increasing military commitments. The military eventually overreached itself as the false confidence, based on the experience of the military incidents of the latter 1920s and early 1930s, led to a full-scale war by 1937. Military strategic effectiveness waned, and by the time the decision was made in 1941 to expand the war to include the ADB powers, strategic effectiveness was at its lowest ebb in the interwar years.

Fundamental to this transition was the military's usurpation of foreign policy making and the imposition of military goals for the nation. The goals were not always logical. That kind of military

behavior became increasingly commonplace after the Mukden Incident in 1931, for military officers, who traditionally enjoyed a privileged position in Japanese society, were not effectively challenged and checked in their initial quest for dominance.

The military had the capacity for independent action. War and Navy ministers, for example, had the right to report directly to the emperor, a privilege enjoyed by only one other cabinet member, the prime minister. Unless especially invited by the emperor, the foreign minister could report his views to the throne only through the prime minister. And although military ministers were supposed to report to the emperor only on important military matters, in fact, in the 1930s the war minister, in particular, frequently advocated certain views in foreign affairs that were not necessarily those of the foreign minister. Furthermore, the service ministers were constitutionally empowered to assert much control over the cabinet. They could force the collapse of an obstinate cabinet and prevent a new one from being formed, if circumstances were propitious. Inevitably there were occasions, therefore, when civil ministers chose to defer to military wishes rather than risk resignation of the government. Especially the Army exercised disproportionate influence in shaping Japan's Asian policy in the 1930s. The classic cases usually stemmed from the Army taking the initiative in the field, creating a dramatic incident on which much national prestige appeared to rest, and then presenting the foreign minister with a fait accompli. Such independent military actions, stemming from the so-called prerogative of supreme command, were usually recognized by the entire cabinet after the fact, since not to do so was to admit that the civil government could not control the military. Failure to check the Army's role in shaping foreign policy in 1931 practically left the diplomats no

alternative other than to accept the military's involvement in politics later in the decade. Moreover, there developed in the 1930s a popular conviction among Japanese that their diplomats had failed, for they should have been able to convince the world of the legitimacy of Japan's quest to establish its predominant position in China -- a so-called Asiatic Monroe Doctrine.²⁴

The decision to use force in Manchuria was made by the Kwantung Army in the name of "national defense" in 1931; that was the "sacred slogan of the twentieth century," a Japanese professor has written, and with it "Japan entered the long road that would ultimately end at the outbreak of the Pacific War."²⁵ In 1931 much of the civil leadership was dubious about the risks and consequences of failure. But the Army appeared to be right, at least in the short run, for it judged correctly that other countries, particularly Western nations, would not immediately intervene. During the succeeding years the Army sought further territorial expansion in northern China while it also continued to drive the government and influence its foreign policy.

The willingness of Japanese Army leaders to use the incidents they thus created to gain more military prerogative was a dangerous sign of the times. The Army was becoming a skillful manipulator in defining national strategic goals, but in the process it overestimated its own capacity to persuade through the use of force.

The best example before 1941 of the Japanese Army's inability to restrict its strategic goals to its available operational capacity can be seen in the Sino-Japanese War. Here, in particular, strategic and operational concerns overlap. The Japanese Army inaugurated the war with an ambitious offensive calculated to reduce China to submission, yet strategic thinking did not envision the engagement as an all-out war

which required, if strategic goals were to be quickly achieved, all-out commitment at the operational level. Although the Japanese easily overran large areas in 1937 and 1938, the Chinese will to resist could not be broken. Japan's strategy underwent a radical change. In an effort to avoid wasteful expenditure of strength, after 1938 Japan resorted to a policy of economic strangulation in China. Costly offensives were to be avoided, and in 1939 the major ports along the southeast coast of China were seized by the Japanese in amphibious expeditions. Thus, Japan was in a strong position to take advantage of opportunities created by political and military events in Europe after September 1939, a topic later to be discussed more thoroughly. But conquest of China was the original objective of the Japanese Army, not stalemate so that it might be in a favorable strategic position to take advantage of new opportunities that would later develop for the promotion of a southern advance policy. Indeed, one can argue that the Army's mistake in 1937, when strategic goals in China became too great for the amount of force the Japanese were willing to commit, was only compounded in 1941 when even greater strategic goals were taken up in the war against the ADB powers.

In the 1930s the Japanese Army and its supporters in the government were successful at persuading Germany to adopt a policy toward Japan's Chinese enemy that was consistent with Japanese strategic objectives. Hitler decided to withdraw German military advisers from Chiang Kai-shek's forces, to prohibit the export of arms to China, and to discontinue the practice of allowing Chinese military personnel to complete their training and military education with the Wehrmacht.²⁶ That development was symbolic of military influence in foreign affairs. It was all the more significant because the military had convinced the

political leadership earlier in the 1930s that the nation must be prepared to use military force in the successful execution of a policy of expansionism in China. There was a widespread perception that peaceful, economic diplomacy through international cooperation in the 1920s had not benefited Japan or even safeguarded the nation's existing rights and interests.

The Navy seemed less willing than the Army to interfere vigorously with government foreign policy. For some time after the Washington Naval Limitation Treaty, the strategic objectives of the Japanese Navy were entirely consistent with political goals. With a freeze placed on the construction of capital ships and a guarantee in Article 19 of the Washington Treaty to maintain the status quo in regard to Pacific bases, the Japanese government, by astute diplomacy, gained ten years of security against an attack from American battleships. Battle fleets conducting major offensive operations were largely confined to their national waters, unless they had the advantage of adequate bases overseas. The British agreed not to build fortifications east of Hong Kong, and the Americans agreed to abandon the construction of various fleet facilities and the fortification of bases in the Philippines -- Cavite was nearly seventeen hundred miles from the Japanese coast and Guam was about thirteen hundred miles from Japan. By the same token, Americans were ensured against an attack by the Japanese battle fleet since Japan abandoned plans to create a series of great naval bases in the "insular possessions and insular dominions," viz. Karafuto (southern Sakhalin), Formosa, the Pescadores, and the Japanese mandates. Thus, a defensive naval strategy was adopted to promote Japanese hegemony in East Asia and the Western Pacific.

Not only were naval strategic objectives consistent with political goals, but naval strategic effectiveness remained high in the 1920s because the Navy's capabilities were commensurate with its goals. Nevertheless, there was some uncertainty and question about what might arise in the future. There was considerable Japanese suspicion about Anglo-Saxon intentions, in spite of the seeming tranquility in the Western Pacific. The mid-1920s saw massive U.S. Navy maneuvers off Hawaii and a visit of the U.S. battle fleet to Australia. At Singapore the British made the final decision to proceed with dockyard works and to go ahead with the construction of a fortified base. The Japanese press expressed alarm at the apparent Anglo-Saxon determination to challenge Japan's primacy in her own waters. Japanese paranoia was easily stirred. These developments by the end of 1925, as a contemporary naval journalist observed, "furnished patriotic Japanese publicists with ample material for conducting a big-Navy campaign."²⁷ Massive U.S. Navy maneuvers off Hawaii a little over a decade later, particularly in 1935, 1937, 1938, and 1940, were cited collectively by Japanese naval strategists as incomparably threatening. American naval activity warranted, therefore, a decisive shift to a new offensive strategy. Conditions as perceived by the Japanese would drive the Navy to expand, but new strategic goals expanded much more rapidly than the new matériel strength of the Navy.

In the 1920s, however, the Japanese Navy was specifically designed to provide the maximum of commerce protection in the Western Pacific and to establish a strong defense of Japanese interests in home waters and along the Chinese coast. To that end Japan retained ten capital ships after the Washington Conference, and lighter vessels, which were not restricted by the Washington Treaty, were added to the Navy. In the

event of war they were ideal for the protection of sea communications, on which Japan, with a thriving sea trade, was extremely dependent. The Washington Conference had agreed in principle, at the insistence of Admiral Katō, that such lighter vessels should be rated as defensive ships. The following table of Japanese warships commissioned and under construction, including those converted during construction, reflects the emphasis on lighter ships, particularly cruisers, destroyers, and submarines. It also offers further evidence that until the latter 1930s Japanese naval building programs were designed to implement a defensive strategy that was, in turn, consistent with the political goals of the government and in step with the reality of the Japanese industrial-technical base.

Japanese Naval Building Programs Implemented in 1923-1939

BATTLE- SHIPS	AIRCRAFT CARRIERS	CRUISERS	DESTROYERS	SUBMARINES	SEAPLANE CARRIERS	MINE- LAYERS
1923		3	7	6		
1924		1	5	7		
1925		3	5	3		

Japanese Naval Building Programs Implemented in 1923-1939

	BATTLE-		CRUISERS	DESTROYERS	SUBMARINES	SEAPLANE		MINE-
	SHIPS	CARRIERS				CARRIERS	LAYERS	
1926			2	5	5			
1927		1	2	5	7			
1928		1	1	6	4			
1929			3	5	5			2
1930				4	3			
1931				4				
1932			4	4	4			1
1933		1		3				
1934		1		2	1	1		
1935			2	2	5			
1936				2				1
1937	1	1	2	12	4			
1938	1		1	4	3	2		
1939		2	1	4		1		1
1940	2	2	2	9	7			
1941		3	1	8	10			

SOURCES: This table was compiled from information in Yoh Tomonga and Tadatoshi Yokoi, Teikoku Kaigun [The Imperial (Japanese) Navy], 2 vols. (Tokyo, 1960); Shizuo Fukui, Nihon no qunkan, waga zokan qijutsu no hattatsu to kantei no hensen [Japanese warships: the development of Japan's shipbuilding technology and the changes in naval vessels] 9th ed. (Tokyo, 1962); Nihon no sensuikan [Japanese submarines] Maru Special no. 31 (1979); Paul S. Dull, A Battle History of the Imperial Japanese Navy, 1941-1945 (Annapolis, 1978; and Stephen Roskill, Naval Policy Between the Wars, 2 vols. (London, 1968-1976). Minor contradictions exist among these sources. NOTE: Submarines cited above are the large, ocean going I-boats.

The Japanese claimed a strictly defensive raison d'être for the Navy, and cruisers played an important role. In 1927 Japanese Navy Commander Ichirō Satō wrote in Brasseu's Naval and Shipping Annual about the strategic doctrine of the Navy and the absolute necessity of commanding the seas that separate Japan from its economic resources. After describing Japan's enormous dependence upon overseas supplies (fifty-five percent of wheat, ninety-five percent of sugar, one hundred percent of rubber, one hundred percent of nickel, fifty-five percent of steel, and forty-five percent of iron were imported, for example), Commander Sato insisted that the security of the East China Sea was essential to maintain the huge imports of foodstuffs and raw materials from the Asian continent. However, there were many other articles of prime necessity to Japan's economy that were not available in China or Korea, but they came from farther south and passed through the East China Sea en route to Japan. Half of the oil imports of Japan, for example, came from the Dutch East Indies, also the source of Japanese rubber and many other goods. Therefore, the Navy's strategic task was to control the entire sea route, from the vicinity of Borneo through the South China Sea, the Formosa Strait, and the East China Sea to Japan, for "that sea route will be absolutely necessary for her power of resistance" The protection of trade in these waters," Commander Satō concluded, "is, therefore, a charge against the Japanese Navy almost as essential as its first duty."²⁸

The primary responsibility of the Japanese Navy was to design strategies that would protect the nation against attack by a foreign naval power, but planners, especially in the 1930s, had difficulty developing realistic strategic goals that were consistent with what seemed to be changing and uncertain political goals. There was no

thoroughgoing alternative to the naval strategy of the previous decade, and no consensus on new strategic objectives was achieved before the war in Europe began. But at the heart of the problem was the U.S. Navy, particularly after the London Naval Treaty of 1930, in which the Navy hoped for seventy percent of the British and U.S. level in warships not covered in the Washington Naval Limitation Treaty. However, the old 5:5:3 ratio on capital ships was extended to cruisers, destroyers, and submarines, and the ban on the building of capital ships was extended until 1935.

The American fleet was concentrated in the Pacific after 1932, and increasingly thereafter most of the major combat units had their home bases changed from port cities on the West Coast westward to Pearl Harbor. In 1940 the United States Fleet, soon to be renamed the Pacific Fleet in February 1941, was permanently based at Pearl Harbor. For nearly three decades before concentration of American naval strength in Hawaii, the Japanese Navy had made the U.S. Navy its imaginary enemy. Thus, Japanese naval strategists interpreted these events as evidence that the United States was determined to resort to armed intervention in opposition to Japan's policy toward China. While the Japanese Navy's strategic doctrine was traditionally passive, that is, designed to seek a decisive fleet engagement within Japan's Western Pacific perimeter, that doctrine involved the great disadvantage of leaving the initiative in the hands of American strategists. Moreover, the alignment of forces threatened, as time passed, to shift gradually the balance of naval strength to favor the United States and to diminish steadily the chance of Japan gaining a victory.

In the 1930s the Japanese military failed to design realistic strategic objectives that could benefit significantly from association

with the European allies of Japan. Politically, the Navy failed to prevent the tie-up with the European Axis powers. The government's official representative to Hitler's Germany, Ambassador Hiroshi Ōshima, was an Army lieutenant general, a serving military attaché in Berlin when he was promoted to ambassador in 1938. He was an advocate of close Japanese-German military and political relations. Moreover, while he was military attaché, Ōshima was instrumental in the conclusion of the Anti-Comintern Pact with Germany in 1936 and, thereafter, he sought to integrate and coordinate common strategic objectives aimed chiefly at the Soviet Union.

Ōshima's work was a serious disservice to Japanese strategic planning even before the outbreak of war in Europe. He was an extraordinary envoy responsible for building the bridge between the Third Reich and Imperial Japan. He was an intriguer and warrior-diplomat who usurped authority while trying to commit his government to a policy that he personally advocated. After Ōshima went to Germany in 1934 he represented and expressed military and totalitarian tendencies in the Japanese Army, government, and society and helped them reach dominance by 1940.²⁹ The Ōshima case was a classic example of the Japanese Army's usurpation of foreign policy making.

Hitler's haste to conquer Poland and his conclusion of the Nonaggression Pact with the Soviet Union late in the summer of 1939 temporarily discredited Japanese military schemes to ally Japan with the warring Germans. But the Japanese Army admired Hitler's boldness and unhesitating use of force in European affairs, and it continued to advocate a military alliance with the Axis powers. News of the sweeping German victories in Western Europe in the spring of 1940 tended to strengthen the position of pro-Axis forces in Japan. Furthermore, German

successes in Europe opened new possibilities to the Japanese for expansion southward, particularly into Dutch and French colonies in Indochina and the East Indies.³⁰

Events would drive the Navy to design an offensive strategic plan for war with the United States. Traditionally the Army regarded the Soviet Union as the chief hypothetical enemy, and preparedness for war and strategic planning proceeded accordingly. The Navy regarded the United States as the primary imaginary enemy. These different strategic concepts were never satisfactorily resolved. As one Japanese historian concluded, "no unified opinion could be brought into existence; the opinion of the Army and that of the Navy about strategy always led to inconclusive compromises."³¹ Nevertheless, German victories in Europe, Japanese expansionists argued, created a never-to-be-repeated opportunity for Japan to build a great empire extending from Manchuria in the north to weakened British colonies in the south and unprotected French and Dutch colonial possessions in Indochina and the East Indies. Ōshima, back in Japan after spending six years in Germany, often gave pro-Axis public lectures and helped to rally public support for a southern advance policy. "Don't miss the bus," he told audiences when explaining that Japan ought not to be left behind during the unique redistribution of European colonies.³² The prospect of a self-contained empire gave rise to talk of a Japanese-sponsored Greater East Asia Co-prosperity Sphere.³³ A southern advance policy appealed to the Navy because of oil and other resources, particularly in the Dutch East Indies. In the Imperial Conference, held on 19 September 1940, to confirm the decision to sign the Tripartite Pact, mention was frequently made of the value of Dutch oil for Japanese concerns and the importance of German friendship. (Almost as a note of ironic symbolism, the announcement of Ōshima's

reappointment as ambassador to Germany was made in late December 1940, and at a magnificent farewell party in January Foreign Minister Yōsuke Matsuoka declared that Ōshima had a unique knowledge of German foreign policy and that the tremendous personal trust in which Hitler held Ōshima enabled him to have perfect heart-to-heart talks with all leading members of the German government.³⁴ The Navy endorsed the notion of a military alliance with Germany and Italy, but cautioned that every conceivable measure should be taken to avoid war with the United States.³⁵

Not long before the signing of the Tripartite Pact on 27 September 1940, the rapid march of events significantly reduced Japan's strategic options. France granted Japan bases and transit rights in Indochina, and Great Britain, under Japanese pressure, agreed to a three-month closure of the Burma Road, an important route for supplies to reach the Nationalist Chinese during their war with the Japanese. Many Japanese argued that the strategic implications of these measures were clear -- they could help pave the way for a Japanese solution to the conflict in China and for a Japanese advance southward. Many Japanese, such as Foreign Minister Matsuoka, were convinced that the Tripartite Pact greatly strengthened Japan's international position; thus, the United States' strong attitude toward Japan could be mitigated and war avoided.³⁶

That was an illusory goal for Japanese strategic planners. In fact, Japanese-American relations were rapidly deteriorating and becoming noticeably more strained. The pact intended to separate the United States from Great Britain, but there was already a lot of evidence that the United States government would not abandon Great Britain or be cowed by Axis threats. The United States licensed the export of high-grade oil

and introduced an embargo of scrap iron and steel. The moves were directed against Japan. A military draft, the first peacetime program of compulsory military service in the United States, was adopted, and fifty U.S. Navy destroyers were turned over to the British. The American reaction to the change in global power relationships among the Axis powers in 1940 detracted appreciably from the easy fruits some Japanese strategic planners expected from a southern advance policy. The striking power of American naval and air forces then based in Hawaii became a matter of much consternation.

It was in those circumstances, therefore, in January 1941, that the strategic idea and the operational planning for the air assault at Pearl Harbor started to emerge.³⁷ A new offensive strategy had to be designed to take advantage of the element of surprise and to crush quickly American forces at Pearl Harbor. Thus, the Americans would be unable to interfere immediately after the start of campaigns to expand southward. Thereafter, it was assumed that Japan would have an impregnable position within her recently secured Western Pacific perimeter. Strategic failure was near at hand.

At the Imperial Conference on 2 July 1941, Japan's direction, previously determined to some extent by the course of recent events, was steadied to an alarming degree. There was to be no immediate declaration of war on the Soviet Union, in spite of the recent German invasion in the European portion of that huge nation. Indeed, the Japanese chose not to take advantage of the opportunity to integrate their strategic objectives with those of their European allies, although there was not complete agreement on that point.

The Japanese had long known of the forthcoming attack and had decided to pursue a peculiarly Japanese course. On 28 May 1941 Foreign

Minister Matsuoka wired Ambassador Ōshima in Berlin with instructions to tell the German foreign minister immediately that "in view of the current international situation which so deeply involves my country, and of the internal situation within Japan, this minister sincerely hopes that the German government insofar as is possible will avoid a military clash with the Soviet [Union]."³⁸ And four days before the German invasion of the Soviet Union, after reporting "on the imminent probability of the opening of hostilities," Ōshima advised Matsuoka on the proper steps to be taken for the welfare of Japan:

First of all, it is urgent that we adopt and adamantly stick to a policy assuring the establishment and maintenance of our area and rights of co-prosperity in Greater East Asia. We must speedily adopt a definite policy in our relations with the South Seas, China, the United States, and Soviet Russia. As I say, we must meet the European situation with a counter-policy of our own from which we ourselves will derive the greatest benefits and carry it out with resolution.³⁹

In another ciphered wire of the same date (18 June 1941), Ōshima estimated that "the coming German-Soviet war ... will end in a short time." There would be no time for the western democratic nations to give aid to the Soviet Union, although "Great Britain would, no doubt, endeavor to get more aid from the United States." However, Ōshima concluded that "with the defeat of Soviet Russia ...," the United States would "forgo her plans of joining the war."⁴⁰ That type of fallacious assessment was all too prevalent on the eve of the important 2 July 1941

Imperial Conference, when it was decided that the southern advance policy was to be implemented, even if the action ultimately led to war with the United States.⁴¹

III. Operational Effectiveness

Japanese armed forces developed operational doctrines that were fairly realistic in terms of short-range requirements in the interwar period, and they were reasonably effective until strategic goals became more imposing in the latter 1930s. The shortcomings of operational doctrines were revealed in the Army sooner than in the Navy, but in general the origins of the failure of operational doctrine by the summer of 1941 were reflected in and symptomatic of the growing ineffectiveness of Japanese military strategy after the onset of the Sino-Japanese War.

One of the chief strategic goals of the Japanese Navy was to promote Japanese political, economic, and military hegemony in the Western Pacific. That realistic strategy contributed to the formulation of operational doctrines that were only partially effective.

Operational doctrine enhanced the development of Japanese sea communications, but Japanese admirals did not pay much attention to the protection of their own lines of communication. That was a serious mistake and it considerably reduced operational effectiveness. Indeed, naval operational doctrine, which reflected the admirals' obsession with the battle fleet, stipulated that destroyers were to escort capital ships only, and when war came in 1941 there were no Japanese naval units with an exclusive mission to escort merchant ships. In spite of Alfred Thayer Mahan's warning that the power "to insure these communications to one's self, and to interrupt them for an adversary, affects the very root of a nation's vigor" and in spite of emphasis on the construction of lighter

vessels, especially destroyers, the Navy failed to cover the nation's vulnerable lines of communication, even though they were so vital to the Japanese industrial-technical base.⁴² Nor was there any predilection among Japanese admirals for commerce-raiding operations.

The Japanese Navy was responsible for escort protection, but it was indifferent to and ignored the importance of convoy escort in the interwar period. The Navy was paralyzed and unable to come to grips with the problem. Many Army officers and officials from civilian shipping companies were highly concerned with the problem of convoy escort, but they were unable to influence the Navy. They sometimes read the works of Winston Churchill and David Lloyd George as they pertained to methods devised to deal with unrestricted U-boat operations in the First World War. But the Navy was offensive-minded; it was obsessed with studying and training for offensive operations against the enemy's battle fleet. There was, however, an extremely small section in the Navy Department (fewer than a dozen officers and enlisted men, most of whom were physically unfit for regular duty) in charge of sea defense late in the 1930s, but the chief focus of the section was on the study of harbor defense and minelaying, not on the problem of convoy escort.⁴³

The particular corollary to the Japanese Navy's failure to develop a convoy escort procedure was its failure to develop an anti-submarine warfare (ASW) operational doctrine in the interwar period. ASW was of little concern to Japanese naval planners because they underestimated the submarine menace to shipping. In the late nineteenth century, the tradition-making era for the Japanese Navy, Japan was still an agricultural state; there was little population pressure and the new nation-state did not have a great dependence on a sea-borne trade. That situation changed dramatically with growing industrialization, especially

around the turn of the century when submarines appeared to be of little consequence in naval warfare. The brilliant successes in fleet-versus-fleet duels dominated Japanese naval thought. Those successes were the focus of naval lessons learned in studies of the Battles of Yalu and Tsushima, for example. During the rapid growth of Japanese industry in the First World War and, therefore, growing dependence on sea-borne trade, Japanese naval officers, nevertheless, sought mainly battleship lessons in their professional studies. Although the Japanese Navy assisted the British Navy, from which the Japanese had learned so much, by sending destroyers to fight against U-boats in the Mediterranean Sea, in the 1920s and 1930s Japanese naval officers preferred to discuss and study the fleet engagements near the Falkland Islands and off the Chilean port of Coronel, among other surface battle actions.⁴⁴ Thus, in the areas of convoy escort and ASW, the Japanese Navy became a victim of its previous rigid thinking -- inflexibility characterized those aspects of operational doctrine. Before 1941 the vested interests of most traditional-minded admirals prevented the development of an effective operational doctrine that could come to grips with some of the changes occurring in naval warfare. A high price would be paid, 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; forty-eight American submarines were lost in combat operations.⁴⁵

The Japanese Navy profited from an aggressive spirit, and it sought to generate combat power to support operational doctrine. If indifferent to some operational concerns about how best to employ submarines, on the other hand the Japanese Navy was very interested in the weapon itself. For Japan had an innovative Navy that sought to keep abreast of new

developments in foreign navies. Even before the Washington Treaty it was building several submarines of the RO class -- they were put into service between 1919 and 1927. They were medium range submarines based on plans purchased of the Italian Fiat-Laurenti, the French Schneider-Laubeuf, and the British Vickers "L" boats during the First World War. The Japanese submarine school was established at Kure in 1920. At first, classes were conducted aboard the old cruiser Itsukushima, for the Navy's request for funds for base facilities was denied in 1919. A captain served as president of the school, and in 1921 the faculty included eight commanders and thirteen lieutenants.⁴⁶ Soon, in two separate six-month long classes, about thirty officers and 250 enlisted men were graduated annually. A very detailed U.S. naval intelligence report of 1928 observed that the Japanese "curriculum is, in general, about the same as that of our own submarine school at New London, including diesel and storage battery engineering, systems of attack, etc. Periods of instruction on shore are supplemented by periods of practical instruction in the actual handling of submarines."⁴⁷

The strategic characteristic of the Japanese Navy of gaining access to foreign technological information in order to promote its own operational capabilities can be clearly seen in an examination of the changes that the Japanese introduced in their submarine force. The advent of German U-boats in the First World War was a technical innovation not to be wasted on Japanese naval planners. The Japanese sought the best available submarine technology and developed it in such a way so as to support operational doctrine. Japanese Navy officers were sent to Germany to study U-boat designs. For example, one such officer was then Lieutenant Commander Naokuni Nomura who was in Germany from 1919 to 1924.⁴⁸ Japan, an allied power in the First World War, received

seven U-boats as German reparations. The submarines were not only carefully tested and thoroughly studied, but hundreds of German submarine designers, technicians, and former U-boat officers were brought to Japan and employed under five-year contracts by the Japanese Navy. At about the same time, 1921, the Japanese Navy demonstrated its keen interest in other foreign technology by buying large amounts of optical glass from Germany and Switzerland and bringing engineers from various European optical firms to Japan to design periscopes, range finders, and other optical instruments essential to the Navy's operational and tactical effectiveness. In other instances, Japanese commissions purchased bomb sights manufactured in Austria, HAN (Maschinenfabrik Augsburg Nürnberg) 3,000 horsepower diesel engines from Germany, and Swiss steam turbines. The latter purchase was for a Japanese destroyer then under construction at Ishikawajima dockyards.⁴⁹

The Japanese took available technology to design a fleet component that would serve the interests of the centerpiece, the queen of battle, the battleship. The new class of larger cruiser diesel submarines, the I-boats, developed in 1924 from this program of seeking the best of foreign technology, contributed to the Navy's effort to assist in the consolidation of Japanese hegemony in the Western Pacific.⁵⁰ Such I-boats were fast enough to operate with the dreadnoughts of the 1920s or to scout ahead, and they had sufficient range and provisions for a sixty-day cruise, even across the Pacific or Indian Oceans, without any means of support. In the 1920s Japan had a more far-flung empire than previously; moreover, the building of submarines was not restricted by the terms of the Washington Treaty. Thus, there was a deliberate move on the part of Japanese planners to take advantage of newly available German technology, to emphasize the design and construction of large ocean-going

submarines which were peculiarly suitable for operating in the vast expanse of the Pacific Ocean.

These new ocean-going submarines were particularly effective in helping to tie together the newly acquired mandated islands into a defensive perimeter surrounding vital sea communications of the Japanese empire. In this respect the Navy's operational concepts were fully consistent with the technical capabilities of I-boats. Former German islands and atolls north of the equator in the Pacific -- the Palau, Mariana, Caroline, and Marshall groups -- were mandated to Japan by the League of Nations, but the terms of the mandate prohibited their use for naval or military purposes.

Nevertheless, harbor facilities, supply depots, and refueling bases were soon established on several of the islands -- they were equally convenient for Japanese armed forces and commercial enterprises. Japanese behavior in the mandated islands signified a consistency between operational concepts and strategic objectives, for outlying islands with facilities suitable for supporting military operations could not help but promote the consolidation of Japanese hegemony in the Western Pacific. It is not surprising, therefore, that there was a great deal of speculation in the United States and Great Britain that the Japanese were indeed using the bases for naval and military purposes and that they were also very secretly fortifying some of the mandated islands. These suspicions were confirmed later in the 1930s by evidence that intensive militarization was under way, particularly of the Marshall and Caroline Islands. But by that time Japan sought more than mere consolidation of hegemony, she sought expansion of her Pacific sphere of influence.⁵¹

This part of Japanese operational doctrine remained effective in the interwar period, for the islands became increasingly militarized at

the same time strategic objectives became increasingly critical of U.S. Navy advances westward. Work commenced in 1934 to construct airfields on various mandated islands in order to develop an interlocking defensive air network. Several of the islands of the Kwajalein Atoll in the Marshalls were made into a major advance base, with repair facilities for submarines, a torpedo station, piers, fleet anchorage, and a seaplane ramp.⁵² By the summer of 1941, such installations as fighter and bomber airfields and very heavily reinforced concrete pillboxes and blockhouses were added to the Kwajalein fortifications. At least forty Japanese vessels were constantly employed in carrying out mostly Korean laborers and matériels from Japan for the systematic militarization of Truk in the Carolines and the Kwajalein Atoll.⁵³ Furthermore, after 1936 the Navy took over the administration of communications in all of the mandated islands, and additional radio stations were constructed in the Marianas and Carolines. Thus, the mandated islands formed a network of support facilities, and in time of war an enemy would have great difficulty driving Japanese armed forces from the area.

The configuration of newly secured mandated islands, their development for sea support activities, and the design and construction of the new ocean-going class of I-boats stimulated the Navy to develop an operational doctrine that supported Japan's political and strategic goals in the Western Pacific. In the event of war in the 1920s or early 1930s, Japanese submarines in the Western Pacific, with Marshall Islands support facilities 1,900 miles from Hawaii, 2,100 miles from Australia, and 2,300 miles from Tokyo and other Japanese industrial centers, could concentrate on the protection of Japanese sea traffic, on the disruption of an adversary's sea lanes within the Japanese defensive perimeter, or serve as pickets for the battle fleet. Aircraft aboard a few of the

submarines by the early 1930s increased their ability to reconnoiter the sea lanes. But just beneath this operational doctrine was the assumption that Japanese submarines would also concentrate on the destruction of any remnants of the enemy's battle fleet entering the Japanese-controlled sphere.⁵⁴ Thus, this operational doctrine lent itself to an easy switch from a defensive orientation to an offensive one. For the bases that prompted the hegemony of Japanese interests in the Western Pacific on earlier occasions would in changed political and strategic circumstances be viewed as a springboard for offensive operations against an enemy's battle fleet.

The Japanese use of seaplane tenders provides an excellent example of operational effectiveness. Seaplane tenders, particularly in view of Japan's strategic bases in the mandated islands, served well the communication objectives of the far-flung empire. These mother ships carried planes on deck that could be catapulted into the air or hoisted over the side for take off from the water. Other disassembled and crated planes were carried in the holds of such ships. Several of these mobile hangars were built for the Japanese Navy in the interwar period, and they proved particularly effective in the Sino-Japanese War starting in July 1937. Indeed, they serviced and supplied most of the planes employed against Chinese cities and armies along the coast.

The potential of cruisers in the new operational doctrine was not unlike that of submarines. Within ten years after the Washington Treaty Japan added at least nineteen new cruisers to the Navy. They were ideally suited to protect the nation's seas communications and to raid an adversary's trade routes in the Western Pacific. The new Japanese cruisers were fast (thirty-three knots), had a wide radius of action, carried reconnaissance aircraft and torpedo tubes, and most of them had

eight-inch guns.

Although the configuration of the Navy developed after the Washington Treaty was well-suited for the guerre de course in which fast cruisers and long-range submarines played prominent roles, such a theory of naval warfare was not wholly endorsed by the Japanese admiralty. The features of the new Japanese cruisers that made them so attractive as patrol vessels, escorts for troop and supply ships, or for use in a guerre de course against enemy commerce also made them admirably adapted to service with the battle fleet as scouts and as screens against torpedo attack from enemy destroyers. In the most famous victory of the Japanese Navy, at Tsushima over the Russians in 1905, Admiral Tōgō relied extensively on the scouting and shadowing operations of his cruisers. They made contact with the Russian battle squadron when it was 100 miles from the site of the impending battle, and the cruisers constantly radioed to Admiral Tōgō information of the enemy's course and speed for eight hours before the Japanese attack. Shortly after the Japanese victory, Mahan compared Tōgō's advantage to Nelson's before the Battle of Trafalgar -- the British admiral, fifty miles at sea, knew from his scouts that the allied fleets left Cadiz two and a half hours after they weighed anchor.⁵⁵ The historical precedents of cruisers serving the needs of the battle fleet was deeply imbedded in the minds of Japanese naval officers, and thus, also, in Navy operational doctrine. The earlier doctrine concerned with the protection of interior lines of sea communications fell victim to offensive planning when political and strategic goals became more aggressive in the 1930s. Nevertheless, the gradual change in Navy operational doctrine had no serious consequences for the Japanese before 1941. That was because of the relative weakness of the Chinese Navy during the Sino-Japanese War.

The Japanese fleet had much freedom of action in the Western Pacific in the mid-1930s. It had many well-situated naval bases, and it was a well-balanced and splendidly trained force. One contemporary naval analyst observed that the newer Japanese ships had "higher fighting qualities than British and American ships," but those characteristics were obtained at the cost of habitability and perhaps seaworthiness.⁵⁶ Nevertheless, these considerable strengths of the Japanese Navy were neutralized to some degree when by the summer of 1941 an offensive strategy superseded earlier policy. In this regard, a hallmark of operational ineffectiveness was the small and slow fleet of oil tankers. One naval observer predicted in 1935 that that weak spot in Japanese naval armament "would be a handicap for offensive operations."⁵⁷

While the fleet was fast enough and had the range to strike offensively at distant targets, naval logistics could not support such operations, especially in a war of attrition. The Japanese Navy was imbalanced in favor of heavy offensive vessels, and when war was near at hand in 1941 all Japanese merchant ships were called home for conversion into war transports, tenders, troop and cargo carriers, and fuel ships for the battle fleet and air units. The lack of a fully integrated supply and transport system adequate to meet the wartime needs of the fleet proved to be disastrous. That shortcoming and the ASW and convoy escort problems illustrate severe operational ineffectiveness. Japan would suffer the loss of virtually all of her sea power -- over 2,300 merchant ships of 1,000 tons and larger and nearly 700 naval vessels were destroyed in the Second World War.⁵⁸

The Japanese were always keenly interested in developments in foreign armed services. The observations of Japanese military agents in Europe during the First World War sharpened an interest in naval

aviation, and developments soon formed an integral part of naval operational air doctrine consistent with Japanese strategic goals in the Western Pacific. The Japanese Navy requested technical assistance from the British; the result was that a semi-official mission headed by Lord Sempill, a pioneer of British aviation, was despatched to Japan for two years starting in 1921. Some thirty air officers of the mission helped to train Japanese naval aviators; other assistance in Japanese naval air developments came from a former Royal Navy Air Service officer who was employed by Mitsubishi throughout much of the interwar period.⁵⁹

These earlier developments in naval aviation greatly assisted the Japanese during their steady expansion of the aircraft carrier force after the Washington Treaty. The treaty permitted them 81,000 tons of carriers compared to 135,000 tons allowed in each of the navies of Great Britain and the United States. The small carrier Hosho (7,500 tons, twenty-five knots, sixteen planes) was already operational, and the treaty allowed the Japanese to keep two super battle cruisers, the Amagi and Akagi, for conversion to aircraft carriers. Joining the fleet in 1927 and 1928, the Akagi and a substitute carrier for the Amagi added appreciably to naval air power and increased the Navy's ability to comb the seas and watch over the nation's far-flung sea communications.⁶⁰ Three somewhat smaller aircraft carriers were commissioned by the mid-1930s.

Operational carrier doctrine remained focused chiefly on sea communications during the decade. In the event of war with the United States plans were to fight an attrition campaign at first, followed by the decisive battle. Japanese submarines and air attacks were to reduce American forces en route westward from Hawaii to the relief of the Philippines. First, packs of large and fast ocean-going submarines would

attack soon after the fleet sailed out of Pearl Harbor. After the initial attack they were to resurface, race ahead with a two or three-knot advantage over the cruising speed of the slower American capital ships, and attack a second time when the fleet was two or three days out of Pearl Harbor. The process would be repeated until the I-boats exhausted their supply of torpedoes. As the American fleet drew closer to the Philippines, it would come within range of long-range bombers, particularly the Mitsubishi Type 96, based on various Japanese mandated islands. Further reduction of the American fleet would occur before the anticipated fleet action took place in the Western Pacific, a Tsushima or Jutland-like battle somewhere between the Marshalls and the Philippines.⁶¹ Nevertheless, in various fleet exercises in the interwar period, the Japanese, like the British and Americans, discussed and experimented with carrier-borne air striking forces to test the effectiveness of bombers and torpedo bombers against enemy targets.⁶²

Traditionally, Japanese operational doctrine for the employment of aircraft carriers insisted that they were supposed to provide an "air umbrella" for the battle fleet. But the Japanese were not unaware of foreign speculation about a new role for carriers, especially when it came from the pen of Hector Bywater, the well-known naval correspondent of the London Daily Telegraph. In 1934 Bywater claimed that the Japanese appreciated the "essentially aggressive character" of aircraft carriers. Therefore, he declared, "Japan fears these ships more than any other naval craft. She dreads the possibility of large enemy carriers steaming across the Pacific to send off swarms of bombing planes against Tokyo and other populous centers."⁶³ Not long before, in 1932, a Japanese delegate at the Geneva Disarmament Conference complained about the "specifically offensive character of aircraft carriers, but other

delegates observed that the Japanese could easily oppose in principle the construction of carriers because most of Japan's spheres of interest could be dominated by land-based aircraft.⁶⁴

Simultaneous with concern and speculation about the offensive possibilities of the carrier strike force was new concern over some of the tenets of the old doctrine. The concern, if not anxiety, over the viability of traditional operational doctrine grew out of changes in Japanese political and strategic thought. As the Navy started to plan in late 1941 for a southern advance, which would inevitably mean war with the United States, it was decided that the Japanese new southern defensive perimeter had to be established before there occurred the expected clash with the American battle fleet. But the Americans might arrive earlier, before southern operations were completed! Or through the northern route there could come a carrier-borne air strike against the home islands that would not only leave the Navy chagrined, but force it to weaken its southern forces for the sake of improving defenses against attack on Tokyo and other major Japanese cities. Furthermore, the Japanese questioned the old plans calling for their battle fleet to wait for the advancing American fleet in the vicinity of the Philippines, for the Americans might not risk crossing westward very close to Japan's mandated islands. Therefore, the American battle fleet could arrive in the Western Pacific when and where American strategists decided, and, presumably, it would arrive without coming under severe air or submarine attack. Since war with the United States was believed to be inevitable, Japan would surrender a great advantage by adhering to the old defensive doctrine through which the Japanese Navy would have to react to a generally, and not specifically, anticipated American attack. Thus, some Japanese naval analysts argued that the new circumstances necessitated

change in operational doctrine.

After 1937 Navy operational doctrine started to change very gradually, but for several years to come the battleship would remain the centerpiece of the Imperial Japanese Navy. In time it was thought that fast carriers could eventually project firepower deep into enemy territory. Several new carriers were built, and the big carriers Akagi and Kaga were modernized. Eventually, by the first half of 1941, fleet maneuvers tested the new naval air operational concept, and in August and September the number of large fleet carriers to take part in the impending Hawaiian assault was augmented from four to six by the commissioning of the splendid Shokaku and Zuikaku.⁶⁵

A whole new concept of air war emerged -- eventually it would seize Admiral Isoroku Yamamoto, Commander in Chief of Japan's Combined Fleet. In the increasingly threatening political and strategic circumstances the Japanese government and armed forces viewed themselves to be in early in the new decade, the bold gamble of Yamamoto's plan for the Pearl Harbor attack seemed worth careful consideration and study, and ultimately, it was, indeed, approved by the Naval General Staff.

A sharp operational departure from traditional doctrine was essential. In a major secret operation directed primarily against U.S. carriers and land-based planes in Hawaii, all available Japanese carrier forces were to participate in a surprise daylight attack. Neither the Japanese Navy nor the Army had precise instruments with which effectively to carry out grand scale air strikes under cover of darkness.⁶⁶ Nor did the Japanese naval air admirals risk attacks on the enemy when it was anticipated that the pilots would have to find their way back and land in darkness on possibly pitching carrier decks. All types of carrier-borne aircraft were to be utilized. The primary role for fighters was to

control the airspace over Oahu targets, not to provide a traditional "air umbrella" for the fast battleships and heavy cruisers in the strike force. High-level and dive bomber aircraft were supplemented by torpedo bombers. The variety of types of aircraft increased the opportunity to inflict maximum damage, for only one weapons system could endanger the entire operation. For example, torpedo nets might be in place around U.S. warships. And if suspicion about the potential effectiveness of high-level bombing was warranted because earlier experience in China was not altogether satisfactory, dive bombers would not miss the opportunity to unleash missiles falling with considerable velocity and accuracy on the entrapped American fleet. It was an imaginative piece of planning intended to damage, paralyze, and temporarily contain the U.S. Pacific Fleet and Oahu's air power.

Inevitably the roles of other vessels would have to change. No longer were they to be committed to the defensive psychology implicit in the standard doctrine of a running Tsushima or Jutland-like set piece confrontation between battle fleets. Cruisers and destroyers were to serve as scouts for the large carriers and the few fast battleships accompanying the strike force. Submarines were to be pickets to furnish reconnaissance detail and to attack any naval units attempting to escape the raging attack inside Pearl Harbor. The logistics of the Hawaiian operation were studied carefully, and fleet exercises to rendezvous with tankers to carry out refueling at sea were a hallmark of operational effectiveness in the Japanese Navy by the summer of 1941. But how permanent would the changes be in operational doctrine?

Necessity seemed to dictate a change from conventional operational doctrine, and naval air power advocates welcomed the demise of the battleship as the decisive striking force at sea. Yamamoto was the

driving force for such a change in operational doctrine, and with his rank, position, and enormous prestige he was able to gain approval for the naval air power plan of attack on Pearl Harbor. But approval for the plan of attack did not signal an actual change in the anachronistic views of most of the senior naval traditionalists and their notion of battleship supremacy. In the summer of 1941 tremendous effort and expense were devoted to continued construction of four warships intended to be the world's largest battleships -- one, however, was converted to a heavy aircraft carrier before commissioning.

Operational effectiveness for the Japanese Army can be seen in clearer relief than for the Navy because of the conduct of military operations on the Asian continent. The successful coup d'état of the Kwantung Army in Manchuria in September 1931 set off a chain of military operations that quickly spread through that Chinese province. The military operations, not very extensive by standards to be applied later in China, were highly mobile and flexible. Skilled command leadership made good use of the South Manchurian Railway, and a few airplanes were occasionally used to bomb Chinese positions. The Kwantung Army was quite small at the outset of the incident, perhaps eleven thousand soldiers, and the number of Chinese regulars in Manchuria was about two hundred fifty thousand.⁶⁷ Nevertheless, extremely effective Japanese military operations would soon fulfill the Kwantung Army's self-proclaimed political goal:

To establish an independent new state in Manchuria and Inner Mongolia, separated from China proper, which will outwardly be under unified Chinese administration but actually under our control. We will undertake the

transfer of power as quickly as possible and meanwhile extend our influence in all directions and found a solid and unshakable base.⁶⁸

Claiming that they were acting in self-defense, Kwantung Army forces immediately occupied Mukden where the engineered plot had taken place on the night of 18 September. Japanese reinforcements were sent from Korea without government permission, and within a few days additional key cities in Manchuria were occupied as well. The Japanese Army demanded emphatically that those officers on the spot were best fitted to make such crucial decisions, and that military necessity in the field should determine policy. Chinese guerrilla resistance became widespread, thus, the military argued, the expansion of operations throughout the three eastern provinces of Manchuria was necessary. Increasingly, the government was forced to act as an apologist for the Kwantung Army's acts until the puppet "independent" state of Manchukuo was established in February 1932. The Kwantung Army commander was then given a second title -- Ambassador Plenipotentiary to Manchukuo. Military hegemony was complete.

The Japanese Army started war with China in July 1937 as a means of expanding national interests. Strategic and political goals were consistent in their aim to gain hegemony on the East Asian mainland, but the operational capacity of Japan's armed forces was insufficient for a protracted war with China. The incident, not unlike the Mukden Incident, was a premeditated plot on the part of a small group of Japanese militarists. In this case it was the so-called China section in the general staff and war ministry. There was an exchange of shots between a Japanese force conducting maneuvers and the Chinese garrison of Wanping,

a small city at the eastern end of the Marco Polo Bridge. Wanping strategically linked the important Peiping-Tientsin line with the vital Peiping-Hankow railroad. The Chinese sought a local settlement and were prepared to make concessions, but the Japanese took advantage of the situation as the instigators of the Mudken Incident in Manchuria had successfully done a few years earlier. The precedent was overwhelming.⁶⁹

The Japanese marshalled their military might and escalated the war in an effort to achieve an early victory. Japanese intelligence underestimated China's will and capacity to resist, and it overestimated Japan's ability to subjugate a very large country with a huge population in a short war. The blatant invasion had temporarily given the Kuomintang forces of Chiang Kai-shek and the Chinese communists some common aims, and that fact contributed to a more united defense. Near the end of 1937 Imperial General Headquarters was established in Tokyo to centralize the conduct of operations in the hands of Army and Navy leaders. Sixteen divisions of the Army were then committed in the Sino-Japanese War.

Although the Chinese lost most of the battles and paid dearly in the loss of trained men in a series of last-ditch stands and poorly organized retreat operations, the Japanese Army suffered humiliating blows. The Japanese military leadership did not react effectively to prevent the war from being significantly drawn out after 1938. The policy of the Chinese was to trade land for time, and Chiang Kai-shek sought to mobilize the nation's resources and continued resistance in the interior for a protracted war. By the end of 1938 Imperial General Headquarters in Tokyo was blinded by the unexpectedly heavy casualties and costs sustained during the opening phase of the war (War Minister

General Gen Sugiyama had told Emperor Hirohito that the war would be won by the end of August 1937).

The Japanese adopted a new operational doctrine in China when an all-out military assault to deliver the coup de grace to Chinese resistance would have been more consistent with the initial political and strategic goals. War destruction was mounting in China, inflation sapped the country's economy, most foreign aid was cut off, and corruption and bureaucracy undermined Chiang Kai-shek's government. On the other hand, the Japanese occupied a large section of Chinese territory, including the great rivers, the major cities, and much of the coast. Japanese troop strength increased to twenty-four divisions by the end of 1938, and all Japanese forces were more seasoned and experienced. Nevertheless, Imperial General Headquarters seemed to be obsessed with setbacks in operations and, therefore, it adopted a new policy of genchi hokuyū -- trying to supply the war with local Chinese sources.⁷⁰ That was a cautious Japanese strategy of living off the occupied territories while consolidating gains and waiting for what many Japanese military analysts believed would be the inevitable collapse of Chiang Kai-shek's government. The Japanese failed miserably at the strategic and operational levels to prevent the war in China from becoming protracted, and by 1940 the Japanese Army had twenty-seven divisions committed in China, yet that was the smallest percentage of the growing Imperial Japanese Army even to fight since July 1937.

IV. Tactical Effectiveness

The quickening pace of technological developments after the Washington Conference enabled Japanese naval tactics to keep abreast of the demands of operational doctrine and strategic objectives. The tactical system reflected the innovative spirit of the Navy -- heavy armor and high speed were important in the interwar period when the Japanese Navy studied carefully the lessons of Jutland. While the Navy was innovative in developing underwater, surface, and air tactics, the battleship remained the chief focus of tactical concern.

Naval operational doctrine incorporated the offensive capacity of new aircraft carriers, particularly after the Naval Air Corps developed more effective tactics. In 1930, by which time the Japanese had gained a great deal of experience with their new large carriers, the Akagi and Kaga, Navy aviators started to develop a new method of attack -- dive bombing. Training standards were high. Achieving a much greater degree of accuracy than experienced with high-level bombing, Japanese naval pilots held that sighting was easier in dive bombing because the angle of dive of the attacking aircraft was more directly in line with the target. Moreover, its bomb was released much closer to the target than during a high-level attack. The development of a sight for accurate dive bombing and much training during the decade before the summer of 1941 greatly increased the tactical effectiveness of Japanese naval aircraft.⁷¹

Nevertheless, the results from early tests of aerial bombing attacks on capital ships were disappointing. The Japanese were attempting to discover a means for counteracting the superior battleship strength of the United States. In August 1930 the old cruiser Akashi was used as a target for bomb attack by planes. But the Akashi remained afloat in spite of several direct hits, and she was finally sunk by torpedoes from a destroyer. A Japanese veteran, a graduate from the Japanese Naval War College in 1934, wrote that "this experience led to increased naval emphasis on the importance of torpedoes and included experiments in launching them from airplanes."⁷²

Other air combat training in the interwar period was also realistic and suggested a high level of effectiveness. The Japanese conducted extensive experiments as they refined aerial torpedo techniques after 1933. Torpedo designs were steadily improved, and low-flying, shallow-water exercises were so successful in 1940 and the first part of 1941 that aerial torpedo runs became a hallmark of Japanese tactical effectiveness. Also, through the development of new armor piercing bombs and extensive pilot training, the tactical effectiveness of naval high-level bombing improved dramatically by the summer of 1941.⁷³ Thus, tactical developments were essential before the Japanese could undertake a surprise carrier-borne strategic strike against the American battle fleet.

Japanese tactical effectiveness was also greatly enhanced by the development of a giant oxygen-propelled torpedo twenty-four inches in diameter, almost thirty feet long, and 6,000 pounds in weight. These Model 93 (so-called Long Lance) torpedoes were vastly superior to foreign torpedoes. While they were only slightly faster than their American and British counterparts (top speed was forty-nine knots), their maximum range (about twenty-one miles) was at least four times greater. And

their powder charge was at least sixty percent greater than those charges in the most advanced British and American torpedoes. Moreover, these Japanese torpedoes left almost no wake during a run toward the target. First tested in 1933, by the beginning of 1939 most Japanese destroyers and cruisers (light and heavy) were secretly equipped with Long Lance torpedoes.⁷⁴ Thus, the Long Lance torpedo could greatly assist Japanese cruisers in carrying out operational doctrine.

However, the same offensive battle fleet orientation already observed in naval operational doctrine was also inherent in tactical doctrine. For Japanese torpedo tacticians were not fully successful in convincing high-ranking naval planners of the worth and necessity of funding extensive torpedo projects until they set up dramatic demonstrations. The two old 19,000-ton battleships Aki and Satsuma, with nine-inch armor over vital areas, were used as targets. Only three torpedoes were required to sink each battleship. Thus, heavy funding of torpedo projects was approved in the early 1930s because traditional-minded Japanese admirals were impressed by the effectiveness of new torpedoes against ships of the line. Thereafter, torpedo development was to become one of the most outstanding technical achievements of the Japanese Navy in the interwar years.

At the same time a new doctrine for firing torpedoes was developed and accepted in the Japanese Navy. Torpedo marksmanship increased enormously at the normal firing range of a little over a mile from the target. And with the development of Long Lance torpedoes, tactical effectiveness steadily improved during naval training maneuvers. Great care was taken to recover practice torpedoes lest they fall into alien hands and the secret of the Long Lance be discovered. For example, training exercises were postponed if bad weather -- rough seas or fog --

created too high of a risk of losing an errant torpedo. As a result of such care, the effective development of the Long Lance torpedo was one of the best kept secrets in the interwar period.

Ironically, Japanese magazine articles describing the Navy's new torpedoes were translated by American embassy personnel and forwarded routinely to the Office of Naval Intelligence (ONI). One such report dated 24 February 1934 boasted that "our latest torpedoes run with practically no track," and they are, therefore, the Japanese author concluded, "very difficult to see." These were probably the prototype of the slightly smaller Model 91, but they were also oxygen-propelled like the giant Long Lance Model 93. Nevertheless, an ONI officer underlined the passage and marked it with a question mark and an X.⁷⁵

In fleet training exercises in the late 1930s the Japanese developed new battle tactics based on the remarkable performance of Model 93 torpedoes. Destroyers and cruisers could launch Long Lance torpedoes at great distances, well outside the range of enemy torpedoes. Moreover, in night fighting such torpedo tactics would be used in lieu of opening an engagement with gunfire. Thus the Japanese would avoid the risk of revealing their own position with the flash from firing the first and probably inaccurate salvo. Torpedo strikes would highlight enemy targets and quickly enable Japanese battleships to fire extremely accurate initial salvos. Though the Japanese lacked radar in the interwar period, these tactics taking advantage of newly developed torpedoes made the Japanese night-battle doctrine very effective.

But Japanese battle doctrine, as has been demonstrated earlier, placed primary emphasis on the battleship and its big guns. Other ships and weapon systems were only accessories. The designers of the Yamato-class battleship in the mid-1930s argued effectively that its

eighteen-inch guns, tested successfully in 1931, permitted the use of larger and much more powerful projectiles than those used in sixteen-inch cannons on foreign battleships. Four of the Yamato-class battleships were laid down before 1941.⁷⁶ With very heavy artillery and armor, a displacement of some 65,000 tons, top speed of thirty knots, and a range of 8,000 miles, the Yamato leviathans were designed for the set piece, decisive battle. Their speed would allow them to seek or avoid battle at will and their armor and armament would make them nearly invincible.⁷⁷

Offensive submarine tactics became highly advanced in the interwar period. Submarine commanding officers trained for the ideal attack, and they always sought to take advantage of the element of surprise. They liked to maneuver to have the target silhouetted against the sky. Remaining on the surface as long as possible, they preferred to approach the target from out of the darkness, using a slow speed to avoid leaving a wake so plainly visible to any patrol aircraft. After submerging, the destroyer screen around the capital ship target would be penetrated very quietly at three knots, the periscope would be raised as infrequently as possible, and during the final approach navigation was almost entirely by sound equipment. A spread of at least three and up to six torpedoes, depending on the class of submarine, would be fired at a major target.⁷⁸ On the other hand, Japanese submarine officers were trained for evasive action to avoid deadly depth charge attacks. Crash dives could be made in less than a minute, for instance. Nevertheless, they were obsessed with offensive tactics against enemy capital ships in interwar maneuvers, and, in practice, evasive tactics received less attention.

Midget submarines were first introduced in the Japanese Navy in the early 1930s -- they were a purely offensive tactical arm. Carried to the

harbor entrance by a mother submarine or surface ship, the midget submarines would be launched to penetrate the enemy's anchorage and to fire torpedoes at the enemy battle fleet from short range.⁷⁹ As a tactical arm of the Imperial Japanese Navy they were not very effective.

Japanese fleet maneuvers in May-June 1930 demonstrated a high level of tactical effectiveness. Part of the maneuvers took place around the mandated islands and, therefore, they suggested considerable concern about tactical problems that were related directly to strategic objectives and operational capabilities. Moreover, realistic training exercises were designed to learn more about the qualities of Japanese sailors and the capacity of equipment under harsh conditions. Data on the morale and job effectiveness of the crew living in confined spaces aboard cruisers and destroyers were obtained during endurance tests at sea. Furthermore, because these particular maneuvers involved a prolonged period in the tropics, special tests were conducted to determine the safety of high explosives on board ship.⁸⁰

Traditional Army-Navy rivalry sometimes jeopardized military effectiveness at both the operational and tactical levels. In late January 1932, for example, the Navy wanted to seize the initiative in Shanghai, even against numerically superior Chinese forces, because the Kwantung Army had recently demonstrated its prowess in Manchuria. "The Navy," a Japanese scholar wrote, "was eager for action to gain for itself a reputation equal to that of the Kwantung Army."⁸¹ Two thousand Japanese marines, equipped with field guns and armored cars, clashed with Chinese forces some 30,000 strong. Aircraft from the seaplane tender Notoro (14,000 tons) began bombing Chinese positions and air reinforcements soon arrived from Japan. In spite of air support, the marines needed Army reinforcements in a confrontation that was becoming

more extended than originally anticipated, and the war minister agreed to the Navy's request for Army assistance. But friction soon developed, for the Navy then specified that it wanted a mixed brigade under the command of a naval officer to be dispatched to Shanghai. The Army insisted that the size of land reinforcements was beyond the Navy's competence and jurisdiction -- the Army general staff was willing to send nothing less than one Army division. Thus, the Navy had no choice but to back down, and the Ninth Division from Kanazawa arrived in Shanghai two weeks later. As a result of service rivalry the tactical effectiveness of the marines was reduced considerably and the operational effectiveness of all Japanese forces in Shanghai suffered. The League of Nations imposed the armistice signed in May, although two additional Japanese Army divisions were dispatched to Shanghai beforehand. It has been observed, however, that "the Japanese Army was not satisfied. And as soon as another opportunity presented itself, in 1937, it would pour in a much larger contingent of forces to recapture Shanghai."⁸²

At the tactical level Japanese armed forces had several occasions early in the Sino-Japanese War to integrate combat arms, to marshal all available forces, and to exploit opportunities. The case of a Japanese marine garrison (2,500 strong) isolated in Shanghai in August 1937 is a good example. The Chinese were committing large numbers of troops (nearly fifty times the size of the Japanese garrison) and much air power to the Shanghai area. They hoped to capture Japanese bases and depots around Shanghai and to thwart the landing of reinforcements. The Japanese had to respond decisively and swiftly to avoid a severe setback. Local airfields could not be used, but within a few days the Japanese gained control of the air. The first "transoceanic" bombing raids were undertaken by the Type 96 attack bombers (Nells). With a

range of more than 1,200 miles, Nells from a base near Taihoku (Taipei) and from Ohmura Base on Kyushu attacked Chinese positions around Shanghai. Observation seaplanes were launched from a coastal defense ship and from a seaplane tender. The day after the initial long-distance bomber raids by land-based Naval Air Corps planes, carrier planes joined the battle. Naval gunfire provided cover for the landing of Japanese reinforcements. Aircraft and naval gunfire coordinated their action to enable marines and Army infantry to hold their positions in the streets. The war escalated rapidly, indeed, from the end of July to the middle of August a local conflict developed into a full-scale war.⁸³ Within a month, thereafter, a hundred thousand Japanese ground forces arrived in China, along with some three hundred artillery pieces, three hundred tanks, and two hundred aircraft. Old airfields were repaired, and new ones were constructed. The Chinese Air Force was so badly mauled in the opening rounds of the Sino-Japanese War that by the end of September it ceased activities in daytime and was restricted to little more than night harassment of Japanese positions.

The reality of combat was sometimes different from what training exercises had anticipated, and on at least one occasion at the outset of the war in China the Naval Air Corps responded very effectively. Heavy losses were suffered when Type 89 attack bombers from the Kaga were launched to attack a Chinese city. Bad weather prevented a rendezvous with their expected fighter escort from another base, and when near their target the bombers were attacked by Chinese fighter planes with devastating results. Eleven in the formation of twelve bombers were shot down. The Japanese Navy reacted quickly. The Kaga soon sailed from the combat zone to Sasebo where she received a full complement of the new Type 96 fighters. The carrier returned to the China coast within a few

weeks to implement a new tactical system -- the rendezvous method of providing fighter escort was too risky, thus fighters always escorted bombers to, over, and from their targets. The new tactical system was also applied later in the war when Chinese targets were moved to rear areas beyond the effective range of many Japanese fighters. Though the Japanese Army captured some Chinese airfields, the Chinese continued to control many of the supply routes over which the Japanese could otherwise have transported aviation fuel. The Navy used the Type 95 land-based attack bombers as an emergency transport plane, flying fuel and spare parts to the outpost airfields. Refueling operations could thus take place for those fighters with insufficient range to fly nonstop missions. In sum, lessons that the Naval Air Corps learned from prewar training were quickly modified in light of the compelling power of combat circumstances.

The Naval Air Corps bore the brunt of air assignments in China and in the process of carrying out various missions a great deal was learned by the pioneer aviators. The air battles in China vindicated the Navy's strictest training for pilots and air crews, whereas Army training standards were not as high and, therefore, their combat efficiency was impeded. Furthermore, it was learned that air groups and combat planes trained at sea for sea duty could be very effective without special training in air campaigns over land. Conversely, it was learned that Army pilots trained specifically for air operations over land had great difficulty in operations over water, even in merely flying from Japan to China. The Army Air Corps never matched the efficiency of Naval Air Corps, although both services had limited capabilities in night operations.⁸⁴

In addition to the problems experienced in escort operations at the onset of the Sino-Japanese War, some rather subtle and far more serious

flaws in the Naval Air Corps' tactical system were uncovered. Japanese naval aviators, the product of a battleship-oriented Navy, had been intensely trained in standard fleet exercises to attack capital ships. But the realities of combat experience were somewhat different. Naval pilots started to resent their target assignments -- small enemy positions, bridges, or rolling stock. Dissatisfaction grew as the war dragged on and no satisfactory way was found to disengage. The demand for air support always exceeded the capacity of the Army Air Corps and, therefore, Navy casualties and aircraft losses mounted. One Japanese naval aviator who flew missions in the Sino-Japanese War wrote more recently that

Navy fliers were falling into two groups -- one taking it easy on Army-assigned missions, and the other making the maximum efforts on each assignment, thereby often paying a high price.

Those who took it easy and 'conserved strength' during the China War became victims of their long accustomed habit. When the Pacific War broke out, those who had taken it easy had forgotten how to take it hard. When these men were assigned to 'worthy assignments,' it was they themselves who often proved unworthy. They were deficient in both diving and marksmanship. Another group did pretty well against big moving targets on the ocean. But the number of such crack pilots shrank rapidly.⁸⁵

Thus, naval aviator morale suffered, and tactical effectiveness was impaired not only during the Japanese war against the Chinese in the 1930s, but also in the war against ADB powers in the 1940s.

The British military attaché in Japan (for two tours of duty totalling seven years) in the interwar period observed in 1926 that Japanese Army officers "were slowly beginning to adapt themselves to modern war ... ; [that] their thoughts turned increasingly inward, and foreign adventures were neither expected nor sought for." His second assessment, when leaving Japan in late 1939, was that the Japanese Army "is stronger in man-power, morale, experience of war, and reserves of munitions, than ever before in its history."⁸⁶ The British Army officer did not make his assessments exclusively at the political, strategic, operational, or tactical levels of military activity, but it is clear that he had a very keen sense of history. Any estimate of the effectiveness of Japanese armed forces in the interwar period is made especially difficult because of the turbulence of peace mixed with warlike expectations. The Japanese military was a prisoner of its own arrogant past, and it was perhaps inevitable that it would err in the transitional period of Japanese history when the new nation-state struggled to gain maturity.

Notes

1. Article 21 read: "Nothing in this Covenant shall be deemed to affect the validity of international engagements, such as treaties of arbitration or regional understandings like the Monroe doctrine, for securing the maintenance of p. e."
2. Robert M. Spaulding, Jr., "The Bureaucracy as a Political Force, 1920-45," in Dilemmas of Growth in Prewar Japan, ed. James William Morley (Princeton, 1971), p. 76.
3. Chihiro Hosoya, "Retroggression in Japan's Foreign Policy Decision-Making Process," in *ibid.*, p. 84. Japanese names are rendered in the Western manner: given name first, family name second.
4. *Ibid.*, pp. 88-89.
5. *Ibid.*
6. James B. Crowley, "Japan's Military Foreign Policies," in Japan's Foreign Policy, 1868-1941: A Research Guide, ed. James William Morley (New York, 1974), p. 43.
7. Japan Illustrated, 1934: A Year Book of Japan with Official Information and Statistical Data (Tokyo, 1934), pp. 78, 236-37, 248. Extraordinary expenditures for improvement of armaments accounted for 2 percent of Army expenditures and the same percentage of Navy expenditures. Furthermore, the Army spent 3 percent of its allocations on Manchurian operations (145,990,366 yen) while the Navy spent less than one half of 1 percent of its allocations in 1933 (15,574,123 yen) in the aftermath of the incident.

8. Hector C. Bywater, "Japanese Naval Policy," The Nineteenth Century (November 1925): 690.
9. See U.S., Department of the Army, Headquarters, Army Forces Far East, Military History Section, Japanese Research Division, Japanese Preparations for Operations in Manchuria Prior to 1943 (Japanese Monograph No. 77) ([Tokyo], 1954), p.6, and Alvin D. Coon, The Anatomy of a Small War: The Soviet-Japanese Struggle for Changkufen/Khasan, 1938 (Westport, Conn, 1977), pp. 359-61.
10. The Japan Year Book, 1936 (Tokyo, 1936), pp. 234-35, 245-46, 268-75.
11. William H. Morgan, "Japan's Capital Ships," U.S. Naval Institute Proceedings 69 (July 1943): 959.
12. Naval Vessels, 1887-1945, Mitsubishi Zosen Built (n.p., n.d), pp. 1-4.
13. Hector C. Bywater, Sea-Power in the Pacific: A Study of the American-Japanese Naval Problem (London, 1921), pp. 165n, 166-67.
 It is doubtful whether Japan was really as self-supporting in respect to steel as official statements indicated, for in 1920 the Japanese Navy placed two orders with British firms, one for armor piercing projectiles and the other for about eight thousand tons of armor plate. Nevertheless, by 1920 ironworks at Yawata and Kure supplied four-fifths of the shipbuilding steel used in Japan. The most probable explanation is that the national industry was able to cope with reasonable shipbuilding requirements, but as a result of the government's huge program of naval expansion before the Washington Naval Limitation Treaty was concluded, the domestic supply of steel and armor plate was inadequate. After the Washington Conference, however, domestic industries continued to expand while naval demand for shipbuilding steel and armor plate

remained more modest.

14. A more complete discussion of the German association with the development of the Japanese submarine force can be found in my article titled "The Japanese Submarine Force and the Legacy of Strategic and Operational Doctrine Developed between the World Wars," in Selected Papers from the Citadel Conference on War and Diplomacy, 1978, ed. Larry H. Addington, et al. (Charleston, 1979), pp. 27-40.
15. Hector C. Bywater, Navies and Nations: A Review of Naval Developments since the Great War (London, 1927), p. 212.
16. Naval Vessels Mitsubishi Zosen Built, pp. 20-22.
17. Saburō Ienaga, The Pacific War: World War II and the Japanese, 1931-1945 (New York, 1978), pp. 28-32.
18. Crowley, "Japan's Military Foreign Policies," p. 99.
19. Ienaga, The Pacific War, pp. 213-14.
20. Richard J. Smethurst, A Social Basis for Prewar Japanese Militarism: The Army and the Rural Community (Berkeley, 1974), p. 181.
21. Bywater, Navies and Nations, p. 219.
22. Office of Naval Intelligence File, Naval Attaché Reports, 1886-1939, No. 13366-D, E-8-a, Record Group 38, National Archives, Washington, D.C. (hereafter cited as ONI File, RG 38).
23. Samuel Eliot Morison, History of United States Naval Operations in World War II, 15 vols. (Boston, 1947-1962), 1:lxiii.
24. See Yale Candee Maxon, Control of Japanese Foreign Policy: A Study of Civil-Military Rivalry, 1930-1945 (1957; reprint ed., Westport, Conn, 1973), pp. 35-44, and James B. Crowley, Japan's Quest for Autonomy: National Security and Foreign Policy, 1930-1938 (Princeton, 1966), pp. 187-90, 195-96. See also Katsumi Usui, "The

- Role of the Foreign Ministry," in Pearl Harbor as History: Japanese-American Relations, 1931-1941, ed. Dorothy Borg and Shumpei Okamoto (New York, 1973), pp. 136-37.
25. Hiroharu Seki, "The Manchurian Incident, 1931," in Japan Erupts: The London Naval Conference and the Manchurian Incident, 1928-1932, ed. James William Morley (New York, 1984), p. 230.
 26. John P. Fox, Germany and the Far Eastern Crisis, 1931-1938: A Study in Diplomacy and Ideology (Oxford, 1982), pp. 67, 311-12, 317-19, 327-29.
 27. Bywater, "Japanese Naval Policy," p. 691.
 28. Quoted by Bywater, Navies and Nations, p. 207n.
 29. Details of Ōshima's activities in Germany in the 1930s can be found in my Extraordinary Envoy: General Hiroshi Ōshima and Diplomacy in the Third Reich, 1934-1939 (Washington, D.C., 1980). See also my article on "The Berlin-Tokyo Axis and Japanese Military Initiative," Modern Asian Studies 15 (April 1981): 311-38.
 30. See Chihiro Hosoya, "The Tripartite Pact, 1933-1940," in Deterrent Diplomacy: Japan, Germany, and the USSR, 1935-1940, ed. James William Morley (New York, 1976), pp. 205-10, and Jost Dulffer, "The Tripartite Pact of 27th September 1940: Fascist Alliance or Propaganda Trick?" in Ian Nish, ed.: "The Tripartite Pact of 1940: Japan, Germany and Italy," International Studies 1984/III, pp. 17-19.
 31. Akira Fujiwara, "Strategy and Politics of Japan during the Second World War," in Politics and Strategy in the Second World War, ed. Arthur L. Funk (Manhattan, KS, 1976), p. 47.
 32. Kenji Suzuki, Chudoku Taishi Ōshima Hiroshi [Ambassador to Germany Ōshima Hiroshi] (Tokyo, 1979), pp. 209-10.

33. For a thoughtful discussion of the Japanese-proclaimed area see Ian Nish, "The Greater Eastern Asian Co-Prosperity Sphere," in Coalition Warfare: An Uneasy Accord, ed. Keith Neilson and Roy A. Prete (Waterloo, Can., 1983), pp. 123-42.
34. Suzuki, Chudoku Taishi Ōshima Hiroshi, pp. 224-25.
35. Nobutaka Ike, trans. and ed., Japan's Decision for War: Records of the 1941 Policy Conferences (Stanford, 1967), pp. 4-13.
36. Masaki Miyake, Nichi-Doku-I sangoku domei no kenkyū [A study of the tripartite alliance Berlin-Rome-Tokyo] (Tokyo, 1975), pp. 311-29. Moreover, Matsuoka suffered from the illusion that the Tripartite Pact could probably be expanded to include the Soviet Union. Such a quadruple entente or continental bloc would greatly strengthen Japan's bargaining position with the United States.
37. It is true, however, that the idea of an attack on Pearl Harbor from the air had been discussed for a long time in various quarters. Much of the discussion was full of wishful thinking. See for example, Hiroyuki Agawa, The Reluctant Admiral: Yamamoto and the Imperial Navy (Tokyo, 1982), pp. 193-200.
38. Records of the National Security Agency, SRDJ No. 011912, Record Group 457, National Archives, Washington, D.C. (hereafter cited as NSA, RG 457).
39. Ibid., SRDJ Nos. 012321-22. Ironically, it appears that Matsuoka did not believe Ōshima's reports about the forthcoming German invasion of the Soviet Union, although during the Japanese foreign minister's visit to Berlin in March the Germans hinted to him that war might develop with the Russians. Equally ironic is the possibility that the Germans went to special lengths to prepare their Japanese allies for the forthcoming drastic change in

German-Soviet relations, much unlike their behavior toward the Japanese in 1939. At that time during the process of strengthening the German-Japanese Anti-Comintern Pact, when Ōshima was also ambassador, the Germans suddenly concluded the Nonaggression Pact with the Soviet Union.

40. Ibid., SRDJ Nos. 012323-24.
41. Ike, Japan's Decision for War, pp. 78-90.
42. A.T. Mahan, The Problem of Asia and Its Effect upon International Policies (1900; reprint ed., Port Washington, N.Y., 1970), p. 126.
43. See Y. Horie, "The Failure of the Japanese Convoy Escort," U.S. Naval Institute Proceedings 82 (October 1956): 1073-81.
44. Atsushi Ōi, "Why Japan's Anti-Submarine Warfare Failed," U.S. Naval Institute Proceedings 78 (June 1952): 587-88. Similar conclusions about the shortcomings of Japanese ASW are contained in Reports of the U.S. Naval Technical Mission to Japan, 1945-1946, "Japanese Anti-Submarine Warfare," Operational Archives, Naval Historical Center, Washington, D.C., microfilm reel JM-200-I, report no. S-24.
45. See Clay Blair, Jr., Silent Victory: The U.S. Submarine War Against Japan (Philadelphia, 1975), especially pp. 877-78, and Theodore Roscoe, United States Submarine Operations in World War II (Annapolis, 1949), pp. 493, 498, 508-65. Four additional American submarines were lost during training operations in the Second World War.
46. ONI File, RG 38, No. 6452, F-10-1; Nos. 15067 & 15191, E-8-a.
47. Ibid., No. 19650, P-10-1.
48. Nihon Kindai Shiryo Kenkyūkai, comp. Nihon riku-kaigun no seido soshiki jinji [System, organization, and personnel administration of the Japanese Army and Navy] (Tokyo, 1971), p. 110. Nomura, not

to be confused with Admiral Kichisaburo Nomura (named ambassador to Washington at the end of 1940), had a long and interesting naval career. As captain in 1929 he was naval attaché to Germany, as rear admiral in 1934 he was director of the Japanese Navy submarine school, and as vice admiral in 1941 he returned to Germany as chief of the Japanese Tripartite Commission until 1943, when he returned to Japan on U-511. Thereafter, he was promoted to full admiral and became Navy minister briefly in July 1944. See Bernd Martin, Deutschland und Japan im Zweiten Weltkrieg: Vom Angriff auf Pearl Harbor bis zur deutschen Kapitulation (Göttingen, 1969), pp. 26, 208.

49. ONI File, RG 38, Nos. 6452-R & 19650, P-10-1; No. 12164, C-10-j; No. 13147-A, U-1-b.
50. Shizuo Fukui, Nihon no gunkan, waqa zokan qijutsu no hattatsu to kantei no hensen [Japanese warships: the development of Japan's shipbuilding technology and the changes in naval vessels], 9th ed. (Tokyo, 1962), pp. 167-69.
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57. Ibid.
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61. Stephen E. Peiz, Race to Pearl Harbor: The Failure of the Second London Naval Conference and the Onset of World War II (Cambridge, 1974), pp. 34-39. Land-based bombers (Mitsubishi Type 96) carrying torpedoes scored decisive hits on H.M.S. Prince of Wales and Repulse in the South China Sea in December 1941.
62. Gordon W. Prange, At Dawn We Slept: The Untold Story of Pearl Harbor (New York, 1981), pp. 14-15.
63. Hector C. Bywater, "The Coming Struggle for Sea Power," Current History 41 (October 1934): 15.
64. Great Britain, Admiralty, Naval Staff History, Second World War, Development of British Naval Aviation, 1919-1945, Vol. 1 (1954), p. 14.
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66. Prange, At Dawn We Slept, p. 26.
67. Takehiko Yoshihashi, Conspiracy at Mukden: The Rise of the Japanese Military (New Haven, 1963), p. 183.
68. This part of a Kwantung Army memorandum entitled "Fundamental Policy for a Settlement of the Manchurian Question" of 24 October 1931 is quoted in Toshihiko Shimada, "The Extension of Hostilities, 1931-1932," in Japan Erupts, p. 329.
69. F.F. Liu, A Military History of Modern China, 1924-1949 (Princeton, 1956), pp. 197n.
70. Ibid., pp. 203-5.
71. Great Britain, Admiralty, Development of British Naval Aviation, Vol. 1 (1954), pp. 60, 72.
72. Toshikazu Ohmae and Roger Pineau, "Japanese Naval Aviation," U.S. Naval Institute Proceedings 98 (December 1972): 73.
73. Prange, At Dawn We Slept, pp. 158-63.
74. Fukui, Nihon no qunkan, pp. 45-61; Paul S. Dull, A Battle History of the Imperial Japanese Navy, 1941-1945 (Annapolis, 1978), p. 60.
75. ONI File, RG 38, No. 6452-S, P-10-1.
76. The Yamato was laid down in 1937 and the Musashi in 1938 -- both were completed early in the war. The other ships of the Yamato-class were laid down in 1940 -- work was suspended on one early in 1942, and the other was commissioned as the heavy aircraft carrier Shinano in 1944. Some ten days later she was sunk by the American submarine Archerfish.
77. Fukui, Nihon no qunkan, pp. 72-88; Siegfried Breyer, Schlachtschiffe and Schlachtkreuzer, 1905-1970 (Munich, 1970), pp. 351-52, 383-91.
78. Nihon no sensuikan [Japanese submarines] Maru Special, No. 31 (1979), p. 43.

79. Fukui, Nihon no gunkan, pp. 191-96.
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85. Masatake Okumiya, "The Lessons of An Undeclared War," U.S. Naval Institute Proceedings 98 (December 1972): 19.
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THE ITALIAN ARMED FORCES,

1918-1940

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Introduction

The disastrous performance of the Italian armed forces in World War II cannot be fully understood without reference to the development of military institutions in the interwar period. Five factors had a major impact on Italian military efficiency in the years between 1918 and 1940: the uneasy relationship between the political authorities and the armed forces leadership, Italy's limited resources, the lack of a central command organization, Italian engagement in continuous military operations from the summer of 1935 onward, and Mussolini's personal alliance with Hitler.

The attempt by the Liberal governments of 1918-1922 to impose direct civilian control over the armed forces for the first time in Italian history helped promote the military-Fascist alliance of 1922. In return for standing aside during the March on Rome, Mussolini promised the military leadership unprecedented autonomy. At the same time, many of the more dynamic members of the military came to view Fascism as the

the nation's potential as a 20th Century military power. However, the poor allocation of available resources among the services made matters worse. The logic of Italy's geographic position, her choice of national enemies and Mussolini's Mediterranean strategy all suggested that the Navy and Air Force should receive preference in funding, while the Army should stress quality in the form of amphibious, mechanized, and airborne units. Instead, the Army used its political power to ensure itself the lion's share of resources until 1936. These funds were spent on maintaining a large force of wretchedly trained and equipped infantry, and on the comforts of the senior officers.

The lack of a combined general staff or a single armed forces ministry contributed to the worsening of the two previously mentioned problems. While Mussolini toyed with the idea of creating such organizations, he ultimately rejected the notion for fear of their potential as centers of political opposition. As a result, he lacked a mechanism to impose either his strategic concepts on the armed forces or to distribute resources among the services in a rational manner. Instead, each of the general staffs and ministries developed its own war plans in isolation, which led to bizarre consequences during World War II.

Mussolini's investment of Italy's slender military resources in the invasion of Ethiopia, in the extended pacification of that empire and in support of the Nationalists in the Spanish Civil War consumed two-thirds of all military funds spent between 1935 and 1940. While such wars made sense in the context of Mussolini's plans for Mediterranean hegemony, they exhausted his armed forces. Italy was simply unprepared for war in 1940. Furthermore, the separate general staffs failed to plan to take advantage of the opportunities created by these conquests. In particular, Italian East Africa represented a liability under these

circumstances rather than a bastion from which to dominate the surrounding area.

Finally, Mussolini's acquiescence to German annexation of Austria, Czechoslovakia and, particularly, his irresponsible agreement to the Pact of Steel, allowed Hitler to set the timetable for World War II, entirely to Italy's detriment. Although Mussolini had warned Hitler subsequently that Italy would be unready for a major war until early 1943 (probably an underestimate), the German dictator initiated his attack on Poland confident of Italian support. While Hitler erred in the short run, he had calculated correctly that Mussolini could not resist the temptation to intervene. Mussolini had long predicted and eagerly awaited the general European war Germany had begun. He had seized control of the Italian State precisely in order to ready it for participation in such a conflict. Ironically, the very methods by which Mussolini had gained power and prepared Italy for war soon produced ignominious defeat.¹

I. Political Effectiveness

Mussolini's contention in March 1940 that he had "never refused anything for the Armed Forces" was no great exaggeration.² Yet even the postwar Liberal governments funded the Army generously until the summer of 1922 and, at the same time, provided the Navy with minimally adequate budgets. However, the Facta government's drastic reduction of the Army's budget for 1922-1923 helped persuade the generals to accept the March on Rome. At the same time, while the Washington Naval Agreement of February 1922 had already saved the Regia Marina from a hopeless capital ship construction race with the French Navy, the admirals supported Mussolini's seizure of power in the belief that he would support the construction of a Navy to dominate the Mediterranean.³

Nonetheless, between 1922 and 1926, the two services accepted very low appropriations in the expectation of future generosity. The Air Force, founded in January 1923, also had ambitions far in excess of what its first three budgets allowed. In general, Mussolini did his best to fulfill all these hopes. In 1922-1923 military expenditures consumed 22.4% of state expenditure. This rose to 39.6% by 1939-1940.⁴ Italy's war debt agreement with Britain in January 1926 greatly expanded the state's access to foreign capital.⁵ From 1926, therefore, the Fascist regime was able to devote ever-increasing sums to military expenditures. In the period 1926-1940, Italian military spending reached 79.5% of that of Britain and 97% of that of France. More spectacularly, in the years 1935-1939, when Italy's aggressive intentions toward the West had become

quite clear, Italian military budgets reached 89.5% of Britain's and actually surpassed those of France by 22.8%. These figures are particularly startling when one compares the Italian national income for 1940 of \$5.3 billion with that of Britain (\$21.9 billion) and of France (\$12.5 Billion).⁶

Nonetheless, the forze armate had grounds for complaint. Of the 116 billion lire provided to the armed forces from 1935 to 1940, some 77 billion were consumed by the costs of the Ethiopian War, Italian intervention in Spain, the occupation of Albania, and the pacification campaigns in Italian East Africa. This left relatively little for modernization programs, at a time when Britain and France had begun to re-arm.⁷ Furthermore, Italy's dependence on expensive imports of raw materials and fuel increased the costs of military equipment and training compared to those of her better endowed European rivals. Finally, there is the question, raised then and since, whether all these billions were actually spent on military equipment and preparations. Corruption riddled every department of the Fascist regime, including the military ministries.⁸

Despite appearances on paper, the Navy fared the best of the individual services in the interwar period, the Army the worst. From an average share of the military budget in 1924-1926 of 61.9% for the Army, 25.7% for the Navy and 12.4% for the Air Force, the Army descended to a 51.1% share, the Navy to a 21.1% share, while the Air Force soared to a 27.8% share by 1938-1940. However, these figures require some interpretation. Since the military budgets of 1924-1926 totalled 8.13 billion lire, and rose to 43 billion in 1938-1940, each service enjoyed a spectacular increase in funding by the end of the Thirties. The Army and Air Force, however, were forced to divert a large share of their

resources to the wars in East Africa and Spain in 1935-1940. The smaller commitment of the Regia Marina to those conflicts allowed it to devote a greater proportion of its funds to training, modernization, and increasing fuel reserves during the years 1935-1940. As a result, the Navy was better prepared than the Army and Air Force for war in June 1940.⁹

But much of the Navy's potential was left unrealized due to interservice rivalry, particularly with the Air Force. The decree of March 1923 establishing the Regia Aeronautica gave it complete control over aviation. The Naval Decree of February 1937 implicitly reaffirmed this monopoly, since it made no mention of a naval air service. Jealous of its new independence, strongly influenced by Douhetism, chronically short of funds after 1935 and fearful of the loss of squadrons to the Regia Marina, the Air Force leadership refused to cooperate in the establishment of torpedo bomber units and defeated Navy attempts to build aircraft carriers. This rivalry gravely diminished the military advantages conferred by Italy's position in the Mediterranean and prevented the application of the aeronaval lessons of the 1935-1936 Mediterranean Crisis and the Spanish Civil War. Furthermore, the quarrel lessened any chances for successful amphibious warfare.

Similar Army-Navy feuding prevented the creation of adequate forces for major landing operations. For years, the armed forces' leadership had recognized the threats posed by military bases on Malta and Corsica. On the eve of World War Two, however, the force armate remained incapable of seizing those islands. In fact, amphibious operations during the invasion of Albania in April 1939 revealed an actual decline in efficiency since the landing on Corfu in September 1923.¹⁰

Rivalries among the services also inhibited the development of adequate antiaircraft defenses and airborne forces. These deficiencies

would be felt most sorely after June 1940.¹¹

A more serious weakness of the Italian armed forces arose from the high price, low quality, and insufficient quantity of the arms, equipment and supplies available to them, because of Italy's industrial-technological deficiencies. Italy possessed only miniscule deposits of vital raw materials. In 1938, Italy produced barely over 1 million metric tons of hard coal, and imported another 12.1 million tons, whereas France produced 47.6 million and Germany 186.2 million tons.¹² That same year, Italy produced 2.3 million tons of steel while France produced 6.1 million, Britain 10.6 million, and Germany 22.7 million tons.¹³ With virtually no domestic petroleum production, Italian imports reached an expensive 2 million tons in 1939. The Italians compensated to an extent by the output of 15.54 million kilowatt hours of electrical energy that year. In contrast, however, France produced 22.10 million, Britain 35.81 and Germany 61.38 million. Some further gauge of Italy's industrial weakness comes from a comparison of its 1939 motor vehicle production of 69,000 with France's 227,000 and Britain's 402,000.¹⁴

But a greater problem sprang from the Italian education system, which failed to provide the skilled workers, engineers, and scientists needed to expand the arms industry. Of the 551,000 secondary school students in 1939-1940, only 29% received any serious scientific or technical training. In 1919-1920, just 17,690 of Italy's 53,670 university students majored in engineering, science or mathematics. By 1939-1940 the figure had dropped precipitously to 11,648 out of 85,535 students. This is not surprising when 70% of Italian engineers remained unemployed in 1928 and nearly 50% in 1935.¹⁵

Italy had developed a large armaments industry during World War One, thanks to generous Allied loans and supplies of iron ore and coal.

The Liberal governments of 1918-1922 recognized the valuable asset such plants represented to their impoverished nation. They also realized how difficult it would be to recreate such expensive facilities if they were dismantled, particularly if Italy's previous benefactors were to become her enemies. When Allied assistance ended after World War One, the government made strenuous efforts to maintain these arms factories by bartering weapons for ore, coal and oil from the Balkans, Middle East, and Caucasus. These attempts failed. Despite the best efforts of the Fascist regime, the Regio Esercito and the Regia Aeronautica failed to develop new arms markets after 1922, the Army's weapons industry shriveled and the air industry failed to grow to a size sufficient to meet the Air Force's needs.¹⁶

These problems grew critical after 1935, when Italian conquest of Ethiopia, followed by massive aid to Franco's forces, drained Army and Air Force magazines. At the same time, a surge in foreign arms orders, due to rising international tensions, seriously reduced the flow of new arms to the Italian military. Such orders, however, supplied critical foreign exchange for the import of essential raw materials and fuel. Since the Regia Marina had begun a major building program in 1931, which expanded even further in 1935, the demands on Italian arms and ammunition plants grew very heavy. Even working overtime, under a regime that forbade labor disputes, Italy's armaments workers (671,000 by late 1938) could not increase production enough to meet all these demands.¹⁷ At the same time, the Italian school system was failing to produce graduates who could be easily trained to reinforce this work force.

In 1935, Mussolini had increased the powers of the General Commissariate for War Production (COGEFAG) to allocate rationally Italy's military-industrial resources. But the industrial leadership

successfully resisted COGEFAG plans to centralize the distribution of resources and arms contracts. Furthermore, the Navy defeated COGEFAG attempts to supervise ship building activities, although it was the largest consumer of raw materials for armaments. In consequence, the Regia Marina dominated the armed services in gaining access to industry and technology. The quality of Army and Air Force weapons design suffered considerably from the Navy's disproportionate share of designers and technicians.¹⁸

The services, however, had no lack of untrained military age manpower in the interwar years. Despite 709,000 dead in World War I, the armed forces could draw on a population of 6.9 million men between the ages 19 and 38 in 1940. This compares with 6 million for France and 7.7 million for the United Kingdom. With one exception, the Italians outnumbered each of their other potential or actual opponents from 1918 to 1940. Italy, whose population reached 42.9 million by 1936, would have faced serious manpower problems in a single-handed war against Germany. Through natural increase and annexation, the population under German control rose from 63.2 million in 1925 to some 90 million at the time of the German-Italian Alliance of May 1939. However, France and even the United Kingdom, with 1936 populations of 41.2 million and 47 million respectively, would probably have aided Italy in a conflict with Germany.¹⁹

But Italy's relative poverty meant low levels of nutrition, health, occupational skills, and education in her military age manpower pool.²⁰ Mussolini's "Battle for Wheat," with its inefficient transformation of pasturage into grain producing areas, caused annual meat output to drop from 800,000 to 634,000 metric tons between 1929 and 1934 alone.²¹ By February 1939, Mussolini could boast that "the problem of meat is not

worrisome because 20 million Italians have the wise habit not to eat it and do very well."²² Yet three days later, the Duce lamented that Army medical boards were rejecting twenty five percent of Italian young men as physically unfit for military service. Furthermore, half the conscripts reporting for duty measured less than five feet five inches tall.²³

The Fascist regime did improve national health, especially by reducing malaria, which had reached 283,000 cases in 1924. But intestinal and respiratory diseases continued to ravage the rural population, which formed the majority of the work force.²⁴ Furthermore, school attendance by 6-14 year-olds, which stood at 57.6% in 1921-1922, rose to only 70.7% by 1938-1939. In 1931, 6.7 million Italians over the age of 15 were illiterate, including 407,000 men between the ages of 20-29. By 1939, Italians had access to only 391,000 motor vehicles, compared to 2.4 million in France.²⁵

In consequence, from 1938 onward as it struggled to mechanize, the Army suffered from severe shortages of drivers, mechanics, radio operators and specialists of all kinds. Regio Esercito reports stressed the difficulty of training its physically stunted, ill-educated and often illiterate recruits. Similar problems, though on a higher level, afflicted the junior officer and noncommissioned officer corps.²⁶ With their proportionately greater need of skilled or easily trained manpower, the Navy and Air Force competed fiercely with the Army for access to skilled personnel. While relatively successful, the two smaller services still fell short of their requirements. For the Air Force especially, the dearth of technicians and mechanics limited its efficiency and its possibilities of expansion.²⁷

In fact, Italy's economic inferiority to the other European powers precluded any of its armed forces from gaining first class status without

severely retarding the development of the other two services. For this reason, Douhet advocated the concentration of Italian military resources on a large strategic bomber force. The general argued that Italy could destroy swiftly a major opponent's will to resist by apocalyptic gas and incendiary raids against enemy cities. With such a weapon as a deterrent or strike force, Italy could reduce its Army and Navy to frontier and coast guards (as it would have to, in order to afford hundreds of long-range bombers). The alternative could be only a variation of the First World War experience: a war of attrition with each of Italy's three armed services inferior to its adversary's.²⁸

While attractive to many in the Fascist hierarchy, Douhet's concept was unfeasible politically. So long as the Regio Esercito held the balance of power in the state, as the March on Rome demonstrated that it did, Mussolini could not deprive it of its primacy in military funding. Nor did Mussolini ever enjoy the power to break the firm alliance between the Navy and Italy's largest industrial firms. Orders for even thousands of aluminum fuselages and aircraft engines could not balance the fat profits for corporations producing steel hulls, turbines, armor plate, and naval cannon. When Mussolini boasted of an Air Force that would blot out the sun with its wings, he ignored the reality of the resources that he actually commanded. While equally hyperbolic, Mussolini's threats of an Army of eight million bayonets and a Navy to reduce the Mediterranean to mare nostrum at least reflected a glimmer of political reality.²⁹

II. Strategic Effectiveness

From 1918, under both Liberals and Fascists, the Italian government's goal was Italy's establishment as a world power through domination of the Mediterranean-Red Sea area and the conquest of Ethiopia.³⁰ But successive political and economic crises from 1919 to 1925 hindered the armed forces from developing strategies to achieve such ends.³¹ Only after 1925-1926, with the resolution of these crises and the creation of stable leadership for the armed forces did such plans fully evolve. Until 1935, each service concentrated on preparing for hostilities with France and Yugoslavia. The Army also planned to prevent an Anschluss and readied studies for war against Turkey and Ethiopia. After 1935, the services also prepared for conflict with Britain and Greece.³² These plans were not congruent, however, nor, in the Army's case, were they consistent with Mussolini's political goals.

Fulfillment of Italian ambitions required an offensive aeronaval strategy and the ability to project and maintain the Army's forces overseas. The heaviest burden, therefore, would fall on the Navy. The collapse of Austria-Hungary and Italy's subsequent acquisition of Albania as a protectorate rendered Italy's Adriatic coast virtually invulnerable and allowed the concentration of the Regia Marina in the Central Mediterranean. However, fleet battleship strength dropped from five obsolete dreadnoughts in 1918 to two by 1933. Only in 1937 did the Navy gain two modernized battleships. Four more modernized or new capital ships became available in 1940. Mussolini rejected repeated requests to

authorize aircraft carrier construction.³³

Until 1935, the Regia Marina expected war only against the French fleet in alliance with the small Yugoslav Navy. Since the French Navy was little larger than the Italian, the defense of maritime traffic through the Mediterranean or to Libya received little attention. Instead, the Italian Navy staff planned to blockade the Yugoslavs behind the Straits of Otranto and concentrate the battlefleet for a decisive surface action with the French.³⁴

Due to its temporary decline in battleship strength after 1933, the Navy adopted a defensive strategy during the Mediterranean Crisis of 1935-1936. It would have relied on cruisers, torpedo boats, and submarines to defend the coasts against the Royal Navy, make raids, and create opportunities for possible forays by the battle fleet. No serious plans were developed to secure the sea lanes to Libya or the Dodecanese.³⁵

In 1936-1937, the Naval Ministry developed plans for a powerful fleet consisting of eight battleships, two or three aircraft carriers and over one hundred submarines.³⁶ These would be employed:

- a) in the defense from the outside of the passages which flow into the Mediterranean and the Red Sea...
- b) in the attack on the central areas of enemy [maritime] traffic
- c) in cooperation with possible oceanic operations by allied [i.e., German and Spanish] navies
- d) in the execution of possible overseas operations and the maintenance of vital communications
- e) in the maintenance of the Mediterranean and Red Sea in a secure status.³⁷

The Navy expected to have the strength to carry out such a strategy by 1942-1944. During the crisis of September 1938, however, the Army forcibly brought to the Navy's attention the necessity of protecting supply lines to Libya in order to support a land offensive against Egypt. But despite this warning, the Navy did not reconcile the conflict between its ambitious strategy and that which would be imposed upon it by the Army's plan to invade Egypt, combined with its own weaknesses. The outbreak of war in September 1939 caught the Navy unprepared for either eventuality. In April 1940, citing the Regia Marina's weakness vis-à-vis the British and French, Admiral Domenico Cavagnari, the Navy Chief of Staff, adopted a strategy reminiscent of that of 1935-1936, while stressing offensive submarine operations and the defense of the central Mediterranean.³⁸

From 1918 to 1940, Army strategic planning concentrated on the destruction of Yugoslavia, with the assistance of Hungary and Albania. General staff planners hoped that Italian diplomacy would isolate Yugoslavia. But they also prepared to hold the Alpine frontier against the French, while simultaneously crushing the Yugoslavs.³⁹ After prodding by Mussolini, the Army also developed plans to invade Turkey (1924-1926) and gradually transformed studies for the defense of Eritrea into plans for a full-scale invasion of Ethiopia.⁴⁰

Although first contemplated by Fascist leaders in 1925, it was the possibility of war with Britain in 1935-1936 that prompted the first of a series of Army plans to invade Egypt and the Sudan, in order to link Libya with Italian East Africa. However, these plans were shelved by Marshal Pietro Badoglio following the dismissal of their chief proponent, the Army Chief of Staff, General Alberto Pariani, in November 1939.⁴¹ Following the hastily improvised occupation of Albania in April 1939, the

Army also prepared studies for an invasion of Greece.⁴² The disjointed nature of these plans reflected both the Army's unwillingness to abandon its traditional Alpine orientation for Mussolini's Mediterranean-African strategy and fears of losing precedence to the Navy.

After several confused years, the Air Force adopted a Douhetian strategy in 1926-1927. But the Regia Aeronautica never developed aircraft capable of the annihilation of Paris and Belgrade. After Italo Balbo, who had championed Douhet's ideas, was replaced as head of the Air Force by Giuseppe Valle in November 1933, Douhetism gradually lost influence to the concepts of Amedeo Mecozzi. Mecozzi advocated developing fighter-bombers for coordinated tactical air strikes in combined aeronaval and ground support operations. The Regia Aeronautica experimented with both Douhet's and Mecozzi's methods in Ethiopia and Spain, without selecting either as the basis for operations against France and Britain. Instead, it insisted on Douhetian independence, while employing methods and aircraft more suited to Mecozzi's notions. Total doctrinal incoherence resulted.⁴³

By early 1939, the Air Staff finally recognized the Regia Aeronautica's inability to apply Douhet's ideas. Italy lacked both a strategic bomber and a sufficient number of medium bombers. At the same time, Valle realized that Italian territory was so vulnerable to air attack that he shifted aircraft acquisition priority to interceptors. Valle's successor, Francesco Pricolo, officially announced in March 1940 that the Air Force had adopted a strategy largely based on support of Army and Navy operations. However, the lack of armed forces coordination and liaison left the Air Staff in virtual ignorance of their counterparts' intentions. The Air Force entered World War Two in a strategic vacuum.⁴⁴

In theory, the king coordinated the armed forces in his constitutional capacities as head of state and commander in chief. Vittorio Emanuele III, who reigned from 1900 to 1946, did enjoy considerable prestige throughout the military, particularly within the Army officer corps. However, after World War One, in an attempt to preserve his dynasty, the king generally refrained from using this power and delegated considerable authority to the military leadership and to Mussolini. In October 1922, under pressure from the pro-Fascist Army and Navy high commands, he refused to order the Army to prevent the March on Rome. The king feared civil war and the possible overthrow of the monarchy. In December 1924, he rejected an Army bid to overthrow the Fascists during the Matteotti Crisis for the same reasons. Instead, he acquiesced while Mussolini established a totalitarian dictatorship in 1925-1927. Thereafter, the history of the monarchy remains obscure. What is certain, however, is that Vittorio Emanuele provided an alternative authority figure and a counselor available to the military leadership in times of crisis. In 1928, the king seems to have quietly rallied the opposition to Mussolini's attempts to bring the military under his direct control. In August 1935, and again, in April 1940, Vittorio Emanuele apparently considered using the Army to unseat Mussolini before the dictator led Italy into war. With the possible exception of the 1928 episode, however, the king served more as a brake than a barrier to Mussolini's plans. As a result, the monarchy merely contributed to the confusion at the top of the chain of command.⁴⁵

There was no combined staff for the armed forces as a whole and they were coordinated only to a small degree by Mussolini's senior military adviser, Badoglio. Thoroughly wedded to Army interests, highly conservative and completely unimaginative, Badoglio ensured that the Army

dominated military planning. The Army was the largest and most politically powerful of the services but the strategic vision of its general staff was the least congruent with Mussolini's goals. This factor, combined with ferocious interservice rivalry, left Fascist Italy without the means to implement an effective political-military strategy. The operations of the three armed services remained uncoordinated.⁴⁶

In the spring of 1925, Mussolini had appointed Badoglio as Chief of the Supreme General Staff (capo di Stato Maggiore generale). This post was without precedent and gave Badoglio both the power of Army Chief of Staff and the authority to issue strategic directives to the Navy and Air Force Chiefs of Staff. However, Mussolini did not create a separate Supreme General Staff. Badoglio issued his directives through the Army Staff, effectively placing the other services under Regio Esercito control. This provoked outspoken opposition, particularly on the part of the naval leadership.

But Mussolini's ultimate intention was to subordinate all the armed forces to himself. He appointed himself minister of each of the services in 1925. He appears to have been contemplating an attack on Turkey and may have hoped to solidify his control over the military by directing a victorious war. Instead, this new attempt to reduce the armed forces to civilian leadership produced insuperable hostility, even on the part of Badoglio, and the plans for a campaign in Asia Minor proved abortive. In February 1927, Mussolini recreated the separate post of Army Chief of Staff and kicked Badoglio upstairs as "technical consultant of the Head of Government," although the marshal retained his old title as Chief of the nonexistent Supreme General Staff.

Mussolini resigned his separate armed forces ministerships in 1929. While he rejected Balbo's project for a unified defense ministry

and armed forces staff in 1933, Mussolini resumed control of the service ministries in anticipation of the Ethiopian War. Afterwards, Mussolini claimed credit for successfully directing the East African campaign with considerable justification. The Duce had orchestrated the crucial political and diplomatic aspects of the war, at which he was a master. The Army Chief of Staff, Federico Baistrocchi, had controlled the administrative and logistical services, while Badoglio had gone to Africa to direct the actual fighting.

The victory over Ethiopia allowed Mussolini to resume his efforts to dominate the three general staffs. In March 1938, he announced that he would command the armed forces in wartime and promptly assumed the paramount military rank of First Marshal of the Empire. Thereafter, Mussolini studied the question of establishing a Comando Supremo under his personal control. He hesitated to take action, however, fearing royal and military opposition to such a drastic alteration of the traditional order.⁴⁷

Still, after 1936, Mussolini had gained direction of strategic matters. As Badoglio announced to the chiefs of staff in November 1939:

Let us get on with our preparations, comforted by the thought that we have the luck to have the Duce as head of the armed forces, the Duce who refuses us nothing. We need to look to the real preparation of the armed forces without political discussions: to make war or not, to make war in the East or West, this is not our responsibility."⁴⁸

Between April and June 1940, as he prepared to intervene in World War Two, Mussolini finally seized command of the armed forces. But it was command without effective control. The king remained the official "Supreme Head" of the armed forces, granting under pressure to the Duce "the command of the forces operating on all fronts." Mussolini gave Badoglio the authority to implement his instructions to the three general staffs, through the miniscule twenty man secretariate which comprised a newly-formed Comando Supremo. In effect, the three armed services retained their operational independence. The result was the strategic chaos which followed Mussolini's declaration of war on June 10.⁴⁹ However, although he had failed to create an effective military command and control system, Mussolini had fashioned painstakingly a mechanism to cement his political control over the armed forces. He had developed this method largely in response to the previous role of the military in influencing Italian foreign policy.

Until 1928, the government and armed forces' leadership sought to expand Italian influence by the relatively cautious means of economic penetration, subversion and the use of surrogates.⁵⁰ The Orlando government had readied a large force to place the Caucasus under Italian protection in 1919. While this expedition held the promise of Italian access to raw materials, Orlando's successor, Nitti, vetoed the plan as financially ruinous.⁵¹ Only in Tripolitania did the Bonomi government use force, beginning in January 1922, to restore Italian control, lost to the Arab revolt during the World War.⁵²

While bitterly disappointed with what they considered the meager gains from their sacrifices during the Great War, the Italians of 1918-1922 remained prudent. In general, they were prepared to treat the Mediterranean basin as the Piedmontese had treated Italy from the 16th to

19th centuries -- as an artichoke to be eaten and digested slowly, leaf by leaf.⁵³ Mussolini's surprise attack on the Senussi of Cyrenaica in March 1923 and his simultaneous seizure of Fiume and Corfu six months later signalled a new policy. Thereafter, Italy would use force and risk war, first to secure its existing territory, then for aggrandizement.⁵⁴

Were the risks the Italians were prepared to run consistent with the goal of re-establishing the Roman Empire? An objective assessment seems impossible. The Fascist attitude, an Italian version of Weltmacht oder Niedergang, is best expressed in Mussolini's own words.⁵⁵

Italy, as the most concentrated [national] group after Russia and Germany (because it has 50 million people) will be the power destined to direct all European politics from the Mediterranean. From London, Paris and Berlin the axis will shift to Rome. Italy must be the bridge between the West and the East.

Italy is thrust toward this expansion into the Mediterranean and the East by demographic reality -- our national territory is too restricted for so profuse a people.

But to realize the Mediterranean dream it is necessary that the Adriatic, which is our gulf, be in our hands

Our imperialism which wishes to expand in the Mediterranean is not that of the violent Prussian, nor that of the hypocrite Englishman, instead it is that of the Roman.⁵⁶ [Sept. 20, 1920]

"A nation which does not have free access to the sea cannot be considered a free country; a nation which does not have free access to the oceans cannot be considered a great power: Italy must become a great power."⁵⁷ [Sept.-Oct. 1926]

"... states are more or less independent according to their maritime position. Those states which possess ocean coasts or have free access to the oceans are independent; those states which are not connected freely to the oceans or are enclosed in internal seas are semi-independent

Italy belongs to the second category of states. Italy is bathed by an internal sea which connects to the oceans through the Suez Canal ... and through the Strait of Gibraltar, dominated by the cannon of Great Britain.

Italy therefore does not have free communication with the oceans; Italy is therefore really a prisoner in the Mediterranean and the more populous and powerful Italy will become, the more it will suffer in its prison.

The bars of this prison are Corsica, Tunisia, Malta, Cyprus: the guards of this prison are Gibraltar and Suez From this situation ... one draws the following deductions:

- 1) The mission of Italian foreign policy ... is to break the bars of the prison.
- 2) Having broken the bars, Italian foreign policy can have only one motto: to march to the oceans.

Which ocean? The Indian Ocean, joining Libya with Ethiopia

across the Sudan or the Atlantic going across French North Africa.

Equally in the first as in the second hypothesis we will find ourselves faced by Franco-English opposition. To confront the solution to such a problem without having our backs protected on the continent is absurd. The policy of the Rome-Berlin Axis therefore corresponds with a historical necessity of fundamental importance⁵⁸ [Feb. 4, 1939]

" ... Italy, if it wishes to be truly a world power, must resolve the problem of its maritime frontiers: the very security of the Empire is tied to the solution of this problem.

Italy cannot remain neutral for the whole duration of the war, without giving up its place, without disqualifying itself, without reducing itself to the level of a Switzerland multiplied by ten."⁵⁹ [Mar. 31, 1940]

Prior to the Fascist take-over, it had been the government which restrained the armed forces leadership from seeking to acquire territory beyond Italy's ability to defend -- in the Adriatic, Asia Minor and the Caucasus.⁶⁰ Following Mussolini's advent to power, the situation reversed. Until the Ethiopian War, the military leadership repeatedly restrained Mussolini from undertaking ill-considered adventures, including attempts to seize Corsica (1923), annex Corfu (1923), invade Turkey (1924-1926), Yugoslavia (1926-1927, 1932-1934) and France (1932-1933), and launch a surprise attack on the British Mediterranean Fleet (August 1935).⁶¹ Only the most drastic measures, however, including the resignation of the Army Chief of Staff in 1928 and various conspiracies among the military and political leadership, prevented

Mussolini from taking precipitate action.⁶²

But Mussolini's successful bluff of Britain during the Mediterranean Crisis of 1935-1936 and his conquest of Ethiopia increased greatly his prestige and his power over the armed forces.⁶³ Thereafter, Mussolini successfully overcame the military's opposition to Italian participation in the Spanish Civil War and their reluctance to intervene in World War II, by insisting that these were exclusively political questions.⁶⁴

The individual chiefs of staff did have access to Mussolini. This was true particularly after 1933, when the dictator made himself head of each of the armed forces ministries, while appointing each of the chiefs of staff to be under-secretaries of their own service as well. But meetings among the military and political leaders of the regime were restricted to one week each February, during the carefully orchestrated sessions of the Supreme Defense Commission. Mussolini forbade other contacts without his permission.⁶⁵

Between 1937 and 1939, Mussolini's generals (though not his admirals) routinely disguised their military unpreparedness for fear of his displeasure. Nonetheless, Mussolini was aware of the true state of the armed forces well in advance of Italy's entry into World War II. He based his decision to intervene on his certainty of German victory and his conviction that only a great war could lift the Italian people to international and spiritual greatness.⁶⁶ Mussolini gambled that the armed forces would be strong enough -- if only barely -- to take advantage of the unique opportunity offered by the fall of France and Britain's isolation.

Until 1936, the size and structure of the armed forces generally were sufficient to fulfill the government's limited strategic goals. Italy's failure between 1918 and 1922 to maintain its allotted spheres of

influence over Albania, Somalia, and the Caucasus arose primarily from financial deficiencies and lack of political will in Rome.⁶⁷ Had Italy joined with a determined Britain and Greece in 1919-1922, the alliance would probably have been sufficient to defeat the Turkish Nationalists and defend the Caucasian republics. The Regio Esercito certainly had the potential to defeat the Albanian insurgents in 1920.⁶⁸ The decisions by the Liberal governments of 1921-1922 to pacify Somalia and Libya and eventually to gain control of Ethiopia were within the capacity of the armed forces, as the Fascist regime demonstrated.⁶⁹

However, when Italian goals conflicted with the interests of a major military power willing to defend them by force, her forces proved incapable of gaining national objectives. This was shown by Italian failure to gain Fiume and Dalmatia in 1919-1920 in the face of French resistance; Mussolini's retreat from confrontation with Britain during the Corfu Crisis; his inability to undermine Yugoslavia, 1926-1934, while it was backed by France, and failure to gain French Somaliland by threats of force in 1938-1939.⁷⁰ The prevention of an Anschluss in July 1934, and Italian triumph over Britain during the Mediterranean Crisis of 1935-1936, and the "Pirate Submarine" campaign of August-September 1937 are explainable not so much by Italian military power as by German military weakness in the first case and the timidity of the British Cabinet in the second and third cases.⁷¹

Between 1934 and 1937, Italian military strength was at its apogee, thanks to rearmament earlier than that of Britain, France, and Germany. This temporary imbalance of force encouraged Mussolini to undertake new adventures after the capture of Addis Ababa. His simultaneous engagement of the armed forces in the Spanish Civil War and the pacification of Ethiopia prevented the overextended Italians from gaining rapid victory

in either theater. Furthermore, these campaigns left Mussolini too weak to retard Hitler's advances in central Europe in 1938-1939 and to occupy Albania until after the end of the fighting in Spain.⁷² One result was a drastic loss of Italian influence in the Balkans. Another was an increase in German strength, which allowed Hitler to initiate war with the West three to four years before Mussolini was prepared to join him on anything like equal terms.⁷³

The structure of the armed forces did not prevent the attainment of Italian strategic goals sought between 1935 and 1940. However, failure to restructure the military during those years seriously crippled Italy's ability to seize the opportunities presented after June 1940. Despite the lessons of the Mediterranean Crisis, the Ethiopian and Spanish wars, and the Albanian invasion, Italy failed to create battle squadrons supported by aircraft carriers, combined Army-Navy amphibious forces, torpedo bomber squadrons, decently equipped armored and mechanized divisions, effective air defense forces, or airborne units, to name some of the most serious deficiencies.⁷⁴ Other military deficiencies sprang from more fundamental problems. Until the Ethiopian War, Italian logistics, industry and technology adequately supported the build-up of the armed forces, in preparation for expansion in the Mediterranean and Red Sea. However, during that time, the Army leadership repeatedly stressed national unpreparedness for war against France or, worse yet, a French-Yugoslav alliance.⁷⁵

While Italian resources proved adequate to conquer Ethiopia, that war and the resultant Mediterranean Crisis placed severe strains on the Italian economy, drained the military's reserves, and revealed grave logistical deficiencies. The events of 1935-1936 also underlined Italy's great dependence on imports of petroleum, coal and mineral ores, the

inadequacy of the automotive industry to supply the armed forces' needs (and its unwillingness to expand production), the regime's very limited ability to regulate industry and the incapacity of the African ports to handle the necessary influx of new equipment and supplies in wartime.⁷⁶

These problems were not corrected in 1936-1940. Italy could not wage war in Spain, pacify Ethiopia, and adequately prepare for conflict with Britain, France, Yugoslavia and Greece simultaneously. When German victories tempted Mussolini into premature participation in World War II, Italy was at least three and, more likely, eight to nine, years from preparedness to wage a lengthy major war.⁷⁷

By 1939-1940, despite attempts to achieve autarky dating to the Twenties, Italy still imported 79% of the raw materials needed to sustain its war industries. Stockpiles were sufficient only for 40% of needs for one year of war. Shortage of petroleum was the most serious problem. Italy needed at least eight million metric tons a year for military operations. Albania and the miniscule Italian fields supplied only 170,000 tons a year. Rumania could supply no more than 600,000 tons per annum to Italy, Germany and Hungary another million tons or so. Yet the Regia Marina held only 1.7 million tons in reserve, the Regio Esercito 200,000 tons, the Regia Aeronautica 130,000 tons.⁷⁸

The Navy was not yet ready to carry out an offensive strategy in 1939-1940 and it possessed very few escort vessels. The Air Force had failed to acquire long-range fighters or bombers. Therefore, Italy could not protect adequately the maritime traffic needed to supplement its insufficient supplies of raw materials.⁷⁹

By default, it fell to the Army to gain access to sources of raw materials and to the oceans. But the Army was not prepared by 1940 to fulfill this mission. Both the Ethiopian War and the Spanish War (with

its substantial Italian aid to the Nationalists) revealed that Italy could sustain a maximum fighting force of some sixty infantry regiments (along with supporting units) overseas. By 1937, however, the army was expanding toward a goal of some 250 regiments and had actually reached a strength of 161 infantry regiments by June 1940.⁸⁰ However, the Army General Staff knew that Italy's limited productive capacity could not sustain such a force. Moreover, the combined effect of the poor Italian rail network, severe shortages of locomotives and rolling stock, the inadequacies of the Libyan and Albanian ports, the lack of hard surface roads along the Yugoslav frontier, in Albania and in Libya, all created severe transportation problems. Thus, even the limited output of Italian factories could not be transported in sufficient volume to the expected battlefields, to sustain planned military operations, even without enemy interference.⁸¹

The gap separating Italian strategic goals from logistical reality is best illustrated by the plans for Libya. From 1936, the Army General Staff had recognized North Africa as the decisive theater in a future war with Britain. In late 1938, the Navy prepared plans to ship a fully-equipped expeditionary force of 178,000 to Libya in eighty days, if unopposed by enemy forces and in 145 days, if opposed. Thereafter, the Navy planned to escort convoys reinforcing Italian North Africa with 113,000 tons of supplies and 6,500 men each month. In fact, during the 965 days of the actual Libyan campaign, the Navy carried a total of only 189,162 men to Libya and managed to land an average of 60,000 tons of material each month.⁸²

The Italians failed to compensate for these shortcomings, as they had during World War I, by erecting an effective alliance system. Italy's wartime alliance with Britain and France collapsed in 1919-1920,

when the Italian aim of dominating the Balkans, Mediterranean, the Red Sea and Northeast Africa aroused strong Western opposition. Italy did make temporary arrangements with one or another of the two Western powers thereafter to achieve some aspect of these goals. But the fundamental conflict between Italian and Western interests made more lasting coalitions impossible. This conflict also suggested the logic of a Rome-Berlin axis, once a regime willing to cooperate with Italy gained power in Germany. The same logic explains Italy's relations with smaller powers, such as Albania, Greece, Hungary, Austria, Yugoslavia, Yemen and Nationalist Spain as well as with such groups as the Croatian Ustasha, the Internal Macedonian Revolutionary Organization, the French Cagoullards, the Austrian Heimwehr and the Zionists.⁸³

Between 1922 and 1940, given Mussolini's penchant to treat weaker states like clients or simply targets for eventual annexation, (e.g. Albania, Greece, Yemen, Yugoslavia) and to abandon other associates in favor of an understanding with Germany (e.g. Austria, Britain, France, the Zionists), Italy can be described as having only four genuine allies: Hungary (1927-1943), the Ustasha (1929-1943), Nationalist Spain (1936-1941) and Germany (1936-1943). Although brought to an early end by Italy's clash with Britain during the Mediterranean Crisis, Italy also formed an alliance with France in January 1935. While all these alliances had a strong military character, Mussolini formed them for political purposes. He, not the armed forces leadership, directed their application.

Mussolini formed his alliances with the Hungarians and the Ustasha for the same purposes: to secure Italian control over the Balkans by the destruction of Yugoslavia, the annexation of Slovenia and Dalmatia and distribution of the remaining territory among a group of Italian client states.

The Magyars readily accepted Italian loans, arms and aid to expand their army and create a clandestine air force but directed their real hostility against the Czechs and Rumanians. In fact, after the Italians made their March 1937 agreement with the Yugoslavs to limit German penetration of the Balkans, they actually encouraged Hungarian-Yugoslav détente. Once the Hungarians gobbled their morsels of Czechoslovak territory, they did offer to join Italy in war against Yugoslavia (April 1939). By then, however, Mussolini was more interested in erecting an Italian-Yugoslav-Hungarian-Polish barricade against German expansion. When that failed, his Hungarian policy concentrated on protecting Rumania from Magyar aggression. By the spring of 1940, Mussolini had decided to attack Yugoslavia in the immediate future. But by then, Hungarian actions were influenced by Berlin more than Rome. Italy's thirteen-year alliance with Hungary had failed in its aims.⁸⁴

Mussolini employed the Ustasha in his abortive attempt to dismember Yugoslavia through subversion (1931-1934), then restrained them when cooperation with Italy's Balkan neighbor seemed wiser (1934-1939). Once Mussolini resumed his attempts to destroy Yugoslavia, his differences with Ustasha leader Ante Pavelić resurfaced. Both men coveted Slovenia, Dalmatia and Montenegro. Furthermore, Mussolini envisioned an independent Croatia as little more than an Italian protectorate. By 1939, the Croatians had also moved into Germany's orbit, despite Mussolini's strenuous efforts to keep them under Italian control.⁸⁵

Mussolini's January 1935 agreements with Laval led to the Italian-French military agreements that spring. In return for French assistance in preventing an Anschluss, the Italians promised to help defend France against a German invasion. Mussolini's actual goal was to discourage British opposition to his conquest of Ethiopia and to inhibit

German expansion at Italy's expense, while the Regio Esercito was concentrated in East Africa. After France joined Britain in applying sanctions, to defeat Italian aggression against Ethiopia, Mussolini denounced the Italian-French military agreements in December 1935. These sanctions, in turn, allowed Germany to begin displacing Italy in the Balkans economically, while his estrangement from Britain and France forced Mussolini to accept growing German influence over Austria.⁸⁶

In return for his assistance to the Spanish Nationalists, Mussolini expected to gain a strategically placed ally against France and Britain, as well as access to Spanish ports on the Atlantic and in the western Mediterranean, and to Spanish mineral resources. In the short run, Franco's cautious military strategy caused Mussolini tremendous frustration and drained the Italian armed forces of supplies and equipment. Meanwhile, the Germans continued their expansion in Southeast Europe and outmaneuvered the Italians in acquiring economic concessions from Spain. After the Nationalist victory in April 1939, Franco refused to play the role of junior ally envisioned for him by Mussolini.⁸⁷

Mussolini's formal alliance with Hitler in May 1939 grew out of their mutual agreement of August 1936 to assist the Spanish Nationalists and the personal relationship the two dictators forged during their meetings in September 1937 and May 1938. By mid-1939, Mussolini believed that he had persuaded Hitler to divide Europe, the Middle East and Africa into mutually exclusive spheres of influence and to avoid a general conflict with the West until Italy recovered from its wars in Africa and Spain. But just as Hitler had worked to protract the Spanish War to Germany's benefit, while Mussolini attempted to win it quickly, the German dictator initiated his war for European hegemony, while the Italian vainly sought to delay it.

Mussolini's decision to enter the war in June 1940 epitomized his Fascist philosophical mélange of bravado, despair and romantic notions of comradeship. Any gains Italy could have made at the expense of a prostrate France and desperate Britain would have been indefensible against Germany's overwhelming superiority vis-à-vis Italy.⁸⁸

Italy might have balanced German strength to a greater extent had it concentrated on the development of naval strength. The Italian objective of hegemony over the Mediterranean and its approaches required a primarily maritime strategy. Furthermore, the territories under Italian control in 1918-1940 gave the Italians excellent naval and air bases from which they could have sought control of the central Mediterranean, the southern Red Sea and the Gulf of Aden. The major opponents of such plans, Britain and France, did possess formidable air and naval forces. But the threats posed by Japan and Germany after 1933 forced the Western Powers to disperse their strength. Italy could have concentrated its power against vital yet vulnerable areas such as Tunisia, Malta, Egypt and Socotra. However, the Italians either failed to develop the necessary forces and techniques or were fatally slow to do so.⁸⁹

One reason was the domination of the armed forces, until the mid Thirties, by the Army with its Alpine orientation. Another was the self-defeating refusal by the air and naval leadership to foster interservice cooperation. Finally, the initial steps toward the Italian goal -- the pacification of the African colonies, control of the Adriatic through the subjugation of Albania and the 1937 security pact with Yugoslavia, and the conquest of Ethiopia -- were all achieved without the reorientation within the armed forces necessary for successful conflict with the British and French.

Only after his military victory over the Ethiopians and political victory over the British in 1936 did Mussolini gain the power to favor the Navy and Air Force over the Army. But Mussolini lacked the vision to reorganize the individual services and force their coordination. Moreover, he refused to create the mechanisms which might have done so.

Finally, the threat to British security revealed by Italian military activity during the Mediterranean Crisis and the similar threat to the French revealed during the Spanish Civil War clearly tipped Mussolini's hand to the objects of his intended aggression. The successive crises from 1935 to 1940 served as dress rehearsals from which the British and French profited more than the Italians in preparing for war in the Mediterranean area. By June 1940, despite the unexpected collapse of French power and the consequent strain on their military resources, the British were able, if only barely, to restrain the expansion of Mussolini's Roman Empire.⁹⁰

III. Operational Effectiveness

Early operations in the Second Libyan War (1922-1931) led to a number of Italian defeats due to a failure to coordinate combined arms. Most notable was the annihilation of the 7th Eritrean Battalion by the Senusi at Bir Bilal in June 1924, when accompanying armored cars and covering aircraft failed to support the beleaguered unit. Over the years, however, the relatively well-trained colonial forces learned to coordinate effectively infantry, cavalry, armored cars, artillery, and airpower.⁹¹

A mysterious equine disease prevented the employment of Italian cavalry in the Ethiopian War, which limited combined arms to the infantry-artillery-tank triad. The loss of an unaccompanied light tank squadron at the Dembeguina Pass in December 1935 convinced the Army General Staff that armor could only operate when surrounded by infantry, serving them as mobile machine guns or light assault artillery. Despite the lessons of Spain, this remained Regio Esercito doctrine until the disasters of December 1940-February 1941. On the northern front, the road-bound nature of Italian motor columns and the inability of Italian infantry to match Ethiopian mobility forced the Italians to advance slowly from one complex of fortified camps to another. The Air Force provided most of the inadequate reconnaissance. Indiscriminate bombing and artillery fire inflicted the majority of Ethiopian casualties and a large number of Italian losses as well.

On the southern front, the Italians enjoyed greater mobility, thanks to caterpillar tractor-trailer convoys of ammunition and supplies. These freed General Rodolfo Graziani's columns from their bases, while the open terrain allowed easier movement than in the north. The southern landscape also permitted a better coordination of airstrikes and artillery with the infantry.⁹²

By early 1937, the withdrawal of most armor, artillery and Italian infantry left the East African command with a force consisting mainly of colonial foot troops. Combined arms operations shrank to the concept of airstrikes to supplement the light field guns of the African infantry. These forces entered World War II unprepared for modern military operations.⁹³

Initial operations in Spain consisted of barely trained and wretchedly-led Fascist Militia attempting to overwhelm the Republicans by uncoordinated weight of numbers and firepower. While the Black Shirts won at Malaga in February 1937, Italian naval gunfire, aerial bombardment and artillery apparently inflicted hundreds of friendly casualties. The next month, however, on the road to Guadalajara, the Militia suffered disaster after it refused to build antitank defenses and field works or to site its artillery for direct fire against superior Russian tanks. Without Italian aircraft (grounded by bad weather) and with only a few antiaircraft guns, the Black Shirts broke and fled in the face of a coordinated Republican air and armor assault.⁹⁴

After substantial purging, retraining and reinforcement, Italian ground operations showed considerable improvement, from August 1937 onward. Truck-borne Italian infantry, light tank squadrons and artillery, supported by airstrikes, won substantial victories at Santander (August 1937), in Aragon (March-April 1938), in Valencia (July

1938) and in Catalonia (December 1938-February 1939). Italian artillery and aircraft also rendered effective support to the Nationalist armies during the Republican offensives against Teruel (December 1937-February 1938) and across the Ebro (July-November 1938).⁹⁵

The diplomatic fiction adopted by the Fascist regime that Italian forces in the Spanish War were volunteers prevented too blatant a participation by Regia Marina surface units. Italian light cruisers did bombard Valencia and Barcelona in February 1937, in coordination with submarine and air blockade operations against the Republic's Mediterranean Coast. In August and September, Italian destroyers and aircraft provided reconnaissance for the "Pirate Submarine" campaign, directed primarily against Soviet shipping heading for Mediterranean Republican ports. In general, however, the Italian Navy did not practice a combined arms approach during the Civil War.⁹⁶

The same was true for the Aviazione Legionaria. Since the Savoia Marchetti SM.79 and FIAT BR.20 bombers employed from early 1937 had greater speed and far greater range than the FIAT CR.32 fighter, combined operations were often impractical. In addition, the appearance of the superior Polikarpov I-16 fighter piloted by well-trained Russians in October 1936, influenced the Italian air command to abandon the fighter escort of their bombers when they reached enemy lines. Only in late 1938, with the departure of Soviet pilots, did Italian fighters resume the protection of their bombers. By then, Nationalist air superiority made such escort operations almost pointless. The faster FIAT G.50 metal monoplane fighter arrived in Spain too late to participate in operations.⁹⁷

In the Army's case, its clumsy use of combined arms can be traced to the severe inflexibility that characterized the intellectual

atmosphere and operational doctrine of the Regio Esercito before 1933. Some prominent officers, notably Francesco Saverio Grazioli, Ottavio Zoppi and Emilio Canevari, did advocate mechanization, maneuver warfare, and battlefield initiative by subordinates. But theirs were isolated voices in an officer corps stifled by generals like Badoglio, Pietro Gazzera and Alberto Bonzani, who dominated a highly centralized command and control system. Until the mid Thirties, the general staff planned only for Alpine attrition warfare, using masses of foot soldiers, supported by an avalanche of artillery fire. That the Army lacked such firepower simply underlines the high command's rigid refusal to consider alternatives.⁹⁸

However, after his appointment as War Undersecretary in July 1933, and to the additional post of Army Chief of Staff in October 1934, Federico Baistrocchi greatly advanced the motorization of the Regio Esercito. He also stressed maneuver warfare and encouraged the mental elasticity necessary to wage it.⁹⁹ Alberto Pariani, Baistrocchi's successor (October 1936-November 1939), developed these policies further and adopted mechanization, guerra di rapido corso and the development of individual initiative as official doctrine.¹⁰⁰

But despite over six years of effort, Baistrocchi and Pariani enjoyed only partial success. Italian industry failed to supply the necessary transport and armored vehicles. Badoglio's conservative influence within the Army remained powerful. When he smashed Haile Selassie's forces, while ignoring Baistrocchi's operational directives, Badoglio provided powerful arguments against the new doctrine. Graziani did employ Baistrocchi's methods successfully in the Ogaden, as did Mario Berti and Gastone Gambera in the Aragon and Catalonia campaigns. But Graziani remained isolated in East Africa until early 1938 and under a

cloud thereafter, until he succeeded Pariani in November 1939. Berci and Gambarra possessed neither the rank nor the ability to prod the officer corps toward modernity. Finally, the miserable training given the reservists, who constituted the majority of the army's junior officers, hardly prepared them to undertake operations based on daring and mobility.¹⁰¹

Mario Roatta, Graziani's deputy chief of staff after November 1939, had more success in improving Army flexibility and mobility. His twenty-seven months in Spain following Guadalajara and his subsequent attaché duty in Berlin appear to have taught him something about the prerequisites for modern warfare. But his training methods only bore fruit after the disasters of October 1940-February 1941.¹⁰²

Several factors placed even greater limits on the intellectual flexibility of the Navy leadership in the interwar period. These were: 1) the virtual restriction of the Regia Marina's 1915-1918 operations to those by light units within the Adriatic, 2) no experience with amphibious assault during the Great War, 3) Mussolini's repeated refusals to grant the Navy's requests for aircraft carriers and an independent air arm, 4) the lack of modern battleships until 1937, 5) a naval leadership at first uncertain of the First World War's lessons and then one commanded by three conservatives in succession -- Admirals Paolo Thaon de Revel (1922-1925), Giuseppe Sirianni (1925-1934) and Domenico Cavagnari (1934-1940).¹⁰³ The Corfu Crisis shocked both Mussolini and his admirals into realizing that the Regia Marina had to expand and prepare for a future confrontation with the Royal Navy. Nonetheless, the next decade witnessed Navy efforts concentrated against the traditional rival, France. It took the Mediterranean Crisis of 1935-1936 to refocus the attention on Britain as the major obstacle to Italian efforts to rule

the Mediterranean.¹⁰⁴

As a result, the Navy adopted a seven year construction program (1937-1944), which aimed at creating a fleet 40% the size of the Royal Navy. However, a renewed Mussolinian veto on aircraft carriers, an earlier series of poor cruiser designs, and neglect of escort vessels resulted in a fleet strong only in battleships and submarines. Cavagnari's operational concepts strongly echoed those of the German admiralty in World War I, throwing away the advantages Italian geography granted and conceding the initiative to the enemy. By the spring of 1940, furthermore, Cavagnari decided he dare not risk his battleships against the British under any circumstances and restricted offensive operations to his submarines. Given geographical reality, let alone the inadequacies of Italian submarine training and design, however, it was unreasonable to expect the same successes enjoyed against the Spanish Republic or that which German U-boats had achieved against Britain in World War I.¹⁰⁵

In contrast, the Regia Aeronautica exhibited greater adaptability. It overcame its Douhetian orientation sufficiently to conduct extensive ground support operations in Africa and Spain, organize for kamikaze-like suicide attacks against the Royal Navy during the Mediterranean Crisis, fly extensive fighter air superiority missions over Nationalist Spain, and blockade the Republic by anti-shipping strikes and bombing raids on its ports.¹⁰⁶

But while some Air Force leaders had doubts about the relevance of Douhet's ideas to Regia Aeronautica operational needs, the Air Staff did not develop an alternative doctrine. In addition, Air Force refusal to cooperate with the Navy in developing torpedo bomber squadrons, its failure to develop night flying techniques, insufficient numbers of

aircraft and spare parts, underpowered engines, and too few airfields and repair facilities (and those, poorly equipped) all combined to further undermine operational flexibility. The facile successes of the Twenties and Thirties did not prepare the Regia Aeronautica for operations against the R.A.F.¹⁰⁷

Some of the other serious constraints on the interwar development of force armate doctrine grew from the military's resigned accommodation to Italian technological backwardness. For example, the Navy's battleships and cruisers did not train for night combat for lack of radar.¹⁰⁸ Despite the potential of its fighter designs, the Air Force did not plan to escort its bombers or the Navy's convoys. Underpowered Italian engines resulted in inadequate range.¹⁰⁹ The armored forces' leadership shaped its operational planning around its recognition of the inferiority of Italian tanks, the weakness of Italian radios, and the lack of tracked armored personnel carriers.¹¹⁰

In two cases, however, segments of the armed forces's leadership clung to operational concepts beyond realization by Italian technology. Douhet's theories of strategic terror bombing required large numbers of long-range bombers with powerful offensive and defensive armament. Despite considerable effort, the air industry failed to develop a satisfactory model. Even if it had, it could not have produced the thousands of airframes and engines required. Nonetheless, significant factions within the Air Force high command and the Fascist regime (including Mussolini himself) clung to Douhet's concepts into World War II.¹¹¹

The second major example of operational/technological incompatibility was the Army plan for the invasion of Egypt. Between 1935 and 1940, the Army General Staff and Balbo, then Governor of Libya, developed a proposal for thirteen divisions to move down the coastal highway and

across the Western Desert against the Nile Delta and the Suez Canal. But the huge logistical effort to support such a force was beyond Italian capabilities nor could the army hope to acquire the vehicles necessary to transport such a force.¹¹²

The supporting activities available to each of the armed forces presented a widely varying range of quality. Following demobilization after World War I, the Italian armed forces experienced severe deficiencies in their support services. The Navy closed a large number of shore facilities and was forced to scrap or mothball many ships. The War Ministry reduced Army support services even more, in order to gain funds to maintain a large number of commands for senior infantry, artillery and cavalry officers. By 1925, the Regio Esercito was incapable of major offensive operations. Mussolini recognized the problem and agreed to a ten year rebuilding program that year. Nonetheless, he soon embarked on an adventurous foreign policy that threatened war with France and Yugoslavia. The result was a quiet revolt by the Army General Staff in January 1928. Mussolini's generals forced him to cease his provocations until the Army was ready for war.¹¹³

After its creation in January 1923, the Air Force expanded too quickly. Stress on the numbers of aircraft and squadrons came at the expense of adequate services. The situation improved after Balbo became Air Minister in November 1926. But Balbo still lavished too many resources on supporting his transoceanic propaganda flights. Combat efficiency suffered as a result.¹¹⁴

The Ethiopian War severely tested the rebuilt support services of the forze armate. The Navy supported the combat services well, thanks to a well-organized port and supply base at Naples and a merchant marine that had expanded from 1 million to 3.2 million tons from 1919 to 1935.

Besides transporting 637,000 men and 2.1 million tons of material to East Africa, the Navy provided extensive medical and communications services to the Army and evacuated 44,000 casualties.¹¹⁵ Ashore, services functioned less well. Abysmal standards of sanitation and medicine allowed dysentery, malaria, cholera and venereal infections to flourish. The Army's chief medical officer admitted that 25% of Italian fatalities were due to disease.

The Army and Air Force did receive adequate supplies and fuel, through the overnight quadrupling of the port capacity of Massawa, a feverish and gigantic road building program and the assembly of a huge fleet of Italian and foreign trucks. But the multiplicity of vehicle types and the failure to acquire sufficient spare parts created a nightmare for the Army's small corps of mechanics. Though the waste and the corruption reached astronomical proportions, Mussolini funnelled such a flood of material into East Africa that victory was ensured -- at five to six times the original estimate of expenses.¹¹⁷

The 39 billion lire worth of military equipment consumed in conquering Ethiopia and the 7-8 billion lire consumed in Spain (including 7.7 million shells, 319 million rounds of small arms ammunition, 7,400 motor vehicles, 1.8 million uniforms) left the armed forces shorn of essentials and unable to complete essential construction projects.¹¹⁸

On the eve of World War II, each service had serious supply and transport problems. For example, the Army found itself desperately short of trucks, cross-country vehicles, uniforms, and gasoline. Roads that a previous War Minister, Armando Diaz, had requested nearly twenty years earlier, as essential for operations against Yugoslavia, remained uncompleted. Chief among Air Force supply problems was lack of spare parts. Severe shortages of transport aircraft, motor vehicles and fuel

crippled Air Force transportation. Failure to warn the merchant marine of imminent hostilities in May-June 1940 stranded over one-third of Italian shipping outside the Mediterranean at the declaration of war. These vessels would be sorely missed once the Libyan convoy battles began.¹¹⁹

Communications represented another serious weakness for the Italians. While the armed forces realized the value of radio, the small electronics industry proved incapable of supplying transmitters of sufficient compactness and range. As a result, Italian tanks lacked radios altogether, fighters carried radios incapable of reaching ground stations and naval vessels experienced great difficulty making long-distance transmissions. The armed forces's headquarters in Rome possessed powerful transmitters but communications were so centralized that field forces could only pass messages via Rome. In 1940, Army combat forces still relied principally on wire communications. At the same time, the Air Force and Navy General Staffs were not even connected by telephone, although this was the only means by which air and naval operation units conceivably could communicate with each other.¹²⁰

Italian communications security had been breached before the outbreak of World War II. The intense radio traffic generated by operations in the African and Spanish Wars allowed the British to master most Italian military and naval cyphers. As a result, the British had a fairly complete picture of Italian intentions, movements and strength in the twelve months preceding Italian entry into the war.¹²¹

In contrast, Italian intelligence services functioned better, particularly the Army intelligence service, Servizio Informazioni Militari (SIM). Naval and air intelligence concentrated on the narrow questions of the location, strength, technical capability and tactics of

their potential enemies' forces. Air intelligence relied primarily on agents and aerial photography and acquired a detailed knowledge of the French, Yugoslav and Spanish Air Forces. Information on the German and British air services was less accurate. Naval intelligence depended primarily on radio intercepts to and from the French, British and Yugoslav fleets.¹²²

SIM was most effective at providing political intelligence, through its radio intercept and cryptanalysis sections, and through the infiltration and burglary of foreign embassies in Rome. Military attachés also ran a number of effective espionage rings abroad. Beginning in the early Twenties, SIM targeted Germany, France, Spain, Yugoslavia and Ethiopia for special attention. In 1934, Mussolini doubled SIM's budget to fund a greatly expanded effort against Britain and to permit SIM to add assassination and subversion to its activities. Beginning in late 1932, SIM began a collaboration with the Abwehr directed against France, though this was temporarily reduced in 1935-1936 when SIM worked with the Deuxième Bureau against Germany.¹²³

In conjunction with Naval Intelligence, SIM experienced its greatest interwar success during the period of the Mediterranean Crisis and Ethiopian War. The information provided to Mussolini allowed him to outbluff the British during the war of nerves in the summer of 1935. SIM cut the flow of arms to Ethiopia, subverted the loyalty of at least half of Ethiopia's warriors, and provided the Italian East African command with a complete picture of Haile Selassie's forces and all of the emperor's orders to his generals.¹²⁴

SIM was less successful in Spain, though it did manage to impede the flow of arms to the Republic through sabotage. SIM had gathered little information about the Soviet armed forces and failed to crack any

Soviet cyphers. This resulted in a number of unpleasant surprises for Italian forces, ranging from the effectiveness of Soviet tanks and aircraft to lack of forewarning about the Republican Ebro offensive of July 1938. On the other hand, the Soviets acquired detailed information on the Italian order of battle and operational plans prior to the Battle of Guadalajara. These security leaks greatly contributed to the Italian debacle.¹²⁵

The reasons for the failures of Italian military intelligence in early 1940 remain unclear. One reason may have been an attempt by SIM to dissuade Mussolini from entering the war. Another may have been due to French and British security measures, prompted by foreknowledge of Italian intentions. In any case, SIM reported strength levels for British and French forces in the Mediterranean-East African area far in excess of their actual numbers. These reports were one factor in the paralysis of will exhibited by the force armee leadership that spring and summer.¹²⁶

On a more fundamental level, however, such figures were irrelevant. The greatest weakness of the Italian intelligence services lay in their inability to assess the information they received. Whatever enemy force levels were, it was enemy capabilities and intentions that really mattered. With a total of only some 750 men in Italy in 1940, even SIM lacked the resources to analyze the intelligence it collected. Without that ability it was too easy for the general staffs to ignore the intelligence they received or to interpret it as they chose.¹²⁷

By June 1940, a number of Army, Air Force and, to a lesser extent, Navy commanders had worked out operational concepts consistent with Mussolini's strategy of dominating the Mediterranean. But the wars in East Africa and Spain, through which these concepts had been developed,

so exhausted force armate resources as to prevent the immediate realization of these concepts. Furthermore, the lack of an effective combined general staff, fierce interservice rivalry, and the concentration of such coordinating authority as existed in the hands of the conservative Badoglio, further retarded the application of such doctrines.

Through careful study of British, French and German armored equipment and doctrine, and by analyses of the operations in Spain, Italian armor commanders had come to understand the requirements for the rapid conquest of such objectives as Yugoslavia and Egypt. In 1939-1940, however, they also realized their units lacked the equipment and training to carry out such operations.¹²⁸ At the same time, the Air Force leadership had finally accepted the need for dive bombers, torpedo bombers, improved medium bombers and long range fighters, with all the necessary armament and training necessary to prepare their crews for operations in cooperation with the Army and Navy. But neither industry nor the Air Force could produce or deploy such aircraft or forces in the immediate future. Nor, in 1939, did the sudden realization of the superiority of foreign aircraft designs mean that Italy could quickly produce equivalents. Furthermore, the Air Force had not shed completely the legacy of Douhet. The Regia Aeronautica command recognized the necessity for aeronaval and ground support operations by 1939-1940. But it rejected the notion of close coordination or operational subordination that such operations required.¹²⁹

The Navy General Staff realized that the Regia Marina had to dominate the central Mediterranean in order to defend Italian communications and the coast, to keep open supply lines to Libya and to prevent the junction of enemy fleets from the two ends of the Mediterranean. But

the lack of aircraft carriers and an independent air arm, and the unexpected advent of war before the completion of the battlefleet limited the Navy's striking power. In the spring of 1940, the Navy planned to rely on its submarines, its torpedo craft, and its untried surface and subsurface assault units to keep at bay the enemy's naval forces. This, it was hoped, would allow the Regia Marina to emerge unscathed from the war which the Regio Esercito would win for Italy. But such plans demanded more than the exhausted Army could deliver, while placing too many hopes on the performance of the Navy's all-too-fragile lighter vessels.¹³⁰

More serious than the shortcomings of the individual services' operational concepts was the lack of a central military coordinating authority. Army forces had dominated the wars in Africa and Spain, imposing through their preponderance a rough coordination on the other services. But a war for domination of the Mediterranean would place the services on an equal political level, while requiring an emphasis on aeronaval operations for success. Badoglio lacked both a true general staff and the statutory authority to impose his will on any of the services. Furthermore, Badoglio had no understanding of naval operations and little appreciation of modern air warfare. Those operational concepts Badoglio did enunciate in 1939-1940 exhibited an extremely conservative and timid approach to the rare opportunities afforded Italy by the international situation. As a result, those qualities of imagination, daring, and aggressiveness which might have gained Italy significant victories in 1940 were totally missing from the plans of each of the general staffs.¹³¹ Instead, the Italians chose passivity in the face of what Badoglio and his associates perceived as enemy superiority.

This reflected their belief in the primacy of brute force in military operations, which the Italian armed forces had demonstrated between 1918 and 1940. It had been domestic opposition and mutiny in its own ranks which had prevented the Army from pitting its strength against the many weaknesses of the Albanian insurgents following World War I. The Regio Esercito evacuated Valona in ignominy in August 1920.¹³² After October 1922, however, Mussolini granted his commanders license to ruthlessly exploit enemy vulnerabilities. As a result, the colonial forces were much more successful against the bedouin of Tripolitania and the warriors of Somalia in the Twenties. In both cases, the Italians recognized that their opponents' weak points lay in their tribal divisions, small numbers, technological backwardness and reliance on livestock for sustenance and transport. The Italians responded by employing a political strategy of divide et impera, then striking their isolated foes and their herds from the sea and air. Ground operations proved more difficult, since financial and political constraints prevented the use of Italian conscripts in colonial operations. Nonetheless, superior firepower, wielded by the Italians' East African mercenaries, overwhelmed both opponents by 1927-1928.¹³³

The Senusi of Cyrenaica proved more intractable, given their unity of leadership, fervent religious convictions and caravan supply routes from Egypt. Only after the Italians penned the bedouin population in concentration camps, erected an impenetrable barbed wire barricade along the Cyrenaican-Egyptian border and captured and hanged the brilliant guerrilla leader Omar el Mukhtar did Senusi resistance collapse in December 1931.¹³⁴

Ethiopia's racial, diplomatic and geographic isolation and the disloyalty of many of Haile Selassie's vassals left Ethiopia open to

Italian attack in 1935. Furthermore, due to tradition and the feudal basis of his authority, the emperor could not adopt large scale guerrilla warfare to harass the invaders. After subverting the loyalty of the leaders of half of Ethiopia's potential soldiers, the Italians planned to massacre the rest of Haile Selassie's massed followers with bombs, artillery, and automatic weapons fire. But thanks to their extraordinary mobility, the Ethiopians caught the Italians by surprise, nearly enveloped Badoglio's army in the north and twice came close to inflicting a second Adua on the aggressors, in December 1935-January 1936. Only massive barrages of mustard gas and incendiary bombs, which channeled the Ethiopians into killing zones, saved the Italians. Thereafter, Badoglio relied on poison gas and his agile Askaris to push the emperor's northern armies into Italian cannon and machine gun fire. In the south, Graziani discovered that the terrain of the Ogaden desert allowed him to concentrate motorized spearheads to punch through the enemy's static defenses, already weakened by unopposed air strikes.¹³⁵

Despite the repatriation of most Italian forces after May 1936, Graziani, the new Viceroy of Ethiopia, commanded enough Askaris and war planes to destroy the remnants of Haile Selassie's armies by early 1937. He did so by sending multiple columns into the mountains of central Ethiopia to locate the remaining imperial forces, surround them, and then annihilate them by aerial bombardment, gassing, and strafing. To compensate for his slender military resources in East Africa, Mussolini gave orders for the Askaris simultaneously to provision themselves and cow the newly conquered population by wholesale looting and savage atrocities.

Askari crimes and Graziani's hysterically homicidal reaction to an isolated two-man assassination attempt in February 1937, helped provoke a

massive rebellion in central Ethiopia that following August. The Italians responded with the same ground cordon and aerial bombardment operations. But the priority Mussolini gave to supporting the Spanish Nationalists and Italy's limited armaments production severely restricted the flow of munitions and gas to East Africa. At the same time, new Ethiopian leaders, thrust forward by the insurgency, adopted guerrilla warfare. They also learned camouflage and field fortification techniques from Italian Communist veterans of the International Brigades, infiltrated into Ethiopia by the Deuxième Bureau. Despite more effective operations, following Graziani's replacement by the Duke of Aosta in November 1937, the Italians controlled only the towns and roads in Ethiopia by the time of their entry into World War II.¹³⁶

The Italian's greatest contribution to Franco's victory was the aggressive impetus they imported to aeronaval operations against the Spanish Republic. Italian aircraft drove the Republican Navy from the Straits of Gibraltar in August 1936, allowing the Nationalist African Army to establish itself in southern Spain. Italian aircraft and naval vessels used Majorca to interdict Soviet shipping heading for Republican Mediterranean ports, attack coastal shipping and the ports themselves and cover Italian convoys supplying the Nationalists. Since over eighty percent of foreign aid which departed for either side in 1936-1937 travelled by sea, these operations ensured the Nationalists a far greater flow of supplies than the Republicans received during the crucial months of the war. The Republic possessed a far larger navy than the Nationalists when the war began. But the offensive doctrine practiced by the Italian and the Nationalist units they advised proved far superior to the passive Soviet naval concept of "Proletarian" convoy escort.¹³⁷

Italian Air Force intervention eventually granted the Nationalists air superiority, leaving the Aviazione Legionaria free to test both Douhet's and Mecozzi's concepts as Rome ordered. These experiments convinced Valle, the Air Force Chief of Staff, that ground support operations would defeat the Republic more quickly. But Valle's powerful political opponents forced him to continue terror bombing and Regia Aeronautica operational doctrine remained confused in Spain and afterwards.¹³⁸

After Guadalajara, Italian ground force commanders learned to use their superior artillery, ground support aircraft, tanks, and trucks to break through and outflank Republican defenses. Italian artillery and bombers were also decisive in smashing the major offensives of the less well-endowed Republicans. But these methods were not adopted by the Regio Esercito as a whole.

Italian superiority in the invasion of Albania in April 1939 was so overwhelming that an examination of their strengths and Albanian weaknesses is pointless.¹³⁹

IV. Tactical Effectiveness

Following World War I, the Army abandoned its tentative efforts to develop infiltration tactics and returned to a doctrine modeled on the French Army tactics of 1918. By the late Twenties, however, such methods came under increasing attack from advocates of maneuver warfare. Even conservatives recognized that the Army lacked both the artillery and organic infantry firepower to support the tactics that they advocated.¹⁴⁰ Between 1926 and 1935, the Army created, in stages, a new tactical doctrine which stressed enhanced infantry fire power, limited motorization, light infantry support tanks, aerial bombing in support of ground operations, and maneuver. The War Ministry also prepared plans to replace its artillery, which was largely that captured from the Austrians in 1918-1919. However, the ministry received funding only for prototype construction.¹⁴¹

Despite the lack of sufficient artillery support, these new tactics proved adequate against the poorly-armed Ethiopians and Spanish Republicans. Nonetheless, the Guadalajara debacle, though hardly suffered by well-trained troops, underlined doubts already raised by analyses of the East African campaign. Italian motorized divisions proved cumbersome and road-bound. Non-motorized infantry remained wedded to the defensive tactics of World War I and would advance only after massive artillery barrages. Infantry-artillery coordination was poor. Italian tanks proved flimsy, ineffective offensively and defensively, and could not operate independently.¹⁴²

These shortcomings induced the Army leadership to promulgate new tactics in 1938. The centerpiece of the new doctrine was the two infantry regiment divisione binaria, designed for easy motor transport as an attack column. Maneuver and control of medium artillery became a corps responsibility. New armored doctrine, the development of medium tanks and the creation of armored divisions introduced mechanized tactics which stressed flanking attacks and infiltration.¹⁴³

In many cases, however, the tactics actually understood and practiced by Army combat unit commanders on the eve of World War Two were quite different. After little development between 1919 and 1934, Army tactics were revised twice between 1935 and 1938: by Baistrocchi's guerra di movimento concepts of 1935-1936, followed by Pariani's guerra de rapido corso theories of 1937-1938. Given the huge expansion of the Army in 1939-1940, the eighteen months between the promulgation of Pariani's new doctrine and Italian intervention in World War Two allowed scant time for tactical reindoctrination and practical application.

Three prototypes of the divisione binaria, the centerpiece of Pariani's new tactics, fought in Ethiopia and another in Spain. Despite official pronouncements, these divisions had not proven their worth. Certainly they had not provided many officers with the chance to learn the characteristics of such divisions in battle. Neither Baistrocchi nor Pariani ever directed the operations of any divisions in Africa or Spain and few of their staff planners commanded units in either campaign. Yet these men imposed their tactical concepts and the divisione binaria on the Army. Few officers who served in Ethiopia fought in Spain, either to carry their tactical experience into the other conflict or to build upon it. The long combat tours of the officers actually sent to Spain produced few veterans to bring that war's lessons back to the rest of the

Regio Esercito. Finally, the majority of the junior reserve officers mobilized in 1939-1940 had no combat experience, while their seniors who did had last seen action in 1918. The range of contradictory combat and training experience within the Army officer corps in 1939-1940, combined with the highly disruptive change-over to the divisione binaria, created the preconditions for the tactical disasters of the Alpine, Greek-Albanian, and Cyrenaican campaigns.¹⁴⁴

Many useful tactical lessons had been taught by the Ethiopian and Spanish Wars. Foremost was the need for the close coordination of infantry, artillery, armor and airpower. But the Regio Esercito lacked the means to disseminate these concepts to its recently activated reserve officers and NCOs, between September 1939 and June 1940. In any case, the Army simply did not possess the weaponry and equipment needed to apply the particularly relevant lessons of the war in Spain.¹⁴⁵

With far less combat experience than either the Army or Air Force, the Navy had few guidelines for the modification of its tactical doctrine during the interwar period. Furthermore, deprived of its own air squadrons after 1923 and forbidden to acquire aircraft carriers, the Navy lacked the opportunity to develop the techniques of aeronaval warfare. The Norme d'impiego per le azioni aero-navali of 1934 specified that the naval high command would merely inform its Air Force counterparts of proposed combat operations and ship movements. The Air General Staff would then decide whether or when to intervene in naval actions on a completely independent basis.¹⁴⁶ There were few Navy-Air Force exercises in the years 1923-1940 and those held resulted in little progress toward effective coordination. As a result, although the Navy entered World War II in a far better material condition than the Army or Air Force, its obsolescent doctrine largely negated this advantage.¹⁴⁷

The basic premise underlying Italian naval tactics was that in the event of war the Regia Marina would not only face initially stronger opponents but also ones more capable of replacing losses than Italy. Therefore, Italian surface vessels were to avoid action except when enjoying a clear advantage. In theory, the stress on speed in the design of Italian warships would give them the option to choose or avoid combat. Further restrictions on action derived from poor radio capability and the lack of radar and naval aircraft.

Night action was prohibited to all but torpedo craft. Destroyers were largely limited to scouting and anti-aircraft assignments for the battlefleet. Convoys would be escorted by only light forces. The battlefleet would intervene in case of enemy attack only under favorable circumstances. Great stress was placed on the defensive use of minefields and smokescreens. However, inadequate mine production and the poor quality of Italian designs prevented the Regio Marina from taking advantage of the opportunities offered by Italian geography for mine warfare.

Little attention was paid to submarine/surface ship coordination for fear of attacks on friendly vessels. In general, both submarine and antisubmarine tactics remained those of 1917-1918. Submarine tactics stressed submerged attacks by stationary boats lying in ambush, as in the "Pirate Submarine" campaign of 1937. Night surface attacks, wolfpacks, and the concept of maneuver were not envisioned.¹⁴⁸ In short, the Navy adopted tactics aimed at survival, not conquest. Ironically they ensured the Regia Marina's defeat by a fleet that employed aircraft, surface vessels and submarines in a coordinated, aggressive fashion.

Three major factors shaped Italian air tactics in the interwar period: the influence of Douhet's theories; the expectation, until 1935-1936, that the next major war would be waged against France and

Yugoslavia; and the technical limitations of the aircraft industry. The result was the conviction, reinforced by air maneuvers between 1931 and 1935, that unescorted medium bombers could penetrate enemy air defenses and wreak havoc on his cities with gas and incendiaries. The development of accurate bombing techniques and fighter escorts seemed unimportant. Furthermore, industry had failed to develop the powerful engines needed for strategic bombers and long range fighters. Weak engines, however, necessitated trimotor medium bombers. This precluded the positioning of the bombardier and bomb sight in the aircraft's nose and made accurate bombing difficult in any case.¹⁴⁹

The stress on bombers delayed the development of Italian fighter aircraft until the late Twenties. When they appeared, they were highly maneuverable, lightly armed biplane interceptors for the defense of Italian cities against enemy retaliation raids. Since these aircraft were designed to attack bombers, Italian fighter tactics stressed individual acrobatics, enabling the interceptor pilot to gain favorable firing positions against his less maneuverable opponent.¹⁵⁰

Regia Aeronautica combat experience offered few lessons to alter these tactics until the late Thirties. Italian gas and incendiary techniques, however inaccurate, proved effective against undefended Ethiopian towns. The small high explosive Italian bombs worked well on African villages built of adobe or warriors ignorant of field fortifications. The Spanish War did raise disturbing questions about erratic bombing patterns, ineffective bombs, and outmoded fighter tactics. But the final victory obscured these warnings.¹⁵¹

Given the greater stress on fighter aircraft by the Regia Aeronautica after early 1939, the failure to develop new tactics from combat experience in Spain had particularly serious consequences.

Italian fighter units entered the Spanish Civil War employing classic World War One dogfight tactics. The extraordinary maneuverability of their biplane fighters and the long range of their 12.7 mm machine guns allowed the Italians to disregard their aircraft design weaknesses: low speed, no radios and light armament. Yet, side-by-side with the Aviazione Legionaria, the Condor Legion's pilots developed the "Finger Four" formation and "hit and run" tactics made possible by the Germans' radio-equipped, faster and more heavily armed Messerschmitts. In the war's last months, the deployment of a few, more modern all-metal Italian monoplane fighters to Spain opened their pilots' eyes. These flyers returned to Italy convinced that the new German tactics were unquestionably superior for the new fighters. But the continued production of Italian biplane fighters and the dominance within Regia Aeronautica squadrons of the veterans who had flown them in Spain stifled tactical innovation. Throughout World War II, despite the appearance of excellent modern Italian fighters after 1940, Regia Aeronautica fighter pilot training continued to instill biplane tactics.¹⁵²

Nonetheless, the growing possibility after 1934 that the Regia Aeronautica would eventually confront the British forces over the expanses of the Mediterranean and in Africa had forced some tactical re-evaluation. In addition, Balbo's replacement by Valle as Air Force head lessened the influence of Douhet. Between 1933 and 1936, Valle encouraged the development of ground attack, dive bombing, and torpedo bombing techniques. But the end of the Mediterranean Crisis eased the fear of an imminent clash with Britain. Renewed Air Force fears of subservience to the other services raised barriers against tactics based on interservice cooperation. The Air Force returned to its stress on high level bombing against land and sea targets. Design of a long range

strategic bomber, a dive bomber and metal monoplane fighters did begin in 1936-1937. But development was painfully slow due to the diversion of Air Force and industrial resources caused by the Spanish War. Few of the new aircraft appeared in time to allow the working-out of new air tactics before World War II. Those new aircraft that did become available in 1939-1940 proved rather disappointing in any case.¹⁵³

In late 1939, growing realization by the Air Staff of their service's qualitative and quantitative inferiority to the Royal Air Force, and of the problems imposed by fuel shortages, prompted them to adopt some tactical expedients. The Regia Aeronautica assumed a defensive tactical stance to save fuel and aircraft. Since the majority of Italian fighters were obsolete biplanes, flown by pilots trained in the old tactics, the latter were ordered to restrict operations to combat air patrols over their airfields, ground installations and advancing Army columns. Bombers were limited to unescorted high level daylight raids in good weather.¹⁵⁴

But the inhibitions imposed by material shortcomings were not the major restraint on Italian air tactics after June 1940. Rather, the real key to Regia Aeronautica paralysis lay in its failure to adopt a coherent operational doctrine in concert with the other services. Pricolo's last-minute decision to coordinate Air Force operations with those of the Army and Navy meant little without the years of tactical and interservice training necessary to implement such a policy. As a result of this failure, from the outset of Italian intervention in the Second World War, the Regia Aeronautica surrendered the initiative to its opponents.¹⁵⁵

The degree to which each of the Italian armed services stressed surprise and the seizure of opportunities in its tactics was largely irrelevant in the interwar period. The deficiencies previously cited in

Italian communications, intelligence, transport, reconnaissance and integration of arms rendered such concepts largely inapplicable against other modern forces. On the other hand, Italian technical superiority over the Libyans, Somalis and Ethiopians allowed the use of surprise in the form of sudden attack by aircraft and, in particular, through the use of poison gas.¹⁵⁶ In Spain, however, thanks to the tactical innovations introduced by Baistrocchi, and the weaknesses of the Republicans, the Army did show some ability at the rapid exploitation of opportunities. This was particularly evident in the Aragon and Catalan Campaigns where the Italians demonstrated some comprehension of the rudiments of mechanized warfare.¹⁵⁷ Thereafter, these tactical concepts were held up for emulation by the entire Army and were proclaimed as official doctrine by Pariani.¹⁵⁸ But the mere proclamation of doctrine based on speed and daring had little practical effect. In the absence of the necessary equipment, training and command structure, such concepts remained simply empty words.¹⁵⁹

On the eve of Italian intervention in World War II, the other services were even more cautious and fitted their tactics to their self-acknowledged material deficiencies. In the case of the Navy command, this attitude arose from its lack of aircraft carriers and aircraft, and its refusal to risk its major warships in battle. For the Air Force General Staff, the decision to adopt defensive tactics sprang both from its recognition of the inferiority of Italian aircraft and from doctrinal confusion. For both services, extreme caution appeared the best means to insure their survival.¹⁶⁰

The efforts by the Army high command to inculcate a new tactical doctrine based on daring and initiative also foundered on the rock of military conservatism. Despite the Fascist regime's totalitarian

pretensions, its efforts to create a new social hierarchy and political system, based on merit, popular consensus and charismatic leadership, had little influence on the largely monarchist officer corps. The rigid distinctions among conscripts, NCO's, junior and senior officers, which the Regio Esercito inherited from the Armata Sarda, remained firm during the interwar period. Far more than material shortcomings these attitudes weakened the Army by preventing the growth of trust, communication and mutual comprehension necessary for mental and tactical flexibility on the battlefield.¹⁶¹

The military leadership's lack of concern for the morale and well-being of the enlisted men stood in blatant contrast to the care lavished on the officer corps. Most troops lived in decayed, filthy quarters, dressed in ill-fitting uniforms and subsisted on wretched rations. Provided with neither mess halls nor even plates and glasses, they consumed their meager meals from mess tins, standing or squatting in the courtyards of their barracks. They sweltered in their wool uniforms in summer, which nonetheless offered them inadequate protection against the rain and snow of winter. The bad quality of Army boots was notorious. Army health services were rudimentary, discipline and punishment harsh, while Army pay reduced conscripts to penury. As the Army swelled from 250,000 men in the Twenties to 1.2 million in late 1939, these conditions grew even worse.

Officers had little contact with their men and usually dealt with them through the ignorant, brutal NCO corps. While Italian officers' pay was less than that enjoyed by their British and French counterparts, the lower Italian cost of living made an Italian officer's life quite comfortable, particularly during the Depression. Excellent officers' messes, military servants, and custom tailored uniforms reflected these

advantages. By the late Thirties, many junior officers had come to recognize that these disparities had a serious effect on military efficiency. But rivalry with and disdain for the Fascist *Milizia*, which fostered a far more egalitarian officer-enlisted relationship, made reform difficult. The Army's senior officers insisted on the retention of their privileges, arguing that discipline depended on them.¹⁶²

To these ongoing problems was added the total reorganization of the Army's infantry divisions from a three infantry regiment to a two infantry regiment structure, beginning in December 1938. The disruption of all corps, divisions and divisional artillery regiments occurred simultaneously with the imposition of new tactical doctrine. While these changes were absorbed relatively easily by the new mechanized 6th Army being organized in the Po Valley, the effect on the mass of the Army was severely destabilizing. In the long run, unit cohesion (if nothing else) might have benefitted from the recreation of the Army's old two regiment infantry brigades, whose traditions played the same role in fostering military pride as did the British Army's regiments. But coming as it did just prior to Italian entry into the world war, this drastic rearrangement only upset further the application of the new tactical system.¹⁶³

The ultimate source of the inefficiency of the Italian Army, however, lay in the inadequate training of its officers and men. Well trained troops, led by competent commanders, can perform extraordinary feats with poor arms and equipment. But the finest weapons are virtually useless in the hands of a badly instructed army. Suffering from grave deficiencies in both training and material, the Regio Esercito entered World War II virtually predestined for disaster.

During the interwar period, troop training was very poor. Except for the years between November 1919 and January 1923, when it was reduced

to only eight months, obligatory military service lasted for eighteen months. Conscripts received their training from the regiments to which they were assigned. This consisted mostly of close order drill and the care of personal equipment, punctuated by frequent inspections. Beginning in 1928, Ugo Cavallero, then War Undersecretary, introduced a heavy emphasis on sports, gymnastics, and obstacle course training. Under Baistrocchi, in an attempt to improve mobility despite the shortage of motor vehicles, the troops were subjected to a regimen of long foot marches at a very brisk pace.

Italy's mountainous terrain placed a premium on arable land and deprived the Army of sufficient areas for weapons training and maneuvers. As a result, the recruits received very little instruction in live firing or tactics. Combined arms training was neglected. Tactical exercises followed minutely choreographed scripts, meant to teach the officer observers rather than the troop participants. This was particularly true of the annual maneuvers, held in late August, used for both the culmination of recruit training and as refresher courses for the reserves. Each command level discouraged initiative by subordinates during these affairs and unexpected problems usually produced total confusion, to the general amusement of foreign observers.¹⁶⁴

Following the initial two months of basic training, the best conscripts were selected as junior NCO candidates at corps level schools. However, these schools suffered from lack of instructors and equipment. After four and a half months, successful trainees were promoted to corporal. The best of these new NCO's received another three and a half months schooling, followed by promotion to sergeant. Most of these junior NCO's left the Army with their conscript classes, since the minimal pay, lack of responsibility and low prestige of even senior NCO's

made such careers very unattractive. As a result, the Army suffered from a chronic shortage of staff NCO's for recruit and junior NCO training. Adding to the problem was the frequent commissioning of the best NCO's, due to the Army's lack of career junior officers. In January 1940, as the Army prepared to enter World War II, it instituted a crash program to produce junior NCO's. But this had little effect by the time Italy intervened in the conflict.¹⁶⁵

While the performance of the Italian infantry suffered as a result of these training deficiencies, the skills level of the other branches of the Army declined even further with the approach of World War II. Lack of equipment for training purposes and of instructors led to a disastrous shortage of artillerymen, drivers, mechanics, radio operators and specialists of all kinds. At a time when the Army was adopting mechanized tactics and restructuring its divisions accordingly, it possessed only a small fraction of the necessary trained personnel.¹⁶⁶

In 1926, the War Ministry dismissed 3400 of its 7100 career lieutenants, in order to save the positions of more senior officers, at a time of severe financial retrenchment. Thereafter, until Baistrocchi's promotion law of 1934, the Army relied entirely on reserve officers for second lieutenants. A select group of these were offered places in the Modena and Turin military academies, the graduates of which received promotion to first lieutenant. However, the average second lieutenant served only seven months on active duty, after an eleven month training course. These reserve officers were unlikely to receive any further training until call-up in the event of national emergency.

The huge expansion of the Army beginning in 1935 required a vast increase in the number of junior officers, which neither the academies nor the existing reserve officer training courses could supply. The

academies returned to their old system of accepting cadets directly from civilian life and graduating them as second lieutenants. The already inadequate reserve officer training courses were accelerated, ultimately being reduced to three months by 1940. The creation of the new binary divisions forced the hasty promotion of career captains and majors, leaving the commands of companies, batteries and battalions to mobilized reservists or jumped-up lieutenants. By the spring of 1940, 93% of the Army's officers were reservists or recently promoted NCO's, whose training time Pariani had drastically reduced to obtain funds for purchasing equipment. As one military critic noted, by late 1939 even the Polish Army had more career officers and NCO's than the Regio Esercito.¹⁶⁷

The Scuola di guerra, closed during World War I, reopened in 1919 with special two year courses for captains, majors and lieutenant colonels promoted during the war. In 1923, the school resumed its regular three year course for those first lieutenants and captains deemed suitable for service on the General Staff and likely to win promotion to general rank. While the 1936 regulations for the School (renamed the Istituto superiore di guerra) emphasized that its role was to create "men of action," the curriculum was hardly designed to teach even the rudiments of guerra di rapido corso. Classroom study greatly outweighed the time allotted to field exercises. Equestrian and fencing received far greater emphasis than instruction in tactics and the employment of arms. The School's view of modern warfare may be deduced from the explanation of the 1936 regulations on the purpose of instruction in swordsmanship: "to place (officers) in condition to use the sword and the saber in the assault, properly and with an aggressive attitude." Nor did the School prepare its graduates for cooperation with Italy's major ally.

In the spring of 1940, among its approximately eighty students, no one could speak adequate German. Only five or six were even studying the language.¹⁶⁸

Nonetheless, even in 1939-1940, the situation was not hopeless. Had the army concentrated its resources, it could have manned, equipped and trained properly a mechanized corps of two or three divisions. In four months, such methods had whipped into shape the Corpo di Truppe Volontarie, after the humiliation of Guadalajara, and prepared the corps for its later victories. If the veterans of the Ogaden, Aragon, and Catalonia Campaigns had been forged into a strike force and deployed in Cyrenaica at the outbreak of the war, with the 150 medium tanks and 170 modern artillery pieces available by mid-1940, the Regio Esercito could have mounted a successful invasion of Egypt.¹⁶⁹

Instead, Pariani divided his scanty resources among Northern Italy, Albania and Libya, while preaching fantasies of lightning war to an Army untrained and unequipped even by the standards of 1917-1918. His successors, the triumvirate of Graziani, Soddu and Roatta, simply reinforced this dispersion of forces. As the result, in June 1940, the Regio Esercito was prepared only for a footmarch to catastrophe.

For the Navy, the failure to engage in fleet operations during the First World War left it with little combat experience on which to build. Nonetheless, after 1918, the sailors of the Regia Marina enjoyed far better training for war than Italy's soldiers. After 1934, however, as the size of the fleet swelled, the Navy suffered from paucity of officers and petty officers. While this shortage sprang from the wise decision not to lower the Navy's high standards, training ashore and afloat suffered. In particular, the need to provide sufficient instructors for the Navy's schools and to train the augmented numbers of recruits left

the small officer corps considerably less opportunity for sea duty. Frequent reassignments led to fatigue and insufficient familiarization with new equipment.

More serious were deficiencies in certain types of training, due to technical backwardness. Inadequate searchlights and the lack of radar led to the suicidal decision to neglect night combat exercises. Inefficient weapons and equipment restricted the scope of antisubmarine training. Rivalry with the Air Force and poor air-sea communications severely handicapped aeronaval maneuvers. While surface and antiaircraft gunnery practice, per se, was respectable, bad ordnance had a severe effect on accuracy.¹⁷⁰

In general, however, the Regia Marina expended far less of its resources in the African and Spanish wars than the Army or Air Force, while gaining considerable experience and confidence from the latter conflict. As a result, the Navy was the best prepared of the forze armate in June 1940.

The new Regia Aeronautica had to wait until Balbo's appointment as Air Undersecretary in November 1926 to acquire a consistent pattern of training. Balbo curtailed the individualism which had characterized Italian pilots since World War One, to stress formation flying, group aerobatics, navigation, and discipline. Ending the practice of combat training for new flyers in their first operational squadron, Balbo established central flying schools for bomber and fighter pilots. Beginning in 1931, he ordered bomber and fighter pilots to undertake familiarization flights in each others' aircraft. These policies continued after November 1933, under Balbo's successor, Valle.

But Balbo's transoceanic propaganda flights and Valle's constant bids for new air records both consumed excessive amounts of resources.

As a result, the Regia Aeronautica seriously neglected the more mundane but vital matters of bad weather and night flying, as well as gunnery training.

The Air Force also failed to train sufficient numbers of well-qualified pilots. Regular officer, reservist and NCO pilots were all instructed at the Air Academy of Caserta, after it opened in October 1926. Caserta gave its student flyers only 70 hours of flight time before they earned their wings. But the academy managed to expand its production of pilots from some 40 annually in the Twenties to about 150 in the mid Thirties to approximately 250 on the eve of World War II. Nonetheless, during the crises of 1935-1936 and 1939-1940, the Regia Aeronautica found itself desperately short of pilots. The high cost of aviation fuel in Italy, the shortage of airfields due to Italy's mountainous terrain and Mussolini's insistence on planting every level space with wheat, and insufficient numbers of warplanes all inhibited the refresher training of reserve pilots. A crash program did create some 1500 new reserve pilots in 1939-1940. But most had flown only civilian aircraft and proved of little immediate use to the Air Force. Thus, the Regia Aeronautica entered World War Two with a core of fine regular pilots, supplemented by some good reserve veterans of Ethiopia and Spain, and a mass of drones unprepared for combat.

The Italians paid dearly for their lack of well trained pilots. By mid-October 1940, even before the opening of the Greek campaign and the British counteroffensive in North Africa, the Air Force had already lost 1500 warplanes and many of its best pilots. As a consequence, the terrible defeats which the forze armate were to suffer on land and sea in the five months following Mussolini's attack on Greece were greatly aggravated by lack of effective Italian air cover.¹⁷¹

Conclusion

Italian history and culture shaped its military institutions. Italy's armed forces grew from the Piedmontese Army which, in a rapid succession of wars between 1859 and 1870, united the peninsula by force. During previous centuries, however, Piedmont had expanded slowly, nibbling away at one or another neighbor's territory, under the aegis of an alliance with France or Austria. Piedmont's ruling family had developed strong traditions of prudence and conservatism and had inculcated these attitudes, along with deep dynastic loyalty, into its officer corps. Cavour's unexpected, lightning success in creating the Kingdom of Italy, through a combination of brilliant, opportunistic diplomacy and ruthless aggression, was a startling exception to previous Piedmontese history. But Cavour's successors, the prime ministers of the newly united Italy, longed to imitate his example.

After 1870, however, Italy discovered itself to be an impoverished nation and one deeply divided along preunification boundaries. The government used the Regio Esercito to hold the fractious state together and encouraged the Army's Piedmontese traditions as quite appropriate to its role as national policeman.

At the same time, the opening of the Suez Canal, the shift of the national capital to Rome and the influx of southerners into the political and military systems transformed the consciousness of the Italian leadership. Italy constructed a sizeable navy and began imperial expansion into the Mediterranean and Africa.¹⁷² The sudden outbreak of World War

One seemed to offer the opportunity to repeat Cavour's triumph on a grander scale, to establish Italy as a truly great power. But the dismal performance of the forze armate in combat, Italy's marked dependence on its allies for economic support and the relatively meager rewards gathered at the peace table were more reminiscent of the dynastic wars Piedmont had waged in the 17th and 18th Centuries. The consequent frustrations, particularly within the officer corps, played a large part in bringing Mussolini and his Fascists to power in 1922.

In the 1918-1940 period, therefore, two voices echoed within the Italian military. One counseled caution, based on an awareness of national material inferiority and the dangers which surrounded Italy. The other urged the seizure of a fleeting chance to conquer a new Roman Empire, under the direction of the spiritual successor to Cavour. The ultimate assessment of Italian military effectiveness in the interwar period rests on the choice made between these alternatives.¹⁷³

By lying both to themselves and to Mussolini about their readiness for war in 1940, by their failures to prepare for that war over the previous twenty years, the Italian military leadership betrayed their country. By leading Italy into war, despite his detailed knowledge of the unpreparedness of the forze armate, even if for no other of his crimes, Mussolini richly deserved the fate he suffered at the war's conclusion.

Notes

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Apart from the fact that it deployed smaller, more lightly armed divisions, the Fascist Militia reflected Regio Esercito organization and doctrine. For the purposes of this study, it can be considered virtually a part of the Italian Army.

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GERMAN MILITARY EFFECTIVENESS

BETWEEN 1919 and 1939

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Introduction

Between 1919 and 1935 one cannot speak of a consistent level of German military effectiveness. For much of the period, situated between relatively strong neighbors, the German state possessed only a small professional army, one that could not produce sufficient reserves to face even one of its neighbors. The miniscule navy was even less significant. What makes a comparison between the Weimar and the Nazi period doubtful in another respect was the totally different political structures of both systems. On the other hand, there were elements which contributed to a continuity and which must be addressed in any attempt at analyzing Germany's military effectiveness during the interwar period.

Both phases of the 1919-1939 period were characterized by a resolution to overturn the Versailles Treaty and to regain Germany's position as a great power. Political, strategic, and operational ideas and plans changed; conditions altered, but the goal -- to build up modern ground forces, supported by a powerful air force, and ready to wage a war

to reshape Europe politically were common themes.

Adolf Hitler's desire to achieve this goal in a far shorter time was one of the major new accents introduced after 1933. It proved to be a decisive one. Its impact on German finances, resources, and on the whole economy was serious and created new conditions demanding desperate responses.

During both of these phases the Reichswehr and Wehrmacht were occupied in defining their positions within the state. There was, however, a vital difference in context between the republican system and the thoroughly militarized Führerstaat. One might think that with its growing strength in the late 1930s the Wehrmacht's importance in the system enjoyed a corresponding rise. That this was not the case suggests that there is not necessarily a correlation between military strength, the political system, and the amount of influence that a military organization is able to wield. With respect to the more or less defensive foreign policy of the Weimar Republic as opposed to Hitler's aggressive aims, one cannot even say that military influence is more favourably conditioned by an offensive foreign policy, and less so by a defensive foreign policy. But this rather general remark requires some amplification: the organization of a Führerstaat by a radical political party necessarily changed the military's position with regard to its political and strategic influence. With respect to operational and tactical questions, there was apparently no similar revolutionary impact. Here seems to lie the difference between the political and the professional claims of the military versus a given political system.

Of course, one should not look upon military developments in Germany during this period as having the isolated character of a social science model. There was a genuine new beginning after the overwhelming

breakdown in 1918 with its singular political, intellectual, and material consequences. While the Weimar Republic and National Socialism were very much the step children of this historic event, they were also connected with earlier trends in German history. And military developments were only one variable in the nation's course after 1918.

In stressing continuities one has to point at Germany's tradition as a military state. The one hundred year tradition of compulsory military service with its wide impact on society, state, and mind prepared the ground for the Reichswehr and the Wehrmacht. This preparation represented a major asset for Hitler's success in Germany's rearmament program and preparations for war. Without this background, the German military would have enjoyed nothing like the speed of its expansion between 1933 and 1939. This background of knowledge, experiences, and resolution resulted in speed and quality for the whole rearmament effort. This backbone of remilitarization counted far more than the mere totals of divisions, aircraft, or submarines. The historical background is equally important in understanding the innate shortcomings of German militarism. Its continental conception of strategic priorities played an essential role in skewing Germany's strategic approach. Moreover, German feelings of superiority in will and leadership were responsible for consistently shortsighted evaluations of the capabilities of potential adversaries.

I. Political Effectiveness

A. General Situation

Since the beginning of the Reichswehr one cannot speak simply of the armed forces' endeavour to gain influence in the framework of a given political structure. In a way the Reichswehr attempted to realize its aims in cooperation with as well as apart from the Republic.

The Reichswehr's political effectiveness can, therefore, be more easily measured with respect to its goals than with respect to national policies. It's position, conditioned by the Versailles Treaty, and the anti-republican feelings within the officer corps, resulted in the so-called "state within the state" attitude. On the whole, military interests were backed by the right wing parties and big industries, and were criticized from the left by communists and social democrats. This political effectiveness could not be more than gaining support by interests ready to contravene the Peace Treaty, to deceive the Interallied Control Commission, and to back the Reichswehr against public and parliamentary criticism. Political effectiveness could also mean getting governmental assistance for military policies. This meant preparedness for discussion and came into existence on a larger scale after Seeckt's dismissal.

B. Constitutional Conditions Allowing for Political Effectiveness

The Weimar Constitution assigned the supreme command to the President of the Republic whereas the Reichswehrminister only became head

of administrative and budget matters. Thus, the all encompassing power of the Emperor in Bismarck's Reich was split. The President's supreme command was exercised by the Reichswehrminister who was responsible to the Reichstag¹ and to the President in Kommandofragen (questions of command). He was also the only minister who had a direct access to the President. This legal construction led to a conviction on the part of the military that they held a position in the state that lay beyond parliament, political parties, and every day politics. This legal construction created gaps that allowed substantial political influence for the military high command, especially the Chef der Heeresleitung (Army Chief of Staff) who had his say at the highest level, that is as a figure between Chancellor, Defense Minister, and President. General Hans von Seeckt, Chef der Heeresleitung in 1920 after the Kapp Putsch, in fact assumed most of the powers of the Defense Minister.

Seeckt, disposing of an effective staff, created the new General Staff (Truppenamt) and practically became the supreme commander of the Reichsheer (army). During Seeckt's time the Reichswehrminister became a Randfigur (peripheral player).² Seeckt demanded that as Chef der Heeresleitung, he possessed the unrestricted right to represent the interests of the Reichswehr without any political control. The military, consequently, managed to block the nomination of a secretary of state for war and to take over the political responsibilities normally assigned to such a post.

The election of Paul von Hindenburg as president of the Republic in 1925 made the most respected officer of the old army the Supreme Commander of the Reichswehr. This meant that there was now a greater military authority above the Chef der Heeresleitung. Seeckt's dismissal followed soon after. The new Reichswehrminister, Otto Gessler, reduced

the political position of the Chef der Heeresleitung in 1926 by forming a so-called Wehrmachtabteilung which became the new bureaucratic center for all political questions which held the connections with the Reichstag, and which gave the Minister direct assistance. Thus, with Seeckt's dismissal the political weight shifted to the Defense Minister.³

But during Seeckt's time the Reichswehr laid the foundation for a political military order that aimed at ignoring the aims and values of the Republic in order to organize a thoroughly militarized society and a modern army ready to wage an industrialized war. The Reichswehr pictured itself as creating the core of such a future state of affairs. Such a political strategy was not fully understood by republican politicians,⁴ even though Wilhelm Groener, first chief of staff in the post war period, had envisaged such a state of affairs as early as 1919.⁵

The new office, the Wehrmachtabteilung, was further developed and strengthened and became the Ministeramt, which gained the position of a central office for the Reichswehr beside the Army and Navy high commands. Its Chief, Kurt von Schleicher, became the chief figure in military policy, which, of course, did not mean that political control over the forces was realized. This new office managed to keep the minister from exercising his Kommandogewalt. With Groener and then Schleicher as Reichswehrminister, the Army could directly voice its interests and push for its own armaments policy. The Präsidialsystem (presidential dictatorship) during the last years of the Weimar Republic further strengthened the position of the military. The new armament policy, which the military had tried to achieve with the so called Öffnung nach links (opening to the left) after 1926, could not be realized without the assistance of the Social Democratic party in the Reichstag. On the contrary, Schleicher attempted to win over the Nazi Party for his

armaments' program. The Army now intended to organize a large militia around the core of the professional forces. In order to mobilize the Wehrwillen (war spirit), it hoped to bring the Nazi mass organization into line with its policy and to establish some form of organization under military supervision to utilize the radical right. Hereby, Schleicher sought to gain for the military a dominant position in the state as well as a solid basis for the general militarization of the nation. In this he failed. Hitler was not willing to serve interests which would only check his own ambitions.

With respect to the Reichswehr's position in the state and its power to convince the government of the political adequacy of armament plans one must note the fact that Groener as Reichswehrminister in 1931 had also become the Reichsinnenminister (Minister of the Interior). In the spring of 1932 the Second Armament Program was launched to provide equipment for a 21-division Army by 1938. Groener worked to harmonize Reichswehr policy with the Brüning Government's revisionist policy in order to get international acceptance for a limited German rearmament.

As Reichswehrminister, Schleicher began to change military policy and to influence directly foreign and domestic policy. His activities aimed at guiding German policy almost wholly into line with military interests. One historian has rightly suggested that he acted in accordance with strategic conceptions derived from World War I, which argued for the organization of all important areas of public life in order to create a Wehrgemeinschaft (completely militarized society). Thus, military interests attempted to bring financial, economic, and educational policies into line with foreign policy. The governing idea was to establish a military authoritarian system based on mass mobilization of population and industry.⁶

C. The Military in the Führer-Staat

With Hitler's coming to power the National Socialists realized most of these aims and established the most militarized system ever seen in Germany. German political and social life was almost wholly absorbed into the Nazi Party and the military, excepted from this process, seemed to be in an ideal position to realize its political hopes.

General Werner von Blomberg became Kriegsminister (War Minister) and Supreme Commander, with direct access to Hindenburg and Hitler. For the first time the German military possessed a supreme commander who was more than a representative figure like the Kaiser or the Reichspräsident. With Hitler hesitating in foreign and military policy due to internal political considerations during the first months of Nazi rule, Blomberg virtually directed foreign and rearmament policy together with Konstantin von Neurath, the Foreign Minister. Both pushed German rearmament and directed German policy at the Disarmament Conference in February - March 1933 at Geneva. They sought to use British and French proposals as a pretext to leave the conference.⁷ This policy, when initiated, was not even discussed with Hitler. But Hitler followed; and Germany left the Disarmament Conference and the League of Nations. Seemingly the military was the complete master in questions of strategic policy with the full agreement of the Foreign minister.

Clearly German rearmament after January 1933 was pushed beyond the limits of the international security system by the military and the Foreign Office. Nevertheless, while Hitler followed this course, he had done so because it corresponded with his own plans. Significantly the political influence of both agencies soon began to diminish. Hitler had used the military to serve his policy, and he allowed them substantial freedom in their own sphere: rearmament and training of the forces. But

he did not concede political power. Despite the fact that this state of affairs became apparent early on (by 1934), the military believed that they could stabilize their position and influence policy at a far higher level than in the Republic. The Wehrmachtamt, Blomberg's political staff, estimated that the Wehrmacht would become the greatest power in the Nazi State as soon as the 300,000 man Army was ready.⁸

The Wehrmacht's policy to secure its position consisted of: demonstrated loyalty to Hitler, a full acceptance of the Nazi State, political indoctrination of the Army, attempts to reduce the quasi-military branches of the party (the SA and SS), and a massive program of rearmament. But in foreign policy and with respect to the final aims of rearmament the Wehrmacht did not attain a position as the chief advisor to the Chancellor.

The Cabinet, where Blomberg was a key figure, never became a decision making agency in the new Nazi State. This was clearly shown in April 1933, when Neurath pushed the Foreign Office's strategic approach in the Cabinet. Both the Foreign Office and the Wehrmacht advocated a considerably slower course to regain German predominance in Europe with Poland as the first potential victim.⁹ Hitler refused to discuss such a Wilhelmian diplomatic course. He had his own approach to advancing Germany's role in the world, and by January 1934 he had signed the German-Polish Non-Agression Treaty.

The Wehrmacht's relatively weak position in terms of political influence did not alter after Hindenburg's death (August 1934). In fact it further declined, for Hitler assumed the position of the Reichspräsident and thereby became Blomberg's military superior. This direct link further weakened the political position of the Wehrmacht. As a result of the Enabling Act of 23 March 1933 the Reichstag was reduced

to a stage for symbolic performances; thereby the Reichskriegsminister's responsibility to the parliament lapsed, and he became exclusively dependent on Hitler's personal will. Consequently, there was no regularly working body in Germany to discuss and formulate military and strategic policies. Moreover, Blomberg was not able to gain the confidence and support of the Army, while Göring held a special relationship with Hitler.¹⁰

D. General Staff Organization: Policy and Economy Versus Strategy

Initially, Blomberg as Reichskriegsminister disposed of far greater power in peacetime than had ever been the case in Germany. His position combined the competence and responsibility of the Reichswehrminister and the Chief of Army High Command of the Weimar Republic. He could count on Hindenburg as President of the Reich. But things changed with Hitler's succession to the Presidency in August 1934. The Führer was now the unrestricted Supreme Commander. The Defense Law of May 1935 assigned all powers necessary to him to declare a state of imminent danger of war. On the other hand Blomberg was never able to cover the necessary strategic requirements with his small staff, the Wehrmachtamt. Because of these shortcomings the Wehrmacht did not dispose of a Wehrmacht general staff in the true sense.

In its place the Army's general staff demanded that it be allowed to become the responsible military and political advisor to Hitler. From this demand by the Army, based on German military traditions since Moltke's time, emanated a long-lasting quarrel between the Wehrmachtamt and the Army's general staff, which resulted in a most counterproductive "theater of war" organization during World War II. The quarrel had begun as early as late 1933 with a memorandum drafted by officers in the

Truppenamt.¹¹ General Ludwig Beck, then chief of the Truppenamt, supported the proposals brought forward in these papers with his own ideas in January 1934.¹² The argument was to introduce a Wehrmacht general staff, under the influence and control of the Army general staff to determine organization, planning, and operations. This, of course, meant that the Army general staff would replace the Wehrmachtamt in determining strategic and joint service issues.

The controversy became more important, when Hitler began to push preparations for war. Beck's evaluation of Hitler's policies by 1938 came to the conclusion that they would result in a European war that Germany was not ready to wage. The differences between the Wehrmachtamt under Keitel (after 1938 the OKW, Oberkommando der Wehrmacht) and the army general staff enabled Hitler to control Wehrmacht policies far better than would have been the case had he faced a united front. Already in May 1935 the differences between Blomberg and Beck had centered around the issues involved in war planning against Czechoslovakia. The directive of 2 May, "Schulung", ordered a study to be made envisaging an attack on Czechoslovakia along with a defensive war against France. Beck opposed this and argued that such a war could only result in disaster. Only in 1939-1940, he argued, would Germany be ready to face such a war.¹³

The question of the supreme military advisor to Hitler, that is the creation of an adequate Wehrmacht staff, remained a crucial area of disagreement between the Army general staff and the OKW. In terms of efficiency the OKW was clearly backing the better solution. The general staff's opposition could, therefore, not succeed. But Beck's intention was perhaps to avoid a war before Germany was fully prepared. However, all he could say was that the Army, as Germany's most important military

force, should have the decisive say in the question of war planning and time schedules,¹⁴ and even in questions pertaining to the political framework of the German state. War plans, Beck argued, should be the result of a most careful and all embracing exchange of ideas and studies. That such was not the case was demonstrated by Blomberg's Directive for a Unified War Preparation for the Wehrmacht (Weisung für die einheitliche Kriegsvorbereitung der Wehrmacht) from June 1937. This order reflected Germany's strengthened position after the remilitarization of the Rhineland and the introduction of a two year military service. Blomberg ordered that the Wehrmacht be ready for a war to defend Germany and secondly and more important, prepare to exploit favourable international opportunities. Beck's opposition against this order could not address the basic structural problem. The Wehrmacht did not possess a modern high level staff system, and the Wehrmachtant and Army general staff remained rival bodies. The same can be said of the relationships between the army, air force, and naval staffs. But the most counter-effective point was that Hitler refused to coordinate these centrifugal forces, most probably to further his own ability to dominate the squabbling factions.

The structural changes in the supreme command in February 1938 further limited the military's influence politically and strategically. One cannot overrate the fact that Hitler now assumed Blomberg's position as Oberbefehlshaber der Wehrmacht (supreme commander of the Wehrmacht). Equally important was that with the new OKW Hitler now possessed his own military staff, whose leading figures, General Wilhelm Keitel and General Alfred Jodl were in fact fervent followers of his policies. With the formation of a new central military staff above the Oberkommando des Heeres (OKH), Hitler neutralized the Army general staff's political

ambitions to dominate governmental discussions about the political questions connected with war and peace.

The new OKW was even less prepared to give way to the Army general staff. Thus, there was no clear indication of who would run German strategy in a future war. But one thing was clear: in political matters the OKW became Hitler's staff. Keitel and Jodl believed in the Führerprinzip and completely rejected the Army's demands. As a result, the chief of the general staff could find no adequate means to warn of the strategic consequences of attacking Czechoslovakia. Beck found it necessary to propose (July 1938) a futile demonstration: the senior generals, he suggested, should resign to make clear their refusal to bear responsibility for a war for which Germany was prepared neither militarily, nor economically, nor politically. Beck argued that the military's statement must be impressive and tough. The time for convincing Hitler with objective arguments was over.¹⁵

The results of the 5 year struggle for political influence was clear by 1938: the Army had lost its traditional position as the chief advisor to the head of state. It had lost the battle for Waffenträgermonopol (monopoly of arms). Victory over the SA had not reduced the military ambitions of the SS. In terms of policy and strategy Hitler was not dependent on the Army, despite the fact that he needed this formidable instrument of power to realize his aims. It had no say in the question of peace and war, but simply received Hitler's orders via the OKW.

All of Hitler's major decisions, the Rhineland re-militarization, the involvement in the Spanish Civil War, the Anschluss, and the policy towards Czechoslovakia, were barely discussed with his military leaders. Hitler did not even take notice of the Army's war plans until 1937.

There was no joint strategic plan, no joint defensive or offensive planning, no joint discussion of what was possible and what was not. German armament seemed to run completely independent of strategic considerations, waiting for Hitler to say what would happen when the time came.

This "planning into the open," forced by Hitler's reluctance to define German policy and by his penchant for pushing the massive rearmament program more strongly, led to an armament race that possessed little relationship to German resources. This was clearly the case with the August 1936 program, which, even in the eyes of military planners, was only theoretically possible. General Fromm, chief of the Allgemeines Heeresamt, asked the Army's commander-in-chief as to whether there was a firm intention to use the Wehrmacht by a fixed time; otherwise one would have to reduce war readiness.¹⁶ Fritsch did not ask Hitler his intentions; instead he and Beck decided the program, planned by the general staff, must be executed. The decision meant that the Army could become only an aggressive instrument. Not only did this program lead to an economic crisis by overstraining German resources and capacities and by widening the gap between the demands of rearmament and the personnel and material basis,¹⁷ but it also created a military instrument that enabled Hitler to avoid discussion on Germany's strategy with his advisors. In effect it made him independent in just the fashion the Führerstaat required.

Throughout this period virtually nothing was coordinated, neither financial nor economic nor political nor military factors. Consequently, rearmament by itself became the driving element towards war. The military was not able to organize even its own preparations to serve strategic aims: namely to prepare for a long war in order to avoid those risks Germany had experienced in World War I.

Too many centers of power were created in the 1930s by the Nazi regime for the Wehrmacht to possess effective influence over rearmament. Even the Economics Minister Hjalmar Schacht's New Plan (1934) which greatly bolstered the Wehrmacht's interests, could not solve the problem of economic war preparedness. Göring's Four Year Plan Administration, the Reichswirtschaftsministerium (National Economic Ministry), the Reichsverteidigungsausschuss (National Defense Committee), the Wehrwirtschafts- und Rüstungsamt (the War Economic and Armament Office) could only address short term difficulties.

The main reason for the Wehrmacht's political ineffectiveness, apart from Hitler's style of rule, lay in its differing picture of the next war. Hitler believed that speed campaigns remained viable, thus requiring a special kind of preparedness, while the generals remained influenced by their World War I experiences. Under the surface of a superficial agreement over the formation of armored and motorized infantry divisions and an operational air force, there existed deep controversies between Hitler and his generals over questions like the economic structure, the amount of reserves, financial conditions, and short or long war scenarios. Having little chance of convincing Hitler on their basic strategic approach, the three services, like the other branches of the state, plunged into internecine conflicts, in which each attempted to increase its share of the defense budget and to convince Hitler that it was best suited to serve his policy.

The closer Hitler's policy brought Germany to war, the less was the Wehrmacht able to bring its arguments to bear. This circulus vitiosus may be demonstrated as follows: General Georg Thomas, Chief of the Wehrwirtschafts - und Rüstungsstab (Defense Economic and Armament Staff), warned in July 1938 that Germany did not dispose of any financial

reserves. He recommended that Germany intensify her trade and return to the world economy. However, his suggestion failed to address just those issues that the economic, political, and above all the course of rearmament since 1933 had created. There was little time left for Hitler. So the Wehrmacht had to plan within the limits of a political strategic system that they themselves had helped to run and which had now lost its economic logic. The planning staffs of the Wehrmacht had to accept in 1938 that no longer could they observe 'normal' economic principles. In June 1938 the Army's armament office agreed with Göring that war preparations must continue without respect to the fact that some branches of the economy would break down.¹⁸

So war preparation at all cost created requirements that the Wehrmacht could not influence, mitigate, or solve. The situation demanded an amelioration of armaments production. But there existed no agency that could bring the strategic ends and the economic realities together. Göring's Four Year Plan Administration did solve some problems (the raw-material distribution level for the Wehrmacht was improved), but could not possibly meet Hitler's demands to intensify panzer, air force, artillery, and Westwall programs.

A report of the Wehrwirtschaftsstab warned in October 1938 that as a result of the war preparations against Czechoslovakia and the Westwall program, the armed forces had received only 50% of their concrete requirements. In the field of explosive production, there no longer existed any additional capacities. Man power distribution had become, moreover, one of the decisive problems in German military and industrial war preparation. In June 1938 the Wehrwirtschaftsstab reported a general exhaustion of reserves.¹⁹

In the question of building up a strong Army there had been little difference between the Army's opinion and that of Hitler. The results speak for themselves: in April 1939 the OKH so much as admitted that there had been no balanced planning system. The Army leadership confronted the facts that the field Army did not dispose of reserves in weapons and equipment, that 34 divisions were only half equipped, that the Reserve Army (Ersatzheer) possessed only ten percent of its infantry rifles and machine guns, and that the total amount of ammunition would last for only 15 fighting days.²⁰ The OKH was ready to warn Hitler -- without success, because of the general economic situation -- that if the Army did not receive the necessary amount of special steel for its production, "the consequences might be similar to those in 1914." But this state of affairs was a direct result of Army plans that had, like Hitler's, entirely ignored Germany's economic strength.

II. Strategic Effectiveness

A. Weimar Republic

During the first years of the Republic there was no possibility of strategic planning. The main problems had to be faced in the realm of domestic policy and in conformity with government policy. Seeckt never addressed the questions of the Republic's strategic aims. Rather his main goal aimed at gaining time for the quiet development of the Reichswehr, which sometime "in the future" would become the nucleus of a new mass Army. When he left office, the Army was a solid but not particularly strong force. Joachim von Stülpnagel wrote in 1924 about the possibilities for Germany's land defense (Gedanken über den Krieg der Zukunft).²¹ He argued that the Republic had mastered the most dangerous situations, dangers from left and right, from French policy, and from economic and financial troubles. Now the Army could at last think of armament and strategic planning. At the outset Stülpnagel saw no other strategic solution than a Volkserhebung (popular uprising) against a French invasion in order to organize a surprise counter offensive, or for international intervention. But one thing was clear to the general staff (Truppenamt): the enemy was France.

During the Weimar Republic, theoretical views on the character of a future war grappled with the assumption of a rearmed Germany. What the Reich could then do strategically to win seemed clear to military writers: it had to use modern technology to achieve a rapid decision. Strategic surprise, encirclement, decisive battle, all well known

elements of strategy, must be revived and connected with modern technology. Groener argued²² that the gigantic demands of modern mass armies would necessitate quick decisions. What was strategically impossible for Germany was a long war, one that turned into a war of attrition; this was the common theme of war theorists in the twenties and thirties. In order to use the element of surprise, decisive battles had to be reinforced by an offensive approach to war. These arguments ironically differed little from those of Schlieffen: the main difference lay in the axiom that technological and economic considerations even more than political conditions (alliances) would make rapidity of action and success a vital precondition for victory.

But this discussion about the essence of the decisive battle of destruction²³ did not reflect the actual strategic situation of the Weimar Republic and the Reichswehr. What it reflected was the military requirements thought necessary to realize a diplomatic and military revision of the Treaty of Versailles. Even Gustav Stresemann, foreign minister in the late 1920s, believed that the Army and the Navy would be the main tools of future German foreign policy. The Truppenamt formulated its view in a Denkschrift (memorandum) of March 1926, just at the beginning of the Republic's short period of stability.²⁴ It urged that Germany aim to abolish the Polish Corridor, reacquire Upper Silesia, and achieve an "Anschluss" with Austria. To achieve such aims France had to be removed from her dominant position in the European constellation of power. Only after Germany had established her European position could she think of fighting for a world position. Taken together, one can only characterize these speculations as a repetition of Wilhelmine political aims and strategy. Such political and strategic thoughts represented a "continental" strategy, based on the assumption that Germany could win

supremacy on the continent by destroying France and her alliance system without running the risk of another world war. We can see in these theorems the nucleus of that "two headed" strategy that governed Hitler's thinking: First win hegemony in Europe by one or several short campaigns, using for this purpose a mobile military instrument; second use such a position to achieve a decisive place in the world, which meant not only acquiring political influence but an adequate geographic and economic position to dominate Eurasia.

The actual strategic necessities of the Weimar Republic were, however, formulated by Groener as Reichswehrminister, in his Directive of 16 April 1930²⁵ (Die Aufgaben der Wehrmacht). Groener basically saw only defensive tasks for the Reichswehr in case of a major conflict: e.g., a foreign power using military force against Germany. But the Reichswehr was to counter an enemy only if the attacking state faced other enemies than Germany or if by military engagement other powers could conceivably be encouraged to intervene. With a view to future developments, Groener argued that the Reichswehr could be used only in the case of favorable international conditions. One can see in Groener's strategic model an effort to harmonize the Reichswehr's strategy with the basic strategic position of the Weimar Republic. He made it clear beyond doubt that it was the government that was to decide size, formation, character, and conduct of military action.

All the war games in the 1927-1929 period showed that there was little chance even of resisting Poland successfully for the foreseeable future. Strategic thinking beyond that was more or less wishful fantasy. Nevertheless, Blomberg, then chief of the Truppenamt, used the winter war game of 1928-1929 to examine the chance of a two front war against France and Poland, acting entirely outside of Groener's intentions.

Similar potentially dangerous dreaming was consistently cherished by the Reichsmarine. The naval high command's strategic dogma, despite its World War I experiences and despite Germany's geographic position, remained more or less that of Tirpitz. By 1926, the Navy had moved well beyond plans for coastal defense. Maneuvers exercised plans for a conflict with France and Poland as enemies. In 1927 the maneuvers already assumed a major naval battle with the united French-Polish fleets, and there was no coordination with the Army high command, the Defense Minister, or the Foreign Office. The Navy thought of its own war, perhaps in order to prove that it had been correct in its strategic thinking during World War I.²⁶ It did so also undoubtedly because of its feeling of diminished status.²⁷ One can see similar lines of political strategic ambitions as in the Truppenamt's vision: first revision of the Versailles Treaty, then a striving for a dominate role in the world. But the naval high command was not able in the Weimar Republic to achieve any significant armaments program. Here the Army was much more effective. In 1932, the Navy got 26.4% of the defense budget; the Army the remainder.²⁸

B. Hitler and Strategic Thinking in the Forces

When Hitler became Chancellor he had already laid down his general views. Guessing from what he had said in Mein Kampf and in his Zweiter Buch (second book), the services could assume that he would initiate a policy of reaching for continental hegemony. He had said that he would avoid a naval competition with Britain and instead attempt to win her as an ally. Moreover, he had even suggested that he would give up South Tyrol in order to come to terms with Italy, in order to roll back the Versailles Treaty as a foundation for marching east.

This could only mean that Germany would need some quiet years in order to rearm on the basis of general compulsory service. She would also have to leave the international security system in order to create a new balance of power. This could only mean, that when the time had come, Germany must break through the French security system and defeat France. Not only that, but Germany must also keep Britain from the continent and persuade her to allow Germany to march to the east. The military task in this strategic game would consist in beating continental adversaries with superior force, above all with superior equipment.

This, of course, was a remarkable shift in German strategy from Groener's views. There was, however, no great difference with Blomberg, who now became the Defense Minister. This, at least, can be said of the first phase of Hitler's policy. Hitler admittedly disappointed the Foreign Office and the Reichswehr by making Poland a positive factor in his bi-lateral policy. Nevertheless, he opened far more important channels for shattering the Versailles Treaty: the initiation of full scale rearmament, and international acknowledgement for this activity (the German-British Naval Agreement 1935 and the remilitarization of the Rhineland). Under these circumstances, the ending of military cooperation between the Reichswehr and the Red Army, was not important; Hitler had paved the way for the Reichswehr to do at home what it had hitherto done in Russia.

But in matters of grand strategy there existed at least two decisive problems: First was this strategic project convincing with respect to the role assigned to Britain and, ultimately, to the United States? Could the 'non-Wilhelmine' elements induce Britain to a non-commitment on the continent? Secondly, what did German superiority mean? Had it to be so great as to force a British acceptance of total

German domination over the continent? Where would the crucial point lie? What would Britain tolerate, what not?

In several instances Hitler's policies brought Germany to the brink where counter actions by the Western powers might have occurred. In each case the Wehrmacht's leadership was not asked to deliver its strategic point of view. During the remilitarization of the Rhineland, Blomberg and Fritsch thought the coup had come too early and were seriously afraid of French reaction. During the Czechoslovakian crisis Hitler again was ready to act against the advice of his military.

Hitler's and his military leaders' strategic plans showed themselves to be as unharmonious in the infamous meeting of November 1937. At that meeting Hitler indicated that he planned war in the near future. It must be noted that until then, there had been no common plan as before 1914, no time limit for rearmament, and no date for special armament requirements. Hitler had simply said he wished a strong and modern army as early as possible.

Within its interpretation of Hitler's revisionist policy the army had coordinated armament planning and strategic projects. The initiation of offensive planning began with the completion of the first three panzer divisions in October 1935. The chief of the general staff, Beck, attempted to connect this new dimension of future warfare, at hand with a modern panzer force, with the defensive strategy that the Reichswehr had formulated in the December 1933 armament program.²⁹ In a memorandum of 30 December 1935 for General Werner von Fritsch, the commander in chief of the Army (Oberbefehlshaber des Heeres), Beck argued that now, as in 1933, the task of the mobile field army was to enable Germany to fight a successful defensive, two front war.³⁰ But (and this was the important new interpretation) henceforth, Beck suggested, the offensive

capabilities of the army would enable the Wehrmacht to apply a defensive strategy by offensive warfare. In order to explain this change of mind, one must recognize not only the impact of motorization but also the introduction of compulsory service in 1935. The remilitarization of the Rhineland in March 1936 furthered the impetus towards offensive strategic planning.³¹ Significantly Beck gave his memorandum the title of Erhöhung der Angriffskraft des Heeres (Increasing the Offensive Power of the Army) and proposed to provide 48 instead of 36 panser units. Despite his desire to create a strong and modern army, Beck himself did not intend to prepare an instrument for continental war. But that was in fact the result of his endeavours. Therefore, he found himself in a weak position after 1937, when he attempted to demonstrate that Hitler would risk total defeat by starting a war.

Such hesitations were not nourished by the second instrument that Germany built up as an instrument of offensive war -- the Luftwaffe. This service had its defensive strategic phase at the beginning of its existence. Planning for an air force before 1933 envisaged the new service as nothing more than an auxiliary for army operations.³² But Göring's appointment as Reichskommissar für die Luftwaffe on 30 January 1933 as well as that of Erhard Milch as Secretary of State for the Luftwaffe, indicated a very different direction. In view of Göring's political positioning these appointments meant that the new air force would be established as a separate service. What was unclear, however, was whether Germany would create an independent bomber command demanded by Douhet's theories and World War I experiences.

The first plan for the new air force, worked out by Luftwaffe Director Robert Knauss, laid the accent just there. Knauss' strategic memorandum, "Die deutsche Luftflotte",³³ followed the Douhetan approach

to air warfare. He argued that a strong air fleet would be the most effective weapon for securing Germany's rearmament during the initial period of rearmament. An independent bomber force of about 400 four-engine aircraft would lessen the danger of a French preventive war against Germany. Since expense for such an air fleet would be no more than the costs of two battle cruisers, he argued that the effect of such an armament's policy would give Germany air supremacy in Europe in a rather short time. During the early years of rearmament Knauss' bomber fleet might have fulfilled the tasks of a Risikoluftwaffe (risk air force) analogous to Tirpitz's "risk fleet." On the other hand, it would certainly have aroused British suspicions and perhaps influenced their foreign policy. Thus, it might have troubled Anglo-German relations much earlier.

The preliminary air force program provided by 1935 an air force of about 600 front line planes with 250 bombers. Already by 1935 this force, which did not possess four-engine bombers, had stirred up public opinion in Britain and allowed Hitler to discuss air pact questions with the British government from a rather strong position. So it did fulfill some diplomatic objective.³⁴

But Knauss' ideas soon foundered. As early as August 1933 Blomberg argued that there was no need to build up a strategic air force.³⁵ Nevertheless General Walther Wever, chief of the Luftkommandoamt, adhered to the idea of creating a strategic air force. The Luftwaffe's July 1934 program provided for 6,670 front-line planes, 2,190 of which were to be bombers. Wever gave specifications for a four-engine bomber in April 1936 that were far ahead of existing types. Nevertheless, strategic realities forced the Germans to emphasize other aspects of air power; shortly after Wever's death (3 June 1936) the four-engine bomber was

cancelled from the program. The Luftwaffe existed from now on as a "risk Luftwaffe" only because of its numbers -- either real or pretended. The basic doctrinal manual of the Luftwaffe³⁶ said in its guidelines for air war that the Luftwaffe, besides its role to support the army and navy, must prepare for a bombing campaign against the material bases and the enemy's will to resist. Such ideas, well known in every air force, had already influenced the Truppenamt in 1926³⁷ and had formed also the basic idea of Knauss' memorandum. Wever, it is true, had favoured a strategic air fleet. Nevertheless, he had clearly recognized that the Luftwaffe could not conduct a war independent of the army and navy, but must have as its primary task the defeat of enemy military forces. Wever was well aware of the fact that Germany's position as a continental power, surrounded by strong neighbors, required a strong army as the chief force to defend the Reich. This was the conviction of the Truppenamt as well.³⁸ Wever argued, as had the American Billy Mitchell, that the air force's most decisive objects would be the enemy's air force and then the support of the army and navy. In a way his strategic and operational ideas demanded a more diversified air force than had Knauss' and Milch's approach. Wever's plans attempted to secure an all purpose Luftwaffe capable of meeting all contingencies. German industry was no more able to provide this force than it had been Knauss' strategic air fleet. In view of Germany's aircraft industry, which in 1933 possessed only 4,000 workers employed in manufacture,³⁹ and with an engineering know-how considerably behind those of the western powers, plans for a rapid build up of an effective air force faced serious shortcomings. Not fully acquainted with this basic problem, the OKW approved the Luftwaffe's strategic thinking in a study of April 1938: Die Kriegführung als Problem der Organisation,⁴⁰ that supported a two

step strategy of first attacking the enemy's air force and then the enemy's economic production.

Above all the Luftwaffe could not prepare an adequate force to deal with the British. This was due partly to Hitler's foreign policy, which never possessed a coherent approach to England, and partly to Germany's economic situation which did not possess the economic strength to construct the bomber force required for a strategic bombing campaign against Britain. Admittedly, virtually no air theorists in responsible positions during the pre-war period foresaw the financial, organizational, technical, and manpower requirements of an 'adequate' strategic bomber fleet.⁴¹ Not surprisingly because of the army's vast armament program the Luftwaffe received an insufficient share of resources for the creation of a true all purpose force. A demonstration of this can be seen in the dive-bomber debate, which emanated from ammunition production problems more than from operational or tactical convictions.

With the He 111, Do 17, Ju 86, Ju 87, and later the Ju 88, German industry produced for the Luftwaffe what was possible in a couple of years: a force capable of assisting the army and of attacking enemy air forces and bases on the continent: an operational and tactical force rather than a strategic weapon. During the Spanish Civil War the Legion Condor was used primarily as such a force. With the cancellation of the 1937 four-engine bomber programs, German air industry was almost exclusively engaged in two-engine bomber production. The result showed clearly in a May 1939 war game run by Luftflotte 2 (2 Air Force), which suggested that the Luftwaffe did not possess bombers capable of waging what was called an operational war against England, and that it had not ever solved crucial operational and training questions.⁴² In August 1939 the Luftwaffe represented a force that could not be compared with

the one Knauss had proposed. Its 1,542 bombers could not be classified as strategic bombers. Together with 788 fighters, 431 long range fighters, and 361 dive bombers, the bombers represented a formidable asset for campaigns on Germany's frontier but of less capability to execute independent operations. For warfare in Central Europe the Luftwaffe was well prepared, but much less so for the Mediterranean and not at all for Great Britain.

The navy's strategic effectiveness, if measured by its strategic aims, was not impressive. The Reichsmarine clearly wished to create another "High Seas" fleet. In a memorandum for the Peace Commission of 1919,⁴³ the navy argued that World War I had not refuted the necessity of a German fleet like the one the Reich had possessed in 1914. The navy did, of course, see that there was no chance of realizing a big fleet in the near future. But at the same time (during the preparations for the Peace Conference) when the navy was interested in avoiding the complete disappearance of the fleet, it was hinting at the indissoluble connection between itself and the possession of colonies.

During the mid-twenties the naval high command envisaged cooperation with Britain as being useful. It regarded Poland and France as the main enemies. Unlike the army in its connections with the Soviet Union the navy engaged in no cooperation with the Red Fleet. On the other hand, it urged no abrupt break with the Soviets in order to exercise pressure on the British.⁴⁴ In connection with such far reaching speculations, the navy was already exercising in its 1926 war game a possible conflict with France and Poland, thus moving beyond its first post-war coastal games.

What is remarkable about the navy's political and strategic assumptions in the last half of the twenties, is its one sided

misinterpretation of the British and American relationship. The rivalry with Britain led the navy to assume a future war between those two powers. Britain would aim to preserve her position as the leading naval power, while the United States would fight for the principle of freedom of the seas. In the coming struggle with America, Britain would have to rely on France, while Russia would have to be reckoned an enemy because Bolshevism threatened the cohesion of the British Empire. The German Navy hoped to be able to deter any power in the future and, in case of war involving Germany to gain time till, perhaps, other powers could intervene. However, despite Germany's weak naval position, the navy believed that history was moving rapidly. Unexpected constellations in the destiny of peoples might occur. Military power and, above all, naval power of a people symbolize its will to maintain "world prestige" (*Weltgeltung*).⁴⁵

Thus, even before the Nazi state, the navy had already developed visions of a grand naval fleet. The reality was incongruous: the navy was a weak instrument of national power, not ready even to exercise what its war plans and games called for: namely a war with France and Poland. After Hitler came to power, the navy aimed at gaining surface parity with the French fleet in a short period of time.⁴⁶ By spring 1934, Admiral Eric Raeder, commander in chief of the navy, was asking for even more: the creation of a fleet equal to 33 1/3% of the Royal Navy.⁴⁷ That figure was soon changed to 35%.⁴⁸ Raeder, following the navy's preconceived convictions, attempted in November 1933 to persuade the British Naval attaché of the strategic usefulness of a German battle fleet. Even one German battle squadron, he suggested, might represent a political plus to Britain, if she became involved in a war with the United States.⁴⁹

Despite the hypothetical character of these views, they do suggest the course of German naval strategy: to come to terms with Britain in order to build a fleet 35% of the Royal Navy's strength and then to utilize such naval power to reach for "world respect" (Weltgeltung). Parity with France would not only keep the French fleet out of the Baltic, but also give the German fleet the ability to operate in waters vital to British interests. Such naval calculations rightly belong to the Tirpitz tradition, to which political arguments were primarily used as an auxiliary to the overall goal of building a massive navy.⁵⁰

The navy's interest in achieving a naval treaty with Britain must be seen against this background. Already by 1934 Raeder was envisaging German naval rearmament as leading to a fleet, possibly useful against Britain.⁵¹ By 1934 the navy was preparing to build great battleships and was urging Hitler to bind Germany by naval treaty for no more than five years.⁵² Despite Hitler's policy of reaching a general agreement with Britain the navy in summer 1937 was discussing a possible Anglo-German war.⁵³

Raeder was encouraged to go ahead with such anti-British planning, when Hitler revealed his aggressive intentions in November 1937. Raeder's first reaction was to order an examination of the possibility of enlarging U-boat programs. Thus, there was apparently a different evaluation of Hitler's plans by navy and army leaders despite the fact that the navy was even less well prepared. The decisive step was taken on 28 May 1938, when Hitler told the navy that he had drawn a number of conclusions from the weekend crisis over Czechoslovakia. He was resolved to move against the Czech military forces, if necessary. This, of course, could mean war with Britain. Raeder ordered the operations section of the naval high command to work out the implications in a major study (Seekriegführung

gegen England und die sich daraus ergebenden Forderungen für die strategische Zielsetzung und den Aufbau der Kriegsmarine).⁵⁴ Both Captain Hellmuth Heye, of the operations section and Vice Admiral Günther Guse, chief of staff of the naval high command, warned of the risks inherent in Hitler's policy but could not convince Raeder.

Heye in a memorandum on naval war against Britain drew a gloomy picture. He was sceptical about the importance of the battleship (the main emphasis in Raeder's program). He and Guse both favored a cruiser and submarine strategy. Battleships, they thought, would be useful primarily in a war with France. On the other hand, their cruiser strategy had to rely on bases in the Atlantic and on the French coast. Obviously battleship and cruiser strategy confronted one another.⁵⁵ It was the C.I.C. of the fleet, Admiral Rolf Carls, who managed to weld the different views together in an all embracing vision of world supremacy. War against England, he suggested, would mean war with one half or two thirds of the world.⁵⁶ Apparently, he believed that Germany possessed a realistic chance of winning such a war -- if profoundly prepared: France, Holland, and Denmark were to be conquered. Apart from a German home fleet there should be four strong naval groups which were to operate permanently on the world's oceans.

The navy's planning committee developed a building program providing for 10 battleships, 15 "pocket battleships," 5 heavy, 24 light, and 36 small cruisers, 8 carriers, and 249 submarines.⁵⁷ Further discussions elaborated a strategy that envisaged an oceanic war against Britain to be fought with battleships and pocket battleships. But it was obvious that such projects could only be realized in years and were, therefore, far from meeting Hitler's requirements. Raeder, therefore, consented to an emphasis on the cruiser and submarine program in order to

have an instrument capable of damaging Britain in the short run. However, in early 1939 Hitler interfered and demanded battleships. This was the beginning of the Z-Plan, and in January 1939 Raeder nominated a special authority for the battleship plan (Sonderbeauftragten für das Schlachtschiffprogramm). Hitler had ordered the building of six more battleships by 1944.

Naval requirements on this basis were far too high for Germany's resources. They hampered the armament programs of the other services and simply could not be fulfilled. On the other hand, they were not balanced with Hitler's policy during 1938-1939 and were not fit for the navy's strategy worked out for a war in the near future with Britain. When war broke out Raeder was compelled to declare: "The navy is not ready for the great fight with England. The only thing the fleet can do is to prove that it can sink honourably." The strength of the Kriegsmarine consisted in September 1939 of: 2 battleships, 2 pocket battleships, 1 heavy and 6 light cruisers, 21 destroyers, 12 torpedo-boats, and 57 submarines.

C. Hitler's Strategy and the Armed Forces, November 1937 - August 1939

Despite the obvious weakness of a military instrument able to wage short wars only against continental adversaries and despite the serious economic problems that the Four Year Plan had only partially addressed Hitler made it known to his military leaders that he was resolved on war under the following political conditions (5th November 1937)⁵⁸:

- 1) Germany must solve its problem of living space by 1943-1944 at the latest;

- 2) She might move earlier in case of a war between France and Italy; or
- 3) She might utilize social tensions in France that would make a French response to German aggression impossible.

Leaving aside the latter two rather improbable cases, Hitler was clearly suggesting that he could conquer Austria and Czechoslovakia and that these actions must take place by the 1943-1945 period. After that time Germany's advantage would be lost, her living standard reduced and her leaders (above all himself) would be too old. At this meeting Hitler spoke of the solution to the living space question only in respect to Austria and Czechoslovakia. Here Germany could gain, he argued, nourishment for 5-6 million people, 12 new divisions, and a far improved strategic position. He sought to convince his foreign minister and the generals that Britain would not intervene, which meant that France, too, would abstain. What was, despite British appeasement, to prove wrong in his estimation of British foreign policy was indissolubly connected with the consequences of the economic disaster to which German rearmament had led the country. Hitler was forced to move ahead far more rapidly than even he expected. The only other alternative was to reduce armaments production drastically and return to the world economy.

Thus, Hitler's strategy rested on wishful thinking, namely that he could have a war for which the Wehrmacht was ready. He had to isolate Czechoslovakia -- a problem which in 1939 he faced again with regard to Poland. What could be done in this situation was to find ways to secure a one front war. This is why the Westwall attained a prominent position in Hitler's strategy. The fortification system aimed at deterring

France, mainly psychologically. The impact of such reasoning, however, on army leaders was insignificant.

This can be seen in the passage of the new Directive Green (21 December 1937),⁵⁹ the deployment plan against Czechoslovakia. That plan suggested that Germany could attack the Czechs successfully in the face of the participation of another great power, once she had reached full preparedness. This was Blomberg's and Beck's belief, who both had reworked the plan's wording. But what, to them, meant full preparedness, or when? The army's 1936 plan provided for a 102 division strength to be ready by October 1939. But there were doubts if this deadline could be met. During 1937 alone, 45% of the army's requirements had to be postponed until 1938.⁶⁰ At the end of 1937 the prognoses said the army could only be ready by 1943 and the Westwall (even more dramatically) only by 1953. In his remarks on the Hossbach Protocol Beck argued⁶¹ that the necessity to eliminate Czechoslovakia was beyond dispute, but that one had to examine the prerequisites thoroughly. He would not accept time pressure. Politics, he said, was the art of the possible.

For 1938 the OKW's economic staff was to draw a dark picture of Germany's situation in case of war with the Western Powers. Taking all this together it is clear that the army, Blomberg, and the economic staff did not believe a successful war possible before 1943-1945. On the other hand they had suggested in "Plan Green" that war against Czechoslovakia was possible, even if the Soviet Union assisted Prague. During the May crisis of 1938, Jodl noted in his diary: "Sharp controversy between Hitler and army leaders. Hitler says: we must go ahead this year, the army says: we cannot."⁶² There was, apparently, a widening of the gulf between Hitler's strategic position and that of the general staff after the May crisis. Hitler felt more and more the impact of economic

factors and the pressures brought to bear by German armament policy as well as by the Anglo-French response.

If (and here lies the decisive step compared to what he had told the generals on 5 November 1937) there were no Franco-Italian war and no social upheaval in France delivering convenient conditions to usurp Austria and Czechoslovakia, Hitler now believed that Germany had to "solve" the problem and to create conditions that could, perhaps, deter the western powers. Hitler developed a simple but effective strategy, that at least secured short, one front wars. The Anschluss had brought a decisive change to Germany's strategic position with regard to Prague. It created a new evaluation of the time factor in Hitler's plans. A new drafting of "Case Green" (21 April 1938) was worked out without army cooperation. Hitler pointed out to Keitel that one had to prepare to act with lightning speed. The political decision, that is the response of the western powers, would occur within the first four days of an attack on Czechoslovakia. Moreover, rapid success was essential⁶³ in order to convince friendly powers (Hungary and Italy) and to deter France.

Therefore, as he told his generals on 28 May 1938⁶⁴ (putting the Czech "question" in a wider political and strategic framework), Germany must rapidly improve the Westwall and develop a special technique to overcome Czech fortifications. The Westwall would guarantee a free shot for the war against the Czechs, while the occupation of Czechoslovakia would give an equally free hand for war with France. The Western Powers, he argued, must be seen as hostile to Germany's expansion, and Czechoslovakia would be "our most dangerous enemy" in case of war with the West.

During 1938, the differences between Hitler's and the general staff's strategic approach were put to the test. These differences consisted in their picture of a future war, their evaluation of the

Wehrmacht's readiness, their evaluation of the power and resolution of the Western Powers, and the time factor.⁶⁵

It was above all in his picture of a future war that Hitler calculated on the present German superiority (modern equipment), while the general staff feared a long war. The problem was that Hitler did not tolerate any other expert analysis of the strategic situation. Between October 1938 and March 1939, Hitler attempted to get Poland into his combinations because he remained dissatisfied with the results of the Munich Conference. Meanwhile, the OKW had totally accepted Hitler's views, believing that the Western Powers would continue appeasement. Poland was asked to join the Nazi Anti-Comintern Pact in order to pave the way for war against France. Such a war would establish German domination over Europe and kick Britain off the continent. This was the same model of one front strategy that had existed against Prague. What Poland did not concede voluntarily was urged upon her by force, and this time the strategic considerations of Beck proved to be more realistic. Hitler, it is true, had his war with only one enemy, but only as a military event -- politically he had brought about the long war, one that Germany could not win. A purely continental strategy, based on an army and air force equipped for continental warfare, was not capable of meeting the requirements necessary for the other dimensions of modern warfare.

III. Operational Effectiveness

A. The Reichswehr

The Versailles Treaty had conceded to Germany a military force for police purposes. This was one of the reasons why quasi military forces were tolerated by the Republic and its Army. In the military's "operational" defensive plans, these "forces" figured as an asset in waging a guerilla war behind enemy lines, while the Reichswehr mobilized its full resources. With the advantage of "inner lines", the Reichswehr would take on an enemy already weakened by the people's war and thereby initiate a war of liberation.⁶⁶ But nothing happened of this kind. A popular rising, reminiscent of 1813, was a most uncertain element in this operational scheme. During the French occupation of the Ruhr Seeckt hesitated to follow such a direction, particularly since the Communists might benefit the most.

In April 1930 Groener was even more hesitant when he warned⁶⁷ that as a prerequisite for the Reichswehr's engagement there had to be a real chance of success. Therefore, he argued that the government in some cases had to renounce military resistance. Already by 1927 the Reichswehr had abandoned its plans for a small conflict to acquire time for organizing a 21 division field army, because one had to admit, that such an operational concept was illusory.⁶⁸ The war games of 1927-1928 and 1928-1929 showed that the Reichswehr was not able to operate successfully even against the Polish Army. Blomberg did introduce illusory elements into the 1928 exercise, whereby he hoped

to enable the Reichswehr to attack the Polish invaders: The people's war would allow the Reichswehr finally to launch a classic German offensive war. However, this was totally beyond German possibilities at the time. Blomberg was fired as the army's chief of staff because he was not willing to see that military operations of this kind were either impossible or would mean a European war.

The Reichsmarine's operational scenarios were also beyond reality. The navy cast its operational plans in a brighter future, one in which Germany would again be a naval power. Already, by the 1926 maneuvers it was launching operations to cut the sea connection between a "western and eastern enemy," while the naval high command in 1927 exercised a sea battle against a united Franco-Polish fleet in order to keep the Baltic free. Groener's April 1930 directive was also aimed at such naval romanticism, but it was even more difficult to free the navy than the army from such illusions.⁶⁹ Only for a short period of time were Groener and Schleicher able to influence Raeder and to get him to pay attention to strategic realities. The navy was forced to concentrate on Baltic tasks and to adapt its operational plans to Groener's guidelines developed in the April 1930 memorandum. This meant that it had to come to terms with reality. Tirpitz' emphasis on battleship warfare disappeared.⁷⁰

In these army and navy war games one can recognize the political, strategic, and operational bridge that made it easy for the German military to find its way into Hitler's military policy. As in the Führer's approach to operational and strategic questions, these exercises were organized to demonstrate operational effectiveness under conditions in which the services possessed whatever they wished.

B. The Wehrmacht

1. The Army. It is not surprising that the Wehrmachtamt adapted its operational planning to the pace of Germany's rearmament. Soon too, Groener's balanced operational framework broadened to give room for continental planning. The most striking difference lay in the shift from defensive to offensive operations. A characteristic example of this shift can be seen in a war game exercised by Wehrkreis I (military district, East Prussia) in the winter of 1935-1936. The idea was to check a Russian advance into Lithuania by a preventive attack in order to enlarge the defense area of East Prussia. The exercise demanded a "sudden operation," which had to be launched without mobilization.⁷¹ In this war game, the army examined those elements of warfare that combined the essential experiences of World War I: surprise and rapidity of action to gain military as well as political advantages. A pure defensive action could not be envisaged. Considering that the political assumptions of the game were defined as a deterioration of Germany's relations with France, Russia, and Lithuania, this operational solution was clearly similar to Germany's attack on Belgium in 1914 in order to gain favourable operational conditions. The idea seems to have been to close the door on a Russian advance in order to create an operational freedom with regard to France. It was already a war game of continental dimensions which made use of the first important fruit of Hitler's foreign policy: the non-aggression treaty with Poland. One can also recognize certain elements of future Blitzkrieg operations.

The Wehrmacht study of 1936-1937 continued the examination of a war with Russia.⁷² It regarded Lithuania and Czechoslovakia as factors within a greater scenario, in which France and Russia created an enemy coalition of superior resources. Surprise and rapidity of military

action were, consequently, operational levers to secure advantages.

The Wehrmacht's plan "Schulung," a model of a surprise attack on Czechoslovakia,⁷³ seemed to separate an attack against Czechoslovakia from the general operational schemes,⁷⁴ which had analyzed such a surprise action in connection with a two front war. Schulung (April 1935) aimed at an operational 'blizzard' that was to pave the way for the war that was believed inevitable (France). But there was no comprehensive operational plan; instead only a strategic political background for which Hitler was responsible. Therefore, Blomberg could declare that the preparations should be organized without respect to the present unsatisfying state of German armaments. As the Wehrmacht existed in a state of uninterrupted mobilization so its planning represented a steady process, comprising full scale operational directives (Weisungen) with special, easily adaptable plans, aimed at making use of unexpected developments and changes in the behavior of powers and relations of powers.

Altogether these new phenomena were induced by Hitler's policy: the militarization of life in Germany, and the factors pushing for an aggressive policy. It was this character of Schulung and the following special cases such as the "Otto" deployment for Austria that provoked Beck's criticism. The common feature of such special cases was the intention to start war as a raid, without mobilization or announcement. The OKH, however, wanted to change the special cases into normal deployment plans or at least to parallel the extraordinary at the beginning of operations with the normal. The 'normal' for the OKH were the military aspects of war and the indisputed responsibility of the general staff for the guidance of operations.

But Hitler's approach combined politics with strategy strategy based on euphemism and disparity between facts and plans. Fall Grün, the

deployment for the war with Czechoslovakia was characterised in its 30 May 1938 draft⁷⁵ by specific special case ingredients. The attack was to be launched with complete surprise with the bulk of Germany's forces. The other borders (e.g., the German-French border) would only be protected by rather small reserve forces. Even this plan would in Hitler's eyes only be successful under the condition that a decision was reached in a short period of time, as Hitler had admitted to Keitel on 21 April 1938, within four days.

Beck doubted any chance of success⁷⁶ His criticism rested upon the same arguments he had used since 1935, e.g., against the other special cases, Schulung and Otto. These arguments were: 1) the army was not ready, 2) the international situation did not allow for such a war, and 3) the war would become a great war. Reduced to the question of operational effectiveness, Beck argued the army would need at least three weeks to gain a full decision against Czechoslovakia. That would mean that the forces facing France would have to resist for at least two weeks on their own. In his memorandum from 3 June 1938,⁷⁷ he went further, saying that strictly speaking, one could not predict the time necessary to overcome Czechoslovakia. He doubted that surprise was possible and warned that the Wehrmacht did not possess the operational capability to break through the Czech fortifications.

Was Beck's consideration a true evaluation of the army's effectiveness? The OKW trusted in combined panzer and air force operations. This was aimed at in the "Directive for a Unified War Preparation for the Wehrmacht (Weisung für die einheitliche Kriegsvorbereitung der Wehrmacht)" (1 July 1937)⁷⁸ which said, the operations had to be coordinated with the Luftwaffe. The military prerequisites were defined by the following passage: The final goal consisted of a strategic surprise attack to be

prepared thoroughly which should eliminate the Czech fortifications. The army would only be ready to accomplish this, when it possessed full armored equipment. This, of course, was not the case. The Anschluss had, beyond that, disclosed serious shortcomings of the panzer units, although German occupation of Austria, had seriously endangered the strategic position of Czechoslovakia. On the other hand, Beck held that it would be illusionary to assume that one could perform a breakthrough by use of a panzer army. There was, he said, little experience with its leadership, utilization, and supply. At best, one could rely on mixed motorized army corps. Moreover, cooperation with the air force, in Beck's eyes, was "a completely new land."

Nevertheless, after Beck's resignation Hitler ordered a concentration of all panzer and motorized troops with the 10th Army, while General Franz Halder argued that the panzer units should be attached to the different armies because of the shortage of heavy artillery. Beck's and Hitler's positions were not put to the test. A general staff war game, arranged by Beck, in June 1938 suggested that Beck was wrong on the operational level. One of the results was that the army would probably be able within seven days to send two divisions to the French border to be followed by two corps after another four days. So one can probably assume that in 1938 the army would have been able to solve the problem of Czechoslovakia. What would have happened thereafter is another matter.

With respect to Poland the effectiveness of the forces can perhaps be measured by their success. During 1938 the Anschluss had allowed for the addition of six new divisions, one of which was a panzer and one a light division (that is a highly motorized unit). A further panzer division was established after the occupation of the Sudeten territories,

thus giving the army overwhelming superiority in mobility and fire power when compared to Polish forces. It was, therefore, relatively insignificant for the short run that the armoured divisions were equipped with tanks and artillery of various types and quality. On the eve of the war the army, on the whole, represented a body of high operational effectiveness -- one capable of meeting those tasks that Hitler initially envisaged for his ground forces.

2. The Air Force. The Luftwaffe was also to play a decisive role as an independent service in operational planning. The "risk" Luftwaffe as a strategic force existed primarily in the heads of some air force "thinkers". However, it clearly impacted on British and French diplomacy in 1938. Nevertheless, one should mostly speak of operational planning despite the fact that the Luftwaffe general staff discussed the notion of "strategic" air war. Wever, first chief of the general staff, was an advocate of air force cooperation with army and fleet. His influence was clearly seen in the Luftwaffe's basic doctrinal manual, "Conduct of the Air War (Luftkriegführung)," that described Germany's air war doctrine as a mixture of operational and strategic elements. It laid the main stress obviously on the operational component. Strategic bombing was only to take place under certain conditions, e.g.: after having won the decisive battle or when there was no other alternative. There were, of course, voices that advocated strategic air war as a logical consequence of "total war", but these declarations did not really influence air force planning. The War Ministry in its Wehrmachtstudie 1935-1936 did not define the air force as an instrument for strategic warfare. This study clearly attributed operational tasks to the air force, for instance to destroy the French air force and its bases in a war with France, Czechoslovakia, and Lithuania. The first strike would be delivered

against enemy air fields and army movements. Just the same should be done against Czechoslovakia. The study did admit that the Luftwaffe was not even ready (1 April 1936) to fulfill tasks of this kind.

The question in 1938 was, could the Luftwaffe with its new aircraft, the Ju 87 and Ju 88, meet the requirements of a war with France and Czechoslovakia and, additionally, with England? The general staff in a situation report of late August 1938⁸⁰ was not optimistic about this. It argued that the Luftwaffe was not ready to achieve victory by bombing the enemy's economic centres, but would have to assist the army in gaining operational freedom. In case of war the air force could not wait to launch massive attacks until springtime, because by then the balance of power with the Western Powers would be unfavorable, indeed disadvantageous. Because of the weakness of the German bomber force, the Luftwaffe could only strike with its concentrated power at the enemy's most sensitive points. Raids against Britain would be unsuitable if not impossible. What was necessary, the study argued, was a fundamental change in Germany's geographic situation; the army would have to occupy Belgium and the Netherlands before any significant results could be achieved. In late September 1938, General Hans Felmy, commander of Second Air Force, warned Göring that a Vernichtungskrieg (war of annihilation) against England was impossible with the means presently at the Luftwaffe's disposal.⁸¹ After "Munich" Hitler ordered the Luftwaffe to intensify its armament and procurement programs. But the so called Konzentrierte-Flugzeugmuster-Programm (1 November 1938) was illusionary.⁸² Admittedly it reflected operational ambitions and calculations that perhaps give an impression of what might have been realized had these dreams come true. The Luftwaffe aimed to use the programmed 58 bomber squadrons of the program as follows: 30 against

England, 15 against France, and 13 for Naval assistance.

Taking into account that France and Britain were eagerly working to strengthen their air forces, one must interpret the Luftwaffe's optimistic report on "the Air Situation in Europe, Spring 1939", (2 May 1939) as an extraordinarily weak basis for operational planning.⁸⁴ The report argued the Luftwaffe was ahead of the war preparations of all possible opponents and stronger than the French and British air defense. On one point, the Luftwaffe's general staff was right: a decision would have to be reached in the west. Poland would not be a test for the Luftwaffe; there the Luftwaffe could operate as was laid down in the new draft of "Directives for Employment in the East" (May 1939): to open war with sudden, powerful attacks to help the army directly and indirectly.⁸⁵

To execute effective air operations against England, the Luftwaffe was not ready. The standard of squadron training was not adequate. A war game of Second Air Force (10-13, May 1939) pointed to the conclusion that operations against England would face great difficulties.⁸⁶ At present, General Hans Felmy argued, the state of the art of control within air units simply was not satisfactory for a strategic bombing campaign. In general, this analysis was confirmed by further studies worked out by the Führungsabteilung des Generalstabes on "Operational goals for the Luftwaffe in case of war against England in 1939" (22 May 1939).⁸⁷ As a preparation for the war with Poland an exercise (Generalstabsreise der Luftwaffe 1939, 9-13 June 1939) examined how to eliminate an enemy air force by surprise attacks. This the Luftwaffe was able to do at least in the case of Poland.⁸⁸

On the eve of war (5 August) Göring announced a production program emphasizing primarily He 177, Me 210, Ju 88, and Bf 109 production. Only the Bf 109 proved adequate to meet the demands of World War II. The He

177 and Me 210 were almost complete failures.⁸⁹ Consequently, the Luftwaffe was not ready for an operational air war outside of the narrow confines of Central Europe, especially with respect to England. The reason for this was largely due to shortcomings in equipment and training.

3. The Navy. Raeder described what could be said of the fleet's operational effectiveness at the beginning of the war in a quote given above. With its 2 battleships, 3 pocket battleships, 1 heavy and 6 light cruisers, 21 destroyers, 12 torpedo-boats, and 57 submarines, the navy was indeed only in a limited fashion able to attack vital British and French interests. What was possible was a war against the sea lines of communications by the pocket battleships and submarines, minefields, and battleship operations -- a campaign aimed at disturbing and irritating Britain's strategic position. Britain's strategic location condemned the Kriegsmarine to occasional and limited operations. Only the submarines, depending on their growing numbers, could exert a steady pressure and seriously endangered Britain's supply. But disputes within the naval high command in the thirties about the operational tasks of submarines seriously impacted on the operational effectiveness of the navy at the outbreak of the war. Because of these disputes, the navy did not stress submarine construction of the kind favoured by Captain Karl Dönitz, the U-boat leader. In consequence, the submarine force at the beginning of the war was not an operational instrument capable of significantly endangering British supply lines. With so few submarines, the first of which were at the navy's disposal only in 1935, Dönitz could not effectively organize attacks on Atlantic convoys in 1939, while submarine operations did expose the radio communications network to decipherment by the enemy.

The operational radius of Germany's big ships, the heavy cruisers and the battleships, was limited because of their high pressure steam engines. Thus, the fleet's ocean going capacity was not remarkable. Compared to the naval strength of the Anglo-Saxon powers the Kriegsmarine could attain a relative operational strength only by systematically developing its submarine campaign. The greatest operational gap, deliberately ignored by the naval high command, was the absence of a carrier component, which made Atlantic operations by the larger ships a great risk.

IV. Tactical Effectiveness

A. The Army

Tactical instructions were always the main occupation of officer education within the Prussian and German armies. From Moltke's time, the curriculum at the Kriegsakademie provided for weekly lessons in this area. This played a major role in the introduction of the so called "mission oriented tactics (Auftragstaktik)," which made thorough tactical knowledge and experience a fundamental requirement for officers and sergeants. In the Reichswehr the main stress in officer education was again laid on tactics, and the formulation of simple and clear orders. During the officer courses in Berlin, preference was given to planning offensive operations. Most important to the participants was the Schlussreise, because the result of this tactical examination decided the career of staff officers.

During the summer these officers were given opportunities to acquire knowledge of the combat arms different from their own, while in the winter they received special tactical instruction during the so called winter study. Because of their own education and experience there was a common agreement between the representatives of the personnel office, the education branch, and the chief of the general staff that the best officers were only to be used in the operations branches of the general staff and field divisions. This represented a clear continuity with practices of the Imperial Army.

After Hitler had become Chancellor, staff training hardly changed. The Kriegsakademie continued what was practiced during the Weimer Republic. As in the old army the director of Kriegsakademie was responsible to the chief of the general staff. The primary object of the academy remained to furnish the army with staff officers who had received a solid tactical training and who could serve as advisers and assistants to army commanders. The idea was not to educate commanders, or future strategists but rather competent staff officers.⁹⁰

The Kriegsakademievorschrift introduced during Beck's period as chief of the general staff ordered that tactics should rank at the top of instruction, and argued that a firm tactical knowledge was indispensable for any later staff duties. During the three year course the pupils were taught the regiment within the framework of a division and division level tactics; the conduct of the infantry division, as well as motorized, and panzer divisions; and army corps, fortifications, and general views on army tactical problems. Special instruction was administered in what was called special arms, which meant engineers, panzer, and the air force. But tactics dominated all other subjects, as may be seen in Table VII-I which gives the weekly hours reserved for the different topics.

Table VII-I

Lehrgang (Course)

	I	II	III
Tactics	6	6	6 + 1 additional whole day
Mil. History	4	4	4
Logistics	-	1	1
Engineers	1	1	-
Panzer Forces	1	1	-
Air Force	1	1	1

Beck, chief of the general staff from June 1914, was not interested in producing operational or strategic experts. Consequently there was no longer army operational instruction.⁹¹ Moreover, technical matters were generally neglected, along with special staff matters such as logistics and intelligence. The results would show painfully in World War II. On the lower level, the officer candidate schools (Kriegsschulen) taught officer candidates (Fähnriche) a narrow range of tactical skills for the various arms (engineers, artillery, e.g.).

Specific handbooks on tactics were published which indicate a thorough understanding of this area of military knowledge.⁹² They were mainly based on the Reichswehr's instructional system, which rested on the H.D.V. 370/ 1 and 2.⁹³ This manual (Vorschrift) was the basis for tactical instruction within the Wehrmacht. The officer could find here a

survey of all the important elements of modern tactics. The manual represented a thorough distillation of the tactical lessons of World War I. Leadership (Führung), reconnaissance, security, attack, pursuit, defense, retreat, elastic defense, and special actions, all received thorough attention. The second part of the manual dealt with special troops and their tactical value: panzer, air force, and chemical warfare.

Both the Reichswehr and Wehrmacht stressed the importance of a close relationship between the officer and the soldier. The value of the soldier remained, the manual argued, decisive despite technical developments. The emptiness of the modern battlefield demanded that soldiers and junior officers act on their own responsibility. But independent responsibility of leaders must not result in decisions without respect to the "whole". Independence did not mean arbitrary behavior. On the other hand, leading officers as well as young soldiers must know that omission or neglect represented graver errors than faulty decisions taken with speed.⁹⁴

The aim of such tactical instruction culminated in the theory and practice of combined arms. There was, of course, important progress between 1934 and 1939 in the tactical principles of cooperation between army and Luftwaffe, and infantry and armor, but the quality of instruction in the Wehrmacht because of expansion could not possibly match that of the Reichswehr. The Wehrmacht was no longer a professional army, and the high standards set for Reichswehr officers clearly declined. The ratio between soldiers and officers was dramatically worse, and the continuous process of forming new divisions made solid instruction a most difficult business. Beginning in October 1935 the cadres of the seven Reichswehr divisions were dissolved and scattered over the Reich in order to form the nuclei of the projected 36 division army. In a fashion the

Wehrmacht underwent an uninterrupted mobilization with all its attending handicaps. With NCOs and reserve officers being constantly added to the active force as officers, the army faced considerable problems with the standard of tactical knowledge. It was, therefore, a special task of division commanders to find ways of equalizing the capabilities and knowledge of officers and officer candidates. They did so by special courses, using their authority and experience,⁹⁵ but in fact could never bring things up to the same high level that the Reichswehr had enjoyed.

Nevertheless, one has to assume a relatively high level of tactical effectiveness, especially after 1937 when the cooperation of panzer, artillery, infantry, and air force had been consistently exercised and when the 88mm. anti-aircraft gun had come to be used in cooperation with tanks, as an anti-tank weapon and as an artillery weapon against field fortifications.⁹⁶ The armored formations, admittedly, stood in 1937-1938 at the beginning of their tactical instruction at the company level.⁹⁷ Grave problems appeared during the Anschluss, but the second panzer division marched 700 km in 48 hours, and the SS-Leibstandarte regiment, 1,000 km in the same time. March efficiency and speed all met expectations although the move into Austria had been an improvised maneuver. The panzer divisions were on their way towards becoming a special striking force for tactical and operational use, thus initiating the development of what was to become panzer corps in 1940 and eventually panzer armies in the war with Russia. To sum up, the army's tactical effectiveness remained, thanks to the solid Reichswehr preparation, at a high level despite the turmoil caused by the rapid expansion and rearmament and despite the fact, that the army possessed its first significant armored and heavy artillery units only shortly before the Czech crisis of

1938.

B. The Air Force

The Luftwaffe's tactical principles derived from World War I experiences and were laid down in the basic army doctrinal statement of the Reichswehr's general staff.⁹⁸ Published in October 1934 they were still signed by the army's commander in chief (Chef der Heeresleitung). The air force approach remained substantially influenced by army conceptions. Reichswehr leaders had, as can be seen in Truppenführung, not significantly changed their basic position with respect to the role of aircraft. The Truppenführung stated bluntly: In order to exercise successfully "great ground operations (grössere Kriegshandlungen auf der Erde), one must gain air supremacy at the decisive spot. The bulk of the air force must be brought to the attack at that point. Cooperation of the army and the Luftwaffe should be the guideline for the air force's operational and tactical tasks. This cooperation was to be organized by a "common leader", who, obviously, it was believed, must be the army staff.

As to bombers, the army prescribed that the army's high command should dispose of the bomber squadrons. From time to time, bombers would be assigned directly to army groups or armies. The commanding officer of the bomber units was to keep direct connection to the army staff to whom he is assigned, but he should retain as much freedom of action as possible.

Dawn attacks were to be launched in squadron strength (im Geschwaderverband); by smaller groups at night. Bomber attacks assisting army operations had to coincide with the size and direction of the latter. This army concept defined the air force as nothing but an auxiliary to ground operations. Such an approach profoundly changed with the creation of the Luftwaffe as an independent force. Never, though

educated and trained as an army officer (as were practically all other leading Luftwaffe officers), assigned strategic as well as operational tasks to the new German air force. The "Conduct of the Air War" stressed, therefore, those functions, which were seen as consequences of the Luftwaffe's independence.⁹⁹ The conduct of air operations was defined as the conduct of operations which fell self-evidently to the Luftwaffe as the third service in the Wehrmacht. Wever, however, was not an uncritical follower of Douhet. He did not really believe that strategic air war could by itself decide a future war. Consequently, the cooperation of all three services was indispensable.

The conduct of the air war did not formulate absolutely binding essentials. Wever was convinced that air tactics were at the beginning of their development. As guidelines for its tactical employment the manual enumerated:

- 1) Attacks were to hit at a decisive point.
- 2) Overkill did not mean a better chance of success.
- 3) Multiple goals must not lead to dispersion of forces.
- 4) The disturbance and paralyzing effect of an air attack could be achieved by smaller forces when dispersed.
- 5) Concentration of effort was necessary in attack and defense.
- 6) Surprise eases the attack.
- 7) Sudden defensive measures will create problems for the enemy.
- 8) Everywhere and always the Luftwaffe should use its ability "to achieve surprise".

- 9) Orders must bind subordinate commanders only as far as the situation can be evaluated.

As the basic mission for the Luftwaffe "The Conduct of the Air War" defined the achievement of air superiority. This was to be achieved by attacks on the enemy's air forces, and surprise attacks to destroy the enemy aircraft on their peacetime airports. The Luftwaffe should avoid entangling itself with the enemy's defense forces. As to the cooperation with the army, the basic doctrine suggested that an air component commander could be assigned to the army supreme command or to an army staff to utilize air power effectively in support of the army. In battle formations, the group commanders were to be given considerable independence to allow for quick decisions, while the squadron commanders had to decide upon the "methods of attack." The wing commanders would have to take the lead, whenever personal leadership was necessary or in case of insufficient information on enemy targets.

All of the primarily tactical chapters on air war that were in Wever's view connected with operational and strategic aspects of warfare, received an ever greater significance in air force doctrine and practice after his death (3 June 1936).¹⁰⁰ Under Wever's successor, General Hans Jeschonnek, the Luftwaffe became primarily an operational force. In a memorandum for Göring, Milch suggested at the end of 1936¹⁰¹ that the Luftwaffe's task would consist in knocking out the enemy air forces and in support for the army and navy. Medium range bombers and Stukas were sufficient for such tasking (especially in Central Europe). During the Wehrmacht war games, strong air force units were assigned to support the army. One gets the impression that the Luftwaffe joined the army general staff in its estimate that direct support of the army could be critical

in a future war. In June 1939, Third Air Force discussed basic questions of motorized troops' manoeuvres with the army's doctrinal staff: The chief topic was the combating of motorized enemy troops by "battle air craft."¹⁰² The Fifth Air Division tackled the problem of fighting concrete fortifications in cooperation with the army in August 1939. There are many other examples of training in close army support, while naval support was rather neglected. Further directives in summer 1939 provided Stuka close support aircraft, BF 110s, and bombers for direct support.¹⁰³ In reflecting on the results of army general staff exercise of 1939, Luftflotte 3 summed up the push towards operational air war.¹⁰⁴ It suggested that attacks on an enemy army could lead to an earlier decision than the bombing of his economic resources and armament industries.

The experience of the Condor Legion in Spain confirmed such an approach. So in 1939 it seemed clear that in order to get the maximum out of the Luftwaffe, one had to use the instrument on the battlefield. The Condor Legion's commander, Wolfram von Richthofen, had developed the tactics of close air support and was a strong advocate of it. An after action report from the Spanish Civil War concluded that the original idea to bring about a quick decision by strategic attacks did not meet expectations.¹⁰⁵ Thus, the Luftwaffe was pushed towards support of the army. Based on this experience the Luftwaffe prepared for the next war.

By August 1939 the Luftwaffe could dispose of a well diversified force suitable for campaigns on the European continent: Long distance (F=Fernaufklärer) reconnaissance aircraft (Do 17) 275; other reconnaissance aircraft, (He 45, He 46, Hs 126,) 356; Fighters, 15 Groups (He 109, Ar 68) 788; Destroyers, 10 Groups (He 109, He 110) 431; Bombers 30 Groups (He 111, Do 17, Ju 88) 181; Dive Bombers 9 Groups (Ju 87) 361;

Close Air Support, 1 Group (Hs 123) 39; and transport aircraft, 11 groups (Ju 52) 488. This suggest that close air support was only beginning to be developed. There was also a growing force of parachute troops, which were organized as an air division (7th). This airborne force disposed of five battalions and some additional units in 1939 and could be seen as a valuable operational and tactical component. Of even greater importance were the Luftwaffe's 3 signals regiments together with its ground organization consisting of 63 signal companies and 115 special signal units located at military airfields. But at the outbreak of war the Luftwaffe had only two flying navigation and scout companies.

One can assume that the Luftwaffe's tactical effectiveness--based on practical experiences in Spain, on war games and maneuvers with the army, on a thorough tactical training of future staff officers at the Air War College (Luftkriegsakademie) where tactics and technical disciplines were the main instruction -- was comparatively high.¹⁰⁶ Measured in regard to the Luftwaffe's short history, it was excellent -- despite the fact that technical training was not adequate and practical exercises were hampered by a shortage of flying time.

C. The Navy

The navy like the army could organize its tactical effectiveness on a solid basis, one laid by the Imperial fleet and the naval forces of the Weimar Republic. Generally, one can say that the navy was less affected by rearmament turmoil that caused such serious difficulties in the army and Luftwaffe. The Kriegsmarine did not get so many ships, officers, and sailors as to endanger the quality of general military and special tactical instruction. But it was felt necessary to reduce the curricula of the former Imperial Naval Service Academy. By 1926 the navy preferred

technical education to a more general instruction. Thus, the education of naval staff officers (Admiralstaboffiziere) laid the main stress on tactical instruction, staff service, and weapons knowledge.¹⁰⁷ A plan for a new instruction scheme in the 1931-1933 period aimed to reduce naval officer education to a technical school, which would confine its teaching primarily to tactics and staff work. It aimed to educate an officer who could make quick decisions and who would be able to formulate clear orders. Such talents were exercised in war games.

On 1 June 1935, Raeder renamed the navy's chief educational instrument, the Marineakademie, but his action did not signal a change in educational philosophy. Raeder did not approve proposals for a more strategic and general instruction; rather he preferred the tactical expert, corresponding herein with Beck's emphasis.

The sixth academy course of 1937-1938 was already influenced by the consequences of Hitler's foreign policy; it was unexpectedly dissolved in August 1938. As the commander of the academy pointed out, the instruction administered there was limited in scope; the lessons largely concerned tactics and staff work. Most of the navy's instruction manuals had been worked out in the days of the Republic, e.g., from the tactics of torpedo boats¹⁰⁸ to the tactics of mine war.¹⁰⁹ World War I experiences had shown that the Imperial Navy had not paid sufficient attention to its mine forces. The Reichsmarine had, therefore, organized in 1920 a special mine command. Raeder reemphasized this development of the mine forces, and in 1931 the first attempts at aerial mine delivery were made. During tactical exercises of battle fleet divisions and squadrons in war games and in manoeuvres, the fleet always took into account the possible impact of mines. In addition, all cruisers and torpedo boats were equipped for mine warfare.¹¹⁰

New tactical manuals accompanied the navy's rearmament.¹¹¹ Significantly, the manuals dealing with naval-Luftwaffe cooperation were published rather late (1936 and 1938). Having no naval air units at its disposal, the naval high command had to rely on the Luftwaffe. Long range reconnaissance aircraft would have been of extraordinary value to the submarines' tactical and operational efficiency, but the Luftwaffe never showed any interest. As Dönitz said at Nurember in 1946, the cooperation between the two services was unsatisfactory from the beginning of the war "because there was no time and too few planes available between 1936 and 1939."¹¹² Cooperation between navy and air force was never satisfactorily solved. The compromise reached between the two services at the beginning of 1939 did not represent a significant break-through. The staff of the naval air forces with its coastal and naval aircraft was established under a Luftwaffe general serving with the commander in chief of the navy. The Luftwaffe general was also directly responsible to Göring as Supreme Commander of the Luftwaffe, an impossible situation.

The special tactical and operational principles of U-boat warfare had already been discussed early in the interwar years. Attempts undertaken with U-boat cruisers and guide boats failed, resulting in the ruin of tactical attempts to coordinate attacks by groups of submarines. The problem was recognized in the twenties. Night attacks against convoys by submarine groups required highly efficient leadership, extensive intelligence coordination, and tactical experience. Dönitz as leader of the U boats adhered to the principles of the Marine-Dienstvorschrift Nr. 466, which had suggested in 1928 that in the future one must provide for submarine mass attacks against convoys.¹¹³ This would depend entirely on the establishment of a better system of radio

coordination.

The basic problem lay in the communications between submarine and land based staffs and submarines. Between 1936 and 1939 Dönitz exercised his submarine flotillas in tactical manoeuvres against warship convoys and single merchant ships. What was the synthesis of independent submarine tactical leadership and land based tactical and operational direction? Such problems were still being tackled before the war. Cooperation of submarines on their way into action, submarine reconnaissance, and Dönitz' favourite wolf pack tactics were exercised. In May 1939 the fleet performed an extensive exercise in the Atlantic. Dönitz felt that the question of submarine tactical cooperation was satisfactorily solved till the outbreak of war. But far less satisfactory was the standard of Luftwaffe-submarine cooperation. Moreover, the problems involved in the tactical and operational direction of submarine warfare by special pilot boats or by shore based headquarters was only solved during the war and then it resulted in an exclusive land-based solution.¹¹⁴ But in 1939 no one in the naval high command was aware of the grave handicap that an over-reliance on radio communications might represent. At the beginning of the war this handicap was not yet apparent. The greatest deficiencies in the navy's tactical preparedness rested on Germany's unfavourable geographic position with respect to Britain, the complete underdevelopment of cooperation with the Luftwaffe, the absence of a carrier component in the navy, and, above all, in the fact that Germany was building the wrong fleet to fight England.

These deficiencies could not be corrected by stressing the importance of leadership. The general tactics manual (Die Grundlagen der Taktik)¹¹⁵ argued that the spirit of the leader and the will and experience of German naval crews would extend their ships' capabili-

ties.¹¹⁵ The "value of personality" was declared to be decisive: qualities of character would weigh more than those of intelligence. "Good old" military convictions mingled consequently with Nazi ideology. Thus, the Germans hoped that tactical performance and ideological motivation could balance off strategic and operational disadvantages under which the navy would have to fight.

Conclusion

The result of German policy and strategy was a war which Hitler as well as the military had not intended to fight, namely a long war that German resources could not support. National Socialism believed that the solution to any problem lay in the power of a will that did not shrink from sacrifices of men and matériel. Theoretically anything was possible when ordered. What made the execution of Hitler's goals practically difficult or at any rate only partially successful was the fundamental disparity between aims and reality. There were too many ifs: if the political evaluation had been correct, the strategy would have been adequate; if the strategy had hit the nail, the operational effectiveness would have sufficed; then, tactical readiness would not have had to rely so much on individual performance. Hitler and National Socialism further increased the problems of a continental power that had not been able to adjust its continental and world policies to the means available. The lessons of World War I were learnt only by individuals who were not able to guide German policy and strategies over the long haul (Groener and Beck).

Though planning rested on an inferior position, ambitions fueled the drive for greater goals. Contempt for the western democratic political systems added to the misinterpretations of their political options. The main fault was that the direction initiated by the deliberate overheating of Germany's rearmament with all its economic consequences was not reversible as long as Hitler controlled the state.

And that overheating led Hitler to a greater and greater willingness to gamble on military confrontations that led directly to war.

Notes

1. § 8, WG: Der Reichspräsident ist oberster Befehlshaber der Wehrmacht. Unter ihm übt der Reichswehrminister Befehlsgewalt über die gesamte Wehrmacht aus. See also Eckart Busch, Der Oberbefehl. Seine rechtliche Struktur in Preussen and Deutschland seit 1848 (Boppard 1967), pp. 65ff.
2. Wolfgang Sauer, "Die Reichswehr," in Die Auflösung der Weimarer Republik. Eine Studie des Machtverfalls in der Demokratie, ed. by Karl Dietrich Bracher (Villingen, 1960), pp. 228-84.
3. Friedrich Hossbach, Zwischen Wehrmacht und Hitler 1934-1938 (Göttingen, 1965), p. 150.
4. A detailed study of this development is given by Michael Geyer, Aufrüstung oder Sicherheit. Die Reichswehr in der Krise der Machtpolitik 1924-1936, (Wiesbaden, 1980); a shorter version by the same author: Deutsche Rüstungspolitik, 1860-1980 (Frankfurt a. M. 1984), pp. 118ff.
5. Cf. Manfred Messerschmidt, Preussens Militär in seinem gesellschaftlichen Umfeld, in Preussen im Rückblick, (Göttingen, 1980), p. 43-88 (82) (Geschichte und Gesellschaft, Sonderheft 6).
6. Cf. Axel Schildt, Militärdiktatur mit Massenbasis? Die querfrontkonzeption der Reichswehrführung um General von Schleicher am Ende der Weimarer Republik (Frankfurt a.m., 1981).

7. See Wilhelm Deist, "Die Aufrüstung der Wehrmacht," in Das Deutsche Reich und der Zweite Weltkrieg, Vol. I, Ursachen und Voraussetzungen der deutschen Kriegspolitik, (Stuttgart, 1979), pp. 397ff.; and Manfred Messerschmidt, "Aussenpolitik und Kriegsvorbereitung," in Das Deutsche Reich und der Zweite Weltkrieg, Vol. I, pp. 571ff.
8. Chef Abteilung Inland des Wehrmachtamtes, 17 April 1934, BA-MA, W 01- 5/156; see Manfred Messerschmidt, Die Wehrmacht im NS-Staat (Hamburg, 1969), p. 13.
9. Minute of Kabinett-Sitzung 7.4. 1933, ADAP, C, Vol. I, S. 255-260, Memorandum of Secretary of State v. Bülow; see Günter Wollstein, "Eine Denkschrift des Staatssekretärs Bernhard v. Bülow vom März 1933. Wilhelminische Konzeption der Aussenpolitik zu Beginn der nationalsozialistischen Herrschaft," Militär-geschichtliche Mitteilungen (MGH) 1/73, pp. 77-94.
10. Hossbach, Zwischen Wehrmacht und Hitler, gives a picture of the style of "cooperation" between Hitler and the Wehrmacht.
11. See draft of T 2 (Sodenstern) from 7th Dec. 1933: BA-MA RH 2/v. 1056.
12. See Klaus-Jürgen Müller, General Ludwig Beck (Boppard a. Rh., 1980), Nr. 10, pp. 345-50.
13. Stellungnahme Becks zur Weisung für "Schulung", BA-MA N 28/2, Müller, General Ludwig Beck Nr. 29, pp. 440-44.
14. See Denkschrift from 9th Dec. 1939, Müller, General Ludwig Beck, Nr. 36, pp. 466-69.
15. Vortragsnotiz v. 29 Juli 1938, BA-MA N 28/4; Müller, General Ludwig Beck, Doc. Nr. 52, pp. 557-60.
16. Deist "Die Aufrüstung der Wehrmacht," p. 136.

17. Wilhelm Deist, "Zum Problem der deutschen Aufrüstung 1933-1926," Francia 5 (1977) pp. 539-66; and Geyer, Aufrüstung oder Socherheit; Klaus-Jürgen Müller, Armee, Politik und Gesellschaft in Deutschland 1933-1945 (Paderborn, 1979), p. 90 f.
18. Michael Geyer, "Rüstungsbeschleunigung und Inflation," MGM 30, 2/81, pp. 121-86.
19. Lagebericht v. 1 June 1938, BA-MA, RW 19/93.
20. AHA v. 15 April 1939, BA-MA, III H 98/5; Deist, "Die Aufrüstung der Wehrmacht," p. 447.
21. Nachlass Stülpnagel, BA-MA, N 5/10.
22. See Zeitschrift für Geschichtswissenschaft, XIX (1971) S. pp. 1167ff.
23. See Jehuda L. Wallach, Das Dogma der Vernichtungsschlacht. Die Lehren von Clausewitz und Schlieffen und ihre Wertungen in zwei Weltkriegen, (Frankfurt, 1967).
24. Denkschrift Oberst v. Stülpnagel für Legationsrat v. Bülow of the Foreign Office, 6 March 1926, ADAP, B, Vol. I , pp. 341ff.; see also Messerschmidt, Aussenpolitik und Kriegsvorbereitung, p. 549 (see note 7.)
25. BA-MA PG 34072, Entwurf Nachlass v. Bredow, BA-MA N 97/9; see also Geyer, Aufrüstung oder Sicherheit, pp. 215ff; Gaines Post Jr, The Civil - Military Fabric of Weimar Foreign Policy (Princeton N.J., 1973), pp. 197ff., Deist "Die Aufrüstung der Wehrmacht, pp. 383f.
26. See Jost Dülffer, Weimar, Hitler und die Marine. Reichspolitik und Flottenbau, 1920-1930 (Düsseldorf, 1980); "Determinanten der deutschen Marine-Entwicklung in der Zwischenkriegszeit (1920-1939)," in MJ 72 (1975) H 1, S. pp. 8-19; Gerhard Schreiber, Revisionismus und Weltmachtstreben. Marineführung und

- deutsch-italienische Beziehungen 1919-1944 (Stuttgart, 1978); "Reichsmarine, Revisionismus und Weltmachtstreben," in Militär und Militarismus in der Weimarer Republik (Düsseldorf, 1978), pp. 149-76.
27. Döffler, "Determinanten der deutschen Marine -- Entwicklung in der Zwischenkriegszeit," p. 15, (see note 26).
28. See Deist "Die Aufrüstung der Wehrmacht", p. 450.
29. Ibid., pp. 439ff. (see note 7).
30. BA-MA, II H 662; Müller, General Ludwig Beck, Doc. Nr. 37 pp. 469-77.
31. This was correctly stressed by Deist "Die Aufrüstung der Wehrmacht, p. 426.
32. Karl-Heinz Völker, Beiträge zur Militär und Kriegsgeschichte, Vol. III, Die Entwicklung der militärischen Luftfahrt in Deutschland 1920-1933. Planung und Massnahmen zur Schaffung einer Fliegertruppe in der Reichswehr (Stuttgart, 1962) pp. 121-292; Die deutsche Luftwaffe 1933-1939. Aufbau, Führung und Rüstung der Luftwaffe sowie die Entwicklung der deutschen Luftkriegstheorie (Stuttgart, 1967); Kurt Köhler and Karl-Heinz Hummel, "Die Organisation der Luftwaffe 1933-1939" in Wehrmacht und Nationalsozialismus 1933-1939 (München, 1978) p. 501-79.
33. Bernhard Heimann and Joachim Schunke, "Eine geheime Denkschrift zur Luftkriegskonzeption Hitler-Deutschlands vom Mai 1933," Zeitschrift für Militärgeschichte 3, (1964), pp. 72-86.
34. See Michael Howard, The Continental Commitment; The Dilemma of British Defense Policy in the Era of Two World Wars (London, 1972); Messerschmidt, "Aussenpolitik and Kriegsvorbereitung," p. 589 f. Deist, "Die Aufrüstung der Wehrmacht," pp. 476ff.

35. See Hans-Jürgen Rautenberg, "Deutsche Rüstungspolitik vom Beginn der Genfer Abrüstungskonferenz bis zur Wiedereinführung der allgemeinen Wehrpflicht 1932-1935, Bonn University Dissertation, 1973, pp. 321 ff., Anhang, pp. 89ff.
36. L. Dv. 16 "Luftkriegführung, revised reprint 1940, see Karl-Heinz Völker, Dokumente und Dokumentarfotos zur Geschichte der deutschen Luftwaffe. Aus den Geheimakten des Reichswehrministeriums 1919-1933 und des Reichsluftfahrtministeriums 1933-1939 (Stuttgart, 1968), pp. 466-86.
37. Richtlinien für die Führung des operativen Luftkrieges, BA-MA, Lw 106/11; see Klaus A. Maier, "Totaler Krieg und operativer Luftkrieg," in Das Deutsche Reich und der Zweite Weltkrieg, Vol. II, Die Errichtung der Hegemonie auf dem europäischen Kontinent (Stuttgart, 1979), pp. 43-69.
38. See Chef der Heeresleitung 28.6 1933, BA-MA II L 1/2; Rautenberg, "Deutsche Rüstungspolitik vom Beginn der Genfer Abrüstungskonferenz bis zur Wiedereinführung der allgemeinen Wehrpflicht 1932-1935," p. 321.
39. Das Deutsche Reich und der Zweite Weltkrieg, Vol. I, pp. 480f.
40. Ibid., Vol. 38, pp. 36ff.
41. See Williamson Murray, The Change in the European Balance of Power, 1939-1939; The Path to Ruin (Princeton, 1984), p. 40.
42. Deist, "Die Aufrüstung der Wehrmacht," p. 495 (see note 7); Williamson Murray, "German Air Power and the Munich Crisis," in War and Society, Vol. II (1977), pp. 107-18.
43. BA-MA RM 6/233; extract in Gerhard Schreiber "Zur Kontinuität des Gross- und Weltmachtstrebens der deutschen Marineführung," MGH 2/79, pp. 101-71 (s. 132 Dok Nr. 1).

44. Minute on talks with Chef der Marineleitung on 22 July 1926, BA-MA, 7897; see Schreiber "Zur Kontinuität des Gross-und Weltmachtstrebens der deutschen Marineführung, Dok. Nr. 3, pp. 136f.
45. Vortrag Leiter Flottenabteilung vor den Führergehilfen über die Kriegsaufgaben der Marine, January 1929, BA-MA II M 57/58; see Schreiber, "Zur Kontinuität des Gross - und Weltmachtstrebens der deutschen Marineführung," Dok Nr 5, S pp. 138-42.
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48. Deist, "Die Aufrüstung der Wehrmacht," p. 454.
49. Michael Salewski, "Marineleitung und politische Führung 1931-1935," "in MGM 2/71," pp. 113-158 (131).
50. Deist, "Die Aufrüstung der Wehrmacht," p. 455.
51. Ibid., p. 456, Notes for a meeting with Hitler.
52. Salewski, "Marineleitung und politische Führung 1931-1935," p. 148.
53. Salewski, Die deutsche Seekriegsleitung 1935-1945, Vol. I, pp. 30ff; Carl-Axel Gemzell, Raeder, Hitler, und Skandinavien, Der Kampf für einen maritimen Operationsplan, (Lund 1965), pp. 45ff.
54. Salewski, Die deutsche Seekriegsleitung, 1935-1945, Vol. I, pp. 44ff. Dülffer, Weimar, Hitler, und die Marine.
55. Dülffer, Weimar, Hitler, und die Marine, pp. 482ff.; Salewski, Die deutsche Seekriegsleitung, Vol. I, pp. 48ff.
56. Dülffer, Weimar, Hitler und die Marine, pp. 486ff.
57. Salewski, Die deutsche Seekriegsleitung, Vol. III, pp. 62ff.
58. The "Hossbach-Protocol," ADAP, D., Vol. I, Nr. 19, and INT, TMNC, Vol. 25, pp. 402-13, Doc. PS-386.

59. IMT, MNC, Vol. 34, pp. 745ff., Doc. 175-C, see also ADAP, D., Vol. VIV, App. III, S. pp. 547ff.; Klaus-Jürgen Müller, Das Heer und Hitler, Armee und nationalsozialistisches Regime, 1933-1940, (Stuttgart, 1969), pp. 245ff.; Messerschmidt, "Aussenpolitik, und Kriegsvorbereitung," pp. 625ff.
60. BA-MA, RH 15/149, RKM - ObdW, 3 Sept. 1937; see Geyer "Rüstungsbeschleunigung und Inflation," MGM 30, 2/81, pp. 121-86 (132).
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62. Extract Jodl-Tagebuch, BA-MA N 54/27; Doc. PS-1780.
63. See Aufzeichnung Major Schmundt, 22 April 1938, ADAP, D, Vol. II, NP. p. 133.
64. Aufzeichnung Wiedemann, ADAP, D., Vol. VII, Anhang H., S. 544; Müller, General Ludwig Beck, Nr. p. 45.
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66. Joachim v. Stülpnagel, February 1924 "Gedanken über den Krieg der Zukunft", BA-MA N 5/10.
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69. For the Navy's Kriegsspiele see Werner Rahn, Reichsmarine und Landesverteidigung 1919-1928. Konzeption und Führung der marine in der weimarer republik (München, 1976), pp. 133ff.; Geyer: Aufrüstung oder Sicherheit, pp. 196ff.
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72. BA-MA, H 1/319.
73. Jost Dülffer, "Weisungen an die Wehrmacht als Ausdruck ihrer Gleichschaltung 1938/39," WNR 18 (1968) pp. 651-55, 707-13; Befehl "Schulung" in: IMT, TMWC, Vol. 34, Doc. 139-C, pp. 485f.; see also Müller, General Ludwig Beck, pp. 228ff.
74. Geyer, Aufrüstung oder Sicherheit, p. 422.
75. ADAP, D., Vol. II, pp. 281 ff.; IMT, TMWC, Vol. 25, Doc. 388-PS, pp. 433ff.
76. See Beck's "Stellungnahme vom 29. Mai 1938 zu den Ausführungen Hitlers vom 28. Mai 1938 über die politischen und militärischen Voraussetzungen einer Aktion gegen die Tschechoslowakei," BA-MA N 28/3; Müller, General Ludwig Beck, Doc. Nr. 46, pp. 521 ff.
77. BA-MA, N 28/3; Müller, General Ludwig Beck, Doc. Nr. 47, pp. 528ff.
78. Doc. 175-C, see Walter Görnitz, (ed.) Generalfeldmarschall Keitel Verbrecher oder Offizier? Erinnerungen, Briefe, Dokumente des Chefs OKW (Göttingen, 1961), pp. 115-23.
79. Völker, Dokumente und Dokumentarfotos zur Geschichte der deutschen Luftwaffe, Nr. 195, pp. 445ff.
80. IMT, TMWC, Vol. 25, pp. 381ff.

81. Maier, "Totaler Krieg und operativer Luftkrieg," p. 59.
82. Völker, Dokumente und Dokumentarfotos zur Geschichte der deutschen Luftwaffe, Nr. 89 (see note 36).
83. "Aufmarsch - und Kampfanweisungen der Luftwaffe," 7 February 1939, Maier, "Totaler Krieg und operativer Luftkrieg," p. 61.
84. BA-MA, RL 2/535; see Maier "Totaler Krieg und operativer Luftkrieg," p. 63.
85. BA-MA, RL 2 II/2.
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91. See H. Foertsch, Auswahl, Erziehung und Ausbildung zum Generalstabsoffizier - eine kritische Betrachtung der deutschen Verhältnisse vor dem Zweiten Weltkrieg, MGFA Freiburg; Manfred Messerschmidt, "German Staff Officers Education since the Beginning of the 19th Century. Innovations and Traditions," in Militärhistorisk Tidskrift, (June, 1983), pp. 9-19.
92. For instance; Artur Boltz, Das Nachtgefecht. Die Ausbildung der Infanterie für das Gefecht bei Dunkelheit im Bewegungskriege (Berlin, 1936); Joachim Schwatlo Gesterding; Offizierthemen. Ein Handbuch für den Offizierunterricht, (Berlin, 1938); Hellmuth Volkmann (Oberst), Befehlstechnik. Winke und Anregungen für ihre Anwendung im Rahmen der Division und des verstärkten Regiments (Berlin, 1936); Arthur Boltze, Gefechtsübungen der

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93. Heeresdienstvorschrift 300/1 und 2, "Truppenführung".
94. H. Dv. 300/1, Nr. 15. The soldiers' instruction at the level of W. Reibert's "Der Dienst-Unterricht im Heere" (various editions) can be evaluated as excellent. The same must be said of the so-called Weber "Unterrichtsbuch für Soldaten" (original title: "Rekrut," which reached its 23rd edition in 1938).
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97. See Heinz Guderian, Erinnerungen eines Soldaten (Heidelberg, 1951), p. 46.
98. H. Dv. 300/2 "Truppenführung."
99. L. Dv. 16 "Luftkriegführung," Berlin 1945.
100. See Karl Köhler, "Operativer Luftkrieg. Eine Wortbildung zur Bezeichnung unterschiedlicher Vorgänge, Wehrkunde, Jg. 16 (1967), pp. 265-69; Johannes Fischer, "Über den Entschluss zur Luftversorgung Stalingrads. Ein Beitrag zur militärischen Führung im Dritten Reich," MGM 2/69, pp. 7-67 (36-37).
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102. Boog, Die deutsche Luftwaffenführung, p. 174.
103. Entwurf, 1 June 1939, BA-MA RL 7 p. 168.
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113. Handbuch für Ubootkommandanten. Teil V.: Ubootabwehr und Verhalten des Uboots gegen die feindlichen Abwehrmassnahmen, Abschnitt IX, S. pp. 26ff, Berlin, 1928.
114. See note 111.
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MILITARY EFFECTIVENESS OF
ARMED FORCES IN THE INTERWAR
PERIOD, 1919-1941: A REVIEW

Alvin D. Cook

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 constitutional 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 français (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. France'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 Corica, 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 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 than 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," Petain 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 cumbersome, 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 prevail 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 hemispheres; 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 reconnaissance, 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 assault 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 Peacetime training and exercises at small-unit level were adequately conducted by the Germans, British, Japanese, and Americans, though many shortcomings 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 peacetime competence and innovation extended to high ranks among the naval powers, especially 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; Keijirō 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 militaires 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. Micksche, Attack: A Study of Blitzkrieg Tactics (New York, 1942), p. 241.

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