

THE ROOTS OF MODERN AMERICAN OPERATIONAL ART

By Colonel Michael R. Matheny

The Napoleonic Wars changed the nature of warfare. The nation states of Europe summoned all their potential to field massive armies. The increasing industrialization of Europe helped to make this possible and in later years further changed the face of war by providing more lethal technology. Theorists such as Jomini and Clausewitz sought to explain this new nature of Warfare and mark out new doctrines and truths about war. The emerging professional armies of Europe took from the theorists that which suited them and prepared for the next major clash of arms, World War I.

In the 100 years, which passed between the end of the Napoleonic wars and the next general European war, things had changed considerably. A major lesson drawn from the Napoleonic Wars was the importance of the decisive battle, but the generals of World War I were unable to achieve it. Indecisive fighting led to prolonged static warfare. Jomini's definition of strategy as the "*art of making war upon the map,*" seemed woefully inadequate.ⁱ The armies were so large it was impossible for tactics alone to crush the enemy and achieve strategic aims. On the field of Waterloo some 140,000 men faced each other. By 1914 a combined total of 3.3 million men struggled in the Battle of the Frontiers in France. As soon as the Great War came to an end military thinkers began to ponder the new lessons of warfare.

In the aftermath of World War I the professionals began to understand more completely the impact of the expanded battlefield, industrialization, and mass armies.ⁱⁱ The old framework of strategy and tactics was inadequate to comprehend the new changes. This was the genesis of operational art in the industrial age.

The Germans were among the first to grasp the need for a new concept to link national strategy with tactics. As early as 1920 Baron Von Freytag-Loringhoven mentioned that the General Staff increasingly used the term operative (pertaining to operations) and thereby defined more simply and clearly the difference from everything that is referred to as taktisch.ⁱⁱⁱ The term strategy was confined "to the most important measures of high command."^{iv} By the end of the interwar period this new conceptual framework was well in place. In 1940 Colonel H. Foertsch of the General Staff, described the German concept of operations with a diagram. The diagram (see figure 1) emphasized operations as the link between tactics and strategy.

The Soviet army also struggled not only with the lessons of World War I but also with those of the Russian Civil War. The Soviet concepts of operational art were the product of several men, Svechin and Tukhachevsky foremost among them. In 1923 Svechin proposed that operational art was "*the totality of maneuvers and battles in a given part of a theater of military action directed toward the achievement of the common goal, set as final in the given period of the campaign.*"^v Further, he established the relationship between operations, tactics, and strategy, "*tactics makes the steps from which operational leaps are assembled; strategy points the way.*"^{vi}

Tukhachevsky's analysis of World War I also led him to many key operational concepts. He recognized that technology had expanded the battlefield requiring successive and deep operations.^{vii} In fact, the concept of deep operations was the greatest achievement of Soviet interwar operational art. With the onset of Stalin's purges, however, innovative military thinking came to an abrupt halt.^{viii}

Since the emergence of operational art in our doctrinal manuals in the early eighties, writers have been quick to point to the Soviet and German development of the operational art following the Great War. We must remember, however, that the United States also participated in World War I. In little more than a year a regular force of 100,000 officers and men forged a four million man army. Of that great host, two million men were sent overseas to the American Expeditionary Force. By the close of the war the Americans had two armies in France and were on the verge of forming their very first army group.

As in other armies, the American officers pondered the lessons of that Great War. The changes in warfare and the requirement to move massive armies to achieve strategic aims were no less apparent to competent American officers. Was there, then, no comparable development of American operational art?

There was, in fact, a good deal of operational thought and synthesis going on in the American armed forces during the interwar period. At Ft. Leavenworth and the Army War College the curriculum, lecture notes, and even the doctrine indicated an increasing sophistication of American military thought. The key operational concepts such as phased operations, culminating point, center of gravity, and lines of operation were becoming imbedded in our institutions and doctrine. The sophistication of American interwar thought can be judged by the emphasis placed on logistics, joint and combined warfare. Operational art as taught and understood during the interwar years would help prepare the

American armed forces for the great challenge which loomed just over the horizon, World War II.

THE DEVELOPMENT OF THE THEORY OF OPERATIONAL ART

Most of the key concepts of operational art were developed in the nineteenth century by the two great interpreters of the Napoleonic experience, Jomini and Clausewitz. Both men were interested in the application of military force to achieve political goals. The method of determining how this force was to be applied was strategy. The key mechanism of strategy was the campaign plan. For Clausewitz, strategy was "*the use of the engagement for **the purpose of the war.***"^{ix} The strategist devised the campaign and decided how to use battles to achieve his aims. Clausewitz discussed at great length the elements of strategy but did not dwell on the practical art of formulating a campaign plan.

Jomini left a much greater mark on the details of strategic planning. For almost all of the nineteenth century strategy and by extension, campaign planning, amounted to the selection of the theater of operation, the base of operation, the line of operation, and decisive points. At the end of this process of selection was the final deployment for the decisive battle. Jomini's major contribution, then, was to provide the geometry of the battlespace. Although he borrowed some of the ideas, it was Jomini who put them together and popularized them."^x

Another important contribution from Jomini was his attention to logistics. In fact, if he did not coin the phrase, he gave it widespread use and new meaning. For Jomini logistics "*was the practical art of moving armies.*"^{xi} This art embraced not only moving armies, but also their sustainment, which required the establishment of lines of communication. Jomini recognized the significance of logistics in campaign planning. He insisted that one of the fundamental principles of war was the importance of throwing the mass of your army upon the enemy's lines of communication without compromising your own."^{xii}

Clausewitz generally ignored logistics, preferring instead to focus upon the very nature of war. In his investigation of the nature of war, however, he developed several key operational concepts. Clausewitz believed that the first task in planning was to identify the enemy's **center of gravity**. He defined the center of gravity as "*the hub of all power and movement, on which everything depends.*"^{xiii} Once identified, "*all energies*" were to be directed against it."^{xiv} When the center of gravity was destroyed, the enemy was powerless, defeated.

Another key operational concept, which Clausewitz introduced, was the **culminating point**. Both Jomini and Clausewitz recognized that strategy involved offensive and defensive operations. The essential question was when to do what. Clausewitz observed that every offensive inherently lost force as it continued to pursue the attack. The point at which the attacker has only sufficient strength to conduct a successful defense, he labeled the culminating point.^{xv} Every commander must be aware of his culminating point and plan accordingly. In the offense decisive operations must occur before this point. For the defender, the time at which the attacker passes his culminating point may be the best moment to begin a counter offensive.

For the remainder of the century the military theorists generally fell into two camps, the followers of Jomini or Clausewitz. Jomini's work was the first to be published and translated into different languages. Initially, the Jominian influence was predominant. General Henry Halleck, American chief of staff in the Civil War, was greatly impressed by Jomini's The Art of War. In 1846 he wrote Military Art and Science which drew heavily from Jomini. Lines of operations, bases of operations, theaters of operation all found their way into American strategy. This influence was continued in works such as James Mercur, Elements of the Art of War, 1889, (a West Point text) and CPT John Bigelow, The Principles of Strategy, 1894 (a Leavenworth text).

Jomini's influence also extended to England. In 1856 Patrick MacDougall, first commandant of the British Staff College, wrote The Theory of War. This work derived from Jomini. The text, which replaced MacDougall's book at the Staff College, E.B. Hamley's, The Operation of War, also derived from Jomini.^{xvi} These books were influential in the United States because they were available in English. Hamley's book was also used as a text in the first class at the School of Application for Infantry and Cavalry at Ft. Leavenworth.^{xvii}

All these works adopted Jominian terminology and geometry. They also mentioned the importance of logistics. For Hamley, logistics "...is absolutely essential as a foundation to any solid superstructure of military theory."^{xviii} Just as importantly, the vision of war in these works was that of only two opposing armies maneuvering to a decisive battle.

Clausewitz's concepts became more popular with the rise of German military prestige. Moltke, chief of the Prussian general staff from 1857 to 1888, was greatly impressed with On War. All the same Moltke believed strategy to be "a system of expedients."^{xix} There was little use in planning beyond the first

encounter with the enemy. Moltke's victories in the wars of German unification seemed classic examples of nineteenth century strategy—base of operation, lines of operation, and concentration for the decisive battle.

Later theorists who drew upon Clausewitz for inspiration also adopted many of his key concepts. Baron Von der Goltz's The Conduct of War translated into English in 1896, was very influential. This book also served as a text in the General Staff School at Ft. Leavenworth.^{xx} Von der Goltz accepted that a campaign is a series of events which leads to the decisive battle. He identified the center of gravity as the main hostile army. This is the "*objective against which all our efforts must be directed.*"^{xxi} The author also emphasized the culminating point of offensive operations. "*It is the business of the commander to recognize the arrival of this culminating point at once, in order to utilize it.*"^{xxii}

The theorists of the nineteenth century who followed Jomini and Clausewitz added very little. The theorists addressed strategy and tactics. In the early part of the century national strategy was usually synonymous with the deployment of the main army. Once in contact with the enemy main army, tactics decided the outcome. Since there was only one main army, its defeat could be decisive. This, then, was how strategic aims were achieved.

As the century wore on, armies and their battlefields became larger. Several armies operating over a vast expanse, possibly in different theaters, meant that the defeat of any one of them might not be decisive. Strategic aims were necessary to coordinate their employment. Yet the armies operating in different theaters required their own objectives and plans which would contribute to the strategic aims. World War I demonstrated these deficiencies. If a single battle could not be decisive, successive operations needed to be planned. If a single battle could not be decisive, tactics alone could not achieve strategic aims. A new activity, linking tactics and strategy, needed to be formulated. This activity provided a framework for the design of campaigns within a theater of operations.

In addition to the old operational concepts which had served nineteenth century strategy, new considerations had to be added. Joint warfare by the end of the century included not only army and navy but air forces as well. Combined operations between allies within a theater of war took on new importance. New forms of industrial warfare, which involved mechanization, massive armies, and vast expanses, raised logistics to a new vital concern in operations. Logistics, joint, and combined warfare

were all measures of the need for increasing sophistication in planning.

The new operational art developed after World War I contained many of the concepts of nineteenth century strategy. These concepts needed not only a new framework to become useful in this art, they needed sophistication. As we look over our shoulders at the operational art which developed in Europe during this period, we often overlook the development of this art on our own shores. Revulsion at the cost and horror of the great struggle of 1914-1918 turned the public's mind away from war to a new hopeful era of peace. It is curious that in a period in which major conflict seemed impossible, indeed, was even internationally outlawed, American theoretical and doctrinal synthesis and innovation was very much alive. Those officers and institutions, which thought about the unthinkable, helped prepare the nation for the greatest war in history.

THE TWENTIES

The experience of World War I greatly influenced the officer education system established in the United States in the postwar period. The school system was reestablished in 1919 to address many of the specific problems, which emerged during the war. Foremost among these problems were handling large armies in the field and preparing the nation for war. The School of the Line and the General Staff School at Ft. Leavenworth prepared officers to staff and command large units. The Army War College reemerged in 1919 as the General Staff College in Washington, D.C. This institution was to prepare officers for duty with the General Staff of the Army. At the core of this program was the single problem of preparing the army for war. In 1919 this meant mobilization and war plans.^{xxiii}

At Ft. Leavenworth officers of appropriate rank attended the School of the Line. This course devoted one year to the study of brigade and division operations. Selected officers then went on to the General Staff School, also of one-year duration. In the second year, students focused on corps and armies. Beginning in 1922 the General Staff School added the study of army groups to its program of instruction.

The scope of these studies was impressive. In 1922 a course in strategy was included, but by far the bulk of program was devoted to the operations of large units. The course entitled "Tactical and Strategical Studies of Corps, Armies, and Army Groups" absorbed more than 25% of the curriculum. This included conferences on plans of campaign. A substantial portion, 24 out of 209 conferences, were devoted to the logistics of larger

units. These classes dealt with organization of supply and the communication zone in a theater of operation.^{xxiv}

The two-year program at Ft. Leavenworth was, however, short-lived. In July of 1922 a board recommended that the two schools be combined into a one-year course. The primary reason for this action was the need to provide more officers to the army at large. The schools were consolidated into the Command and General Staff School. The new program focused on brigade, division, and corps operations. The General Staff College was redesignated the Army War College and became responsible for instruction on echelons above corps. Not until 1928 was the two-year program reestablished at Ft. Leavenworth. From 1928 until 1935 the second year students concentrated on corps and army operations.

Most of the doctrinal thought related to operational art in the twenties occurred at Ft. Leavenworth. In 1920 COL William K. Naylor, the director of the newly established General Staff School, wrote The Principles of Strategy. His purpose was to provide his students with an American text to replace Von der Goltz's Conduct of War. The colonel was well read; the bibliography as well as the text indicates he was much influenced by Jomini, Von der Goltz, and Clausewitz.

Naylor included the usual discussion of Jominian lines of operations, bases, and geometry. More significantly, Clausewitz's concepts were directly injected into the mainstream of American officer education. Naylor accepted Von der Goltz's assertion that the main army was the source of the enemy's power, i.e. center of gravity.^{xxv} He devoted a whole chapter on the question of when to change from the offense to the defense. Central to this discussion was the concept of the culminating point, *"Although originally superior to the enemy and victorious in the past, troops may finally arrive, through an inevitable process of weakening, at a point which does not assure any future success, or, in other words, the point of culmination."*^{xxvi} With regard to campaign planning, Naylor insisted on linkage between the political aims and the campaign plan.^{xxvii} His concept of planning also suggested successive operations.

In military affairs there will be certain groups of actions, in the same theater of war, consisting of concentrations, marches, assumptions of positions, and combats that follow each other in logical order, each successive one inseparably growing out of the preceding one. This group then would be called an operation and the plan would be called the plan of operation.^{xxviii}

Several plans of operation then made up the plan of campaign. Despite this growing horizon of American thought, Naylor still talked about maneuvering to achieve the decisive battle. The method of instruction at the General Staff School provided both the doctrine and the means to exercise it. Every class was divided into two committees usually of 12 officers each. The committee selected a spokesman to render reports on the assigned subjects, which were then followed by general discussion. The texts provided the latest doctrine and required the students to demonstrate their knowledge of it through frequent map exercises.

The texts, which dealt with large unit operations, reflected much of Naylor's thinking on key concepts and campaign planning. The text on army groups written in 1921, set out the structure of operations. The zone of the interior, construed to be the continental United States, provided the resources to fight the war. The theater of operations where military action occurred, was divided into the communication zone and the combat zone. In map exercises students were required to present solutions to problems of the army group in offensive, defensive, and counter offensive operations. The solution for the army group in the defense used the term **center of gravity** to describe the heaviest concentration of force within the army group.^{xxix} Although not using the **phrase culminating point**, the concept was present in the discussion on when to begin the counteroffensive.^{xxx}

The 1922 text on the operations of corps and armies was even more explicit in expressing concepts of operational design. Going beyond Naylor, this text clearly established three levels of planning: project of operations, plan of campaign, and plan of operation. Projects of operations involved national strategy, which might include several campaigns. The plan of campaign:

...relates to the general conduct of forces in a single theater of operations and is the plan prepared by the commander thereof for the accomplishment of the mission assigned. It includes successive tactical operations.^{xxxi}

The plan of operation related to the tactical phase of a campaign and might involve several tactical operations.^{xxxii}

The text stated that the plan of campaign must determine:

- The objective
- The course of action
- What the hostile **decisive** element is
- Statement of decisive and secondary strokes
- Method and location of concentration

- Supply arrangements
- Lines of retreat^{xxxiii}

The objective of the campaign varied with the level of planning. At the national and strategic level the objective of operations might be an enemy locality or the enemy army.

The objective of tactical operations was always the enemy armed forces.^{xxxiv} In later manuals "*enemy locality*" was explained as the capital, vital industrial areas, or disputed territory.^{xxxv} With this exception, for the rest of the interwar period the enemy center of gravity, the key to his defeat, remained as described in 1922.

Finally, the map exercises included in this text required the students to integrate air and logistics into their plans. There was, however, no mention of combined or joint operations. There was great emphasis placed on concentration of forces. This concern with concentrating forces continued throughout the interwar period.

Concentrating combat power within the theater of operation was a major concern. The text insisted that the plan of concentration must be based on the plan of campaign. Further the bulk of the forces in the concentration must be secured from enemy interference and knowledge. The concentration should cover the base of supplies and the line of retreat. Students were required to plan concentrations and then defend their solutions.^{xxxvi}

This text entitled Tactical and Strategical Studies, Corps and Army, went through five editions. The 1925 edition refined some of the earlier concepts and reflected a greater influence of Clausewitzian ideas. The plan of campaign consisted of a "*detailed study of the theater, a plan of concentration, and a plan of operation.*"^{xxxvii} The plan of campaign sought to determine the time, location, and nature of the **first decisive battle**. The campaign plan:

... may also contemplate probable successive operation phases to continue the success of the primary operations, and consider steps to be taken contingent upon results being different from those expected.^{xxxviii}

This suggested not only phased operations, but branches and sequels to the plan as well. In the discussion of strategic maneuver, although the term did not appear, the importance of the culminating point clearly emerged.^{xxxix} This course continued to require the students to integrate air and logistics into their plans. Specifically, they were required to develop a plan for

the campaign, concentration, scheme of maneuver, and supply for an army.^{x1} In reviewing the solutions to the map exercises it becomes clear that the concept and role of the decisive battle in campaign planning was changing. The first decisive battle, as described in the 1925 edition of Tactical and Strategical Studies, is very similar to the current operational concept of major operations. Doctrinal thought on campaign planning and operational design made good progress at Ft. Leavenworth during the twenties. The Jominian concepts of lines of operation, bases of operation, and importance of logistics were confirmed in Naylor's Principles of Strategy. These concepts became a permanent part of higher level planning. Just as significantly, Naylor introduced Clausewitz into the officer education system. Clausewitzian concepts were reflected in the doctrine and increasingly exercised a greater influence on American military thinking. These concepts became the basis for the American response to the changing nature of warfare.

The primary concern of the Army War College was not **doctrine but preparing the army for war**. The early program of instruction reflected this central concern. At the beginning of the school year the students were formed into committees to study current international relations and the balance of power. The committees then decided on the most probable war scenario, which would involve the United States. The remaining courses of instruction took various committees through operations, personnel, supply, and training to both prepare and conduct the war.^{xli}

This program took the students through mobilization, war planning, and operations. The method of instruction was the same as at Leavenworth. The committees were assigned aspects of the problem or subject and presented their solutions and observations to the class as a whole. When the General Staff School at Ft. Leavenworth was combined with the School of the Line there was a readjustment of curriculum. The Army War College was directed to pick up the instruction on the strategy, tactics, and logistics of the field army.^{xlii}

The shift in responsibility for this instruction did not result in any great changes in doctrine. Throughout the interwar period the texts from the General Staff School were used to teach the doctrine of large unit operations. In 1924 a Command Course was set up to present the instruction on strategy, campaign planning, and operations of the field army. Command Course Document #29 which was used as a text consisted of six chapters reprinted from the 1924 edition of Tactical And Strategical Studies, Corps and Army.^{xliii} Also in the command course were many historical studies of campaigns. Again, the campaigns were

critically studied according to the Leavenworth doctrine. The Army War College did not write doctrine, it used it.

Additional changes in the curriculum of the War College occurred when the General Staff School at Leavenworth returned to the two-year program. In 1928 the War Department directed the War College to instruct officers not only in the operations of echelons above corps but also in the joint operations of the army and navy.^{xliv} In keeping with Clausewitz's analysis of war, the entire curriculum was divided into two major parts, preparation for war and conduct of war. This organization of the program lasted throughout interwar period.

The major contributions of the War College to campaign planning and operational design was in war planning and joint operations. During their studies the students developed and studied many plans. Formats for these plans were hammered out in the twenties. The integration of joint planning into operational design was continuous throughout the twenties.

By 1925 the college taught that there were four types of plans: the joint plan, army strategical plan, GHQ plan, and the theater of operation plan. The Joint Planning Committee of the Joint Board developed the joint plan. It stated the national objectives, summarized the situation, and prescribed missions to the army and navy. The General Staff developed the army strategic plan. It was essentially a directive from the secretary of war, which allocated forces and directed mobilization. The GHQ (General Headquarters) plan was developed by the War Plans Division (WPD) of the General Staff. In theory the WPD would form the staff of the general headquarters established in a theater of war. This plan organized the theaters of operation, allocated forces, and gave broad missions to subordinate commands. Finally, the theater commander developed the theater of operation plan.^{xlv}

The joint plan was the capstone plan, all others were supporting plans. The plans were linked in their support of objectives to the higher plan. The War College settled on the five-paragraph field order as the format for all the plans.^{xlvi} The college recognized the requirement for phasing these plans. In an orientation lecture to the class of 1925 COL C.M. Bundel, director of the War Plans Division, advised the students:

It is becoming apparent that the whole of the war effort is not a rigid, indivisible affair that must be handled as such. In fact, an analysis shows quite clearly that it is divided into several distinct steps or phases which, while inherently distinct, nevertheless are interdependent and in some cases overlapping. It is believed

that the differentiation of these phases is essential to clear understanding and correct solution of the many problems involved ... ^{xlvi}

The students developed plans involving many scenarios. Each enemy was color-coded, for example, Japan-orange, Mexico-green, Soviet Union-pink, etc. In their plans they generally took COL Bundel's advice and phased their operations.

In addition to developing a system and formats for plans, which linked national aims to military objectives in a theater of operations, the college developed joint operational planning. As early as 1920 the commandant of the War College suggested an exchange of students with the Naval War College. By 1927 the number of naval officers attending the War College increased to six with an additional three marines. The War College also added two naval officers to its faculty. Both as faculty and students these officers contributed to improvements in joint planning.

Joint war games between the Army and Naval War Colleges began in 1923. The exercise involved the defense of the Philippine Islands. The joint games were held again the next year. By 1925 the majority of the War College class was participating. Communications between Washington Barracks (AWC) and Newport, Rhode Island (NWC) were maintained by telegram. ^{xlvi}

Joint exercises were not confined to the map. In 1925 the Chief of Staff, MG John L. Hines, lectured the class on the recent Army-Navy exercises in Hawaii. He noted that 50,000 officers and men participated. He raised the issue of joint staffs instead of liaison officers. Finally, he noted that the only real problem was lack of coordination between army and navy air forces. ^{xlvi}

As the decade of the twenties came to a close, American officers recognized some of the features of the new face of war. The need for phased operations in a formalized system of planning which linked national aims to military objectives right down to the theater of operations, was a major step forward. This plus the integration of joint operations in planning was the contribution of the Army War College. These trends continued into the thirties.

THE THIRTIES

In 1935 the need for more officers again caused the General Staff School at Leavenworth to cancel the second year program. While it continued there was overlap between the Staff School and the War College.¹ The students of both schools planned campaigns and conducted numerous map exercises. The main difference was that the General Staff College continued to provide the doctrine.

In the discussion of problems for the second year course in 1934, the text mentioned specific factors that influenced planning in a theater of operations. These factors were military, geographical, political, and economic. Among the military considerations were relative strength, time and space, mobility, communication, and transportation. The geographic factors concerned the structure of the theater, railways, roads, and waterways.^{li}

This text was much more definitive than the doctrinal literature of the twenties regarding successive operations. Previous doctrine stated that the theater plan may consider probable successive operations. This text stated that the "*theater plan should contemplate probable successive operations contingent upon the results to be expected.*"^{lii} The discussion of the scope of the plan, lines, and bases of operation reflected the earlier texts. Interestingly, the references listed Clausewitz, On War, Book I /Chapter I "What is War", Book V/Chapter II "The Army, The Theater of Operation, The Campaign," and Book VIII /Chapter VI, IX "Political Aim on Military Object," "Plan of War."

By far the most remarkable document to come out of the Leavenworth in the thirties was Principles of Strategy for an Independent Corps or Army in a Theater of Operations. Written in 1936 this text was remarkable because of the obvious influence of Clausewitz, the clarity in expression of operational concepts, and the analysis of the impact of modern warfare on operations within a theater. The influence of Clausewitz was evident throughout the text. In a statement perhaps aimed at Jomini, the introduction asserted:

It is futile to analyze and theorize about strategy in terms of geometry alone. The physical and psychological influence are too intimately bound up in it to say that any one element is ever paramount in any situation.^{liii}

The text stressed the importance of history in the study of campaigns. The role of chance meant that "*the issue of battle is always uncertain.*"^{liv} To overcome this uncertainty the commander needed special qualities of character and determination. All these observations can be found in On War, where Clausewitz discussed them at great length.

Clausewitz's influence was even more evident in the text's discussion of mass and the strategy of annihilation. All other things being equal mass, numerical superiority, decided the issue. In fact, the fundamental law of strategy is, "*BE STRONGER AT THE DECISIVE POINT.*"^{lv} The text strongly embraced the battle

of annihilation and concluded that only the wide envelopment could achieve it.^{lvi}

The operational concepts present in earlier Leavenworth texts are presented more clearly and forcefully in 1936. The three types of military art were reaffirmed as the conduct of war, strategy, and tactics. The conduct of war related to not only the armed forces but also political and economic measures as well in achieving the national aims in war. Strategy was defined as "*the art of concentrating superior combat power in a theater of war*" which would defeat the enemy in battle."^{lvii} Combat power consisted of "*numbers, weapons, tactical skill, fighting ability, resolution, discipline, morale, and leadership.*"^{lviii} Finally, tactics was defined as "*the art of executing strategic movement prior to battle.*"^{lix}

This framework of military art allowed for other operational concepts included from earlier texts. In regards to successive or phased operations, it was noted that the commander "*must look further into the future and must see beyond the battle itself.*"^{lx} Indeed, modern conditions meant that, "*Final victory will be achieved only through a succession of operations or phases.*"^{lxi} The notion of culminating point was also discussed.^{lxii}

Principles of Strategy also included a new analysis of the changing nature of warfare and its impact on operations within a theater. In a section entitled **Future Wars** the text announced that modern war is a succession of phases. Extensive road and rail networks had expanded bases of operation and lines of communication into areas of communication. The text acknowledged the increasing importance of supply in modern armies.^{lxiii}

Perhaps of greater interest is the analysis of the impact of technology. The text claimed that modern weapons made frontal assaults less attractive. By the same token mechanization and aviation made wide envelopments more feasible. Since wide envelopments were the only strategic maneuver, which might result in a decisive battle (campaign) of annihilation, it was the preferred maneuver.^{lxiv}

The manual asserted that complete motorization would not be effected for some time. This implicitly recognized the mobility differential of various elements of the force. Mechanized units were to attack the flanks and rear of the enemy to prevent his withdrawal. Combat aviation and tanks would disrupt the lines of communication far in the rear and isolate enemy forces.^{lxv} Although frontal attacks were discouraged, if a penetration was to be conducted it was done:

By massing a preponderance of force while

economizing elsewhere, the commander plans to achieve an advance **deep** into the hostile formation. If this operation is successful, it is frequently decisive. It has for its object the separation of the enemy's forces into two parts and then the envelopment of the separated flanks in detail.^{lxvi}

This analysis certainly compares favorably with the most prominent theorists of the day. In fact, Guderian or Tukhachevsky could have written it. Curiously, in the same year many of Tukhachevsky's ideas were officially sanctioned when published as the Field Service Regulations of the Soviet Union, 1936. The main difference lay in the fact that Tukhachevsky saw mechanization providing the means of deep operations, which made it the preferred maneuver. While the Russians preferred penetration leading to envelopment; the Americans leaned toward the German solution of wide envelopment.

The 1936 Principles of Strategy went beyond this analysis to consider new approaches to strategy. A key assumption was, "*strategy is concerned with making an **indirect approach** accompanied by movements intended to mystify, mislead, and surprise the enemy.*"^{lxvii} The text went so far as to assert that if two armies confronted each other with their lines of communication secure, all their combat power present, and without being surprised, no strategy had been used at all.^{lxviii} This logically led to the emphasis on the enemy flanks and rear using wide envelopments.

The great British theorist, Liddell Hart, first proposed his thesis of the indirect approach in The Decisive Wars of History published in 1929. Liddell Hart's The Strategy Of the Indirect Approach was not published until 1941. Original or not, Principles of Strategy for an Independent Corps or Army in a Theater of Operations, 1936 was remarkable for its synthesis of modern thought combining Clausewitz, the indirect approach, and modern technology. It was a bold statement of operational doctrine. If one substitutes operational for the word strategy, this work was comparable, perhaps better, than any then existing on the nature of combat. How influential was Principles of Strategy? The Command and General Staff School hammered home the doctrine to such an extent the War Department took issue with the emphasis on wide envelopments. The objections of the War Department were hotly debated in the War College.^{lxix} Regardless of the debate, the text was quoted in lectures given at both the Navy and Army War Colleges by senior faculty.^{lxx}

As in the twenties, the War College used the doctrine from Leavenworth for instruction and war planning. As in the previous decade, its major contribution was integrating joint and to some

extent combined planning into operational design. Both war planning and technology pushed the War College in this direction. As the war clouds gathered after 1935, it was impossible to conceive realistic planning either in Europe or the Pacific without the navy. At the same time, technology allowed the air arm to mature and grow into a powerful force that could not be ignored. Both the navy and the air corps became partners in the design of operational campaigns.

At the outset of the decade in 1931, CAPT W.D. Puleston, a naval officer on the Army War College faculty, impressed upon the class the importance of joint operations. He declared that in our entire military history, "*scarcely an important campaign from Louisburg to the Argonne was not in the broad sense a joint operation.*"^{lxxi} As he looked into the future he saw that the air force would become a major factor in joint army-navy operations.

Students at the War College examined the impact of aviation on theater operations. In 1930 they envisioned an aviation duel for control of the air before ground contact was gained. They recognized that aviation deepened the combat zone and required the dispersal of supplies within the communication zone. Finally, they concluded that the air force must be kept under the control of the theater of operation commander.^{lxxii}

During the thirties the air corps organization reflected air doctrine. The air corps was organized into heavy Bombardment, light bombardment, and pursuit squadrons. The heavy bombardment units were the strategic arm of the air corps at the national level. Light bombardment units were the basic air support forces allotted to the army. Pursuit units were the fighters, used for both counterair and direct support of the ground forces. Air Corps General Headquarters (GHQ) fought the counterair and strategic bombing battles. Aviation units assigned to armies or army groups provided direct support.

By the end of the decade the army's concept for the employment of aviation within the theater was well developed. In 1939 MAJ J. Lawton Collins, an instructor at the War College, informed the class that, "*combat aviation is the (army) group commander's fire support element.*"^{lxxiii} Air forces with an army group were to be used to have a direct effect on the success of the army group. Combat aviation operated beyond artillery range but usually no more than 150 miles beyond the front lines.^{lxxiv}

The air corps had definite views on how it assisted the theater commander. The primary tasks of aviation units in support of ground forces were observation and isolation. The air corps wanted, "*Isolation of hostile troops in the combat zone from their sources of supply and disruption of critical enemy*

troop movements."^{lxxv} This was done by attacking the structure of the battlefield. The air corps targeted defiles in roads and railways, and supply concentrations. In map exercises exactly like those at Leavenworth and the War College, students at the Air Corps Tactical School practiced this doctrine.^{lxxvi}

One area in which theater planning at the War College remained weak was coalition warfare. It was not, however, completely ignored. During the war plans period of the preparation for war course the students were divided into committees. Each committee prepared plans for war with various countries and coalitions. Subcommittees were formed to deal with specific aspects of the plans or requirements. Presentation was then made to the class and faculty. From 1934 to at least 1936 one of the committees prepared detailed plans which involved the United States in a coalition against a common enemy.

Two of these coalition scenarios were of particular interest. In 1936 the coalition scenario pitted the U.S., Great Britain, France, Greece, and Turkey against Germany, Italy, Austria, and Hungary. The requirement called for the students to develop war aims, extent of U.S. participation, and the joint Army and Navy basic plan. No theater plans, however, were made.^{lxxvii} Of greater interest was the 1934 coalition scenario pitting the U.S., Great Britain, Soviet Union, and China against Japan.

The plans generated by this committee included much of the operational design developed in earlier years. In the scenario Japan was involved in major ground operations against the Russians in Manchuria and threatened U.S. and British possessions in the Pacific. The center of gravity of the campaign was determined to be the Japanese army and fleet. The Soviets were to remain on the defensive until the combined British and U.S. campaign provided an opportunity for a crushing allied counteroffensive.

The plan envisioned four phases which brought the allied (British and American) main effort up from the south. In the first phase British and Chinese land and air forces from Hong Kong operated against the Japanese forces in the Fukien province. In the second phase the allied fleet with a U.S. corps penetrated the Japanese Pacific defense line and conducted joint operations against the Shantung province. In the third phase the air forces isolated the Japanese in Korea by bombing their lines of communication. Joint operations then secured Korea and allied forces marched on toward Mukden. At this time the Soviets began their counteroffensive which resulted in a massive allied envelopment of enemy forces on the mainland. The final phase called for operations against the Japanese home islands to end

the war.^{lxxviii} (**Note:** CPT William F. Halsey, future Admiral of the Fleet, served on this committee).

The plan was impressive in its detail for joint and combined warfare. The plan, however, made no allowance for operational pauses or a culminating point. The committee was, however, interested in the requirements for coalition warfare. In fact, a section of the report dealt with the requirements of planning for coalition warfare. The report detailed a list of proposed allied agencies, their composition and function. The committee was, obviously, concerned with the problems, organization, and command of combined operations.^{lxxix}

The War College continued to make progress in the process and format of campaign plans. The basic format remained the five-paragraph field order. In 1926 the format for theater operations plans did not include phasing. By 1936 phasing was included in the theater of operations plan. By 1938 theater planning was decentralized. The GHQ plan was discarded; theater commanders, the men on the spot, made their own plans. There were now three basic plans: the joint plan, the Army strategic plan, and the theater of operations plan. It should be noted that the Army strategic plan consisted of two parts, the concentration plan and an operations plan. The latter plan established the strategic concept of the war, the objective to be obtained, the general plan of operation, and instructions for carrying out those operations.^{lxxx}

Planning in general became more sophisticated. Each of the plans, joint, strategic, and theater, required a logistics plan to go with them. In 1933 a group of students at the War College studied the contemporary war plans of Great Britain, France, and Germany and perceived several weaknesses. They criticized the plans because they did not look far enough into the future and lacked flexibility. Importantly, they also noted that the plan of supply was not a part of the strategic plan.^{lxxxii}

The world moved quickly toward war at the end of the thirties. The planners packed their bags, implemented their plans, and made new ones. As the interwar period came to a close American military thought had matured significantly. The officer education system had ingested Clausewitz, analyzed the impact of technology, and created a doctrine. Within the framework of the national military, strategic, and tactical art of war, they fashioned a planning system, which tied them all together. Furthermore, the plans were sophisticated in their appreciation of logistics and joint warfare. If there was a weakness in integrating combined operations into campaign planning, it was rectified quickly under the press of the war that was just around the corner.

AND SO...

Operational art did exist in the American army during the interwar period. Moreover, in comparison to military thinking in Europe at that time, it was certainly as sophisticated. Operational art was labeled strategy, but studied and analyzed nonetheless. World War II helped to define the distinction between national and military strategy. It was not, however, until 1982 that operational art as a term found its way into the American military lexicon.

American operational art was developed in the officer education system. The Command and General Staff School at Ft. Leavenworth provided a doctrine increasingly influenced by the operational concepts of Clausewitz. This doctrine accepted phased operations and the importance of logistics. By 1936 this doctrine embraced the strategy of the indirect approach and correctly identified the impact of technology on modern warfare. The Army War College exercised joint planning and established a formal system of plans, which linked strategic aims all the way down to tactical objectives. From doctrine to planning the American Army recognized. The new face of warfare. The successful conduct of joint and combined campaigns in World War II is testament to the American operational art developed during the interwar years. We emerged from that war with a greater understanding of the practical art of campaigning.

Unfortunately, military thought in the post war world was dominated by the atomic bomb. Large unit operations no longer seemed possible in the face of atomic deterrence or destruction. Operational art faded in the light of the "new look" army of the fifties. Only the bitter experience of Vietnam helped to launch a doctrinal renaissance, which led in 1982 to the rediscovery of operational art. Now firmly embedded in American joint and service doctrine, modern American operational art is, however, rooted in an earlier renaissance, which occurred in the interwar years.

ⁱ Baron de Jomini, *The Art of War*, trans. By CPT G.H.Mendell and LT W.P. Craighill, (Philadelphia, PA, J.B. Lippincott, 1862), p.62.

ⁱⁱ See James Schneider, "The Theory of the Empty Battlefield." *RUSI*, September, 1987).

ⁱⁱⁱ LTG Baron Von Freytag-Loringhoven, *Generalship in the World War*, Vol.I, originally published 1920, republished in the Art of War Colloquium Series, (Carlisle Barracks, PA: U.S. Army War College, 1984), p.15

^{iv} *Ibid.*

^v Dr. Jacob Kipp, *Mass, Mobility, and the Red Army's Road to Operational Art, 1918-1936*, (Ft. Leavenworth, KS: Command and General Staff College, 1987), p. 17.

-
- ^{vi} COL David Glantz, "Deep Attack: The Soviet Conduct of Operational Maneuver," Foundations of Military Theory, (Ft. Leavenworth, KS: Command and General Staff College, 1987), 8.
- ^{vii} For Tuchachevsky's views on successive and deep operations see New Problems in Warfare, Art of War Colloquium, (Carlisle Barracks, PA: U.S. Army War College, 1983.) pp.4-6, 16,17, 42-44.
- ^{viii} Glantz, "The Nature of Soviet Operational Art," Parameters, (Spring, 1985), p. 63.
- ^{ix} Carl von Clausewitz, On War, trans. By Michael Howard and Peter Paret, (Princeton, NJ: University of Princeton Press, 1976), p.177.
- ^xAn Englishman Henry Lloyd first wrote of the importance of the line of operations in 1781. Heinrich V. Bulow wrote about the necessity of a base of operations in 1799. Freitag-Loringhoven, Generalship, pp. 12, 15.
- ^{xi}Jomini, The Art of War, p.230.
- ^{xii} Ibid. , p. 63.
- ^{xiii} Clausewitz, On War, pp. 595, 619.
- ^{xiv} Ibid., p. 596.
- ^{xv} Ibid., p. 528.
- ^{xvi} Hew Strachan, European Armies and the Conduct of War, London: George Allen & Unwin, 1983), p. 67.
- ^{xvii} A Military History of the U.S. Army Command and General Staff College 1881-1963. Combined Arms Research Library, Ft. Leavenworth, KS, p. 3.
- ^{xviii} E.B. Hamley, The Operations of War, (London: William Blackwood & Sons, 1866), p. 37.
- ^{xix} Strachan, Conduct of War, p. 98.
- ^{xx} COL William Naylor, The Principles of Strategy, (Ft. Leavenworth, KS: The General Service Schools Press, 1920), p. iii.
- ^{xxi} Baron von der Goltz, The Conduct of War, A Brief Study of Its Most Important Principles and Forms, trans. By Joseph T. Dickman, (Kansas City, MO: Franklin Hudson Co., 1896), p.20.
- ^{xxii} Ibid., p. 42.
- ^{xxiii} Harry P. Ball, Of Responsible Command, A History of the U.S. Army War College, (Carlisle Barracks, PA: Alumni Association of the U.S. Army War College, 1983), p. 155.
- ^{xxiv} Schedule for 1922-1923, (Ft. Leavenworth, KS: Combined Arms Research Library Archives),
- ^{xxv} Naylor, Principles of Strategy, p. 49.
- ^{xxvi} Ibid., p. 106.
- ^{xxvii} Ibid., pp. 158-160.
- ^{xxviii} Ibid., p. 18.
- ^{xxix} Tactical and Strategical Studies, Group of Armies, (Ft. Leavenworth, KS: General Service Schools Press, 1922), p. 13.
- ^{xxx} Ibid., p. 34.
- ^{xxxi} Tactical and Strategical Studies, Corps, and Armies, (Ft. Leavenworth, KS: General Service School Press, 1922), p. 13
- ^{xxxii} Ibid.
- ^{xxxiii} Ibid., p. 15.
- ^{xxxiv} Ibid., p. 14.
- ^{xxxv} The Principles of Strategy for An Independent Corps or Army in a Theater of Operations, (Ft. Leavenworth, KS: The Command and General Staff College, 1936), pp. 14, 24.
- ^{xxxvi} Tactical and Strategical Studies, Corps and Army, (Ft. Leavenworth, KS: General Service School Press, 1925). Pp. 18, 19.
- ^{xxxvii} Ibid., p. 452.
- ^{xxxviii} Ibid., p. 1.
- ^{xxxix} "...When the attack is pushed so far that the attacking forces are incapable of further effective effort, while the enemy is still in condition

to strike back, the attacker runs grave risks of disaster in case the enemy passes to the offensive or strognly counterattacks." Ibid., p. 196.

^{x1} Ibid., p. 10.

^{xli} Ball, Responsible Command, p. 156.

^{xlii} Ibid., p. 185.

^{xliiii} AWC Course 1924-25, "Command," 2 March 1925, AWC file 293A-29.

^{xliv} Ball, Responsible Command., p. 211.

^{xlv} AWC Course 1925-26, Report of WPD Committee #8, "Joint Plans, Army Plans, GHQ Plans." 26 Sept 1925, AWC file 310-11.

^{xlvi} AWC Course 1926-27, Report of Committee #11, "War Plans Division," 18 Sept 1926, AWC file 336-11.

^{xlvii} AWC Course 1925-26, COL C.M. Bundel, "Orientation & Outline of War Plan Course," 2 Sept 1925, AWC file WPD DOCs Nos. 1-29, Vol. X.

^{xlviii} Ball, Responsible Command, p. 202.

^{xlix} AWC Course 1924-25, MG John L. Hines, "Grand Joint Army and Navy Exercise No. 3," Lecture to AWC, 26 June 1925, AWC file 294-7.

¹ In 1933 COL Merritt from the war Department IG office criticized both schools for duplication of effort. Ball, Responsible Command, p. 244.

^{li} The Command and General Staff School Second Year Class command Course Discussion of Problems, 1934-35, (Ft. Leavenworth, KS: command and General Staff School Press, 1934), p. 3.

^{lii} Ibid.

^{liii} Principles for Independent Corps or Army, p. 8.

^{liv} Ibid., p. 22.

^{lv} Ibid., p. 37.

^{lvi} Ibid., p. 70.

^{lvii} Ibid., p. 7.

^{lviii} Ibid., p. 10. Note this is still a very modern notion about what constitutes combat power. See Huba Wass De Czege, "Underatanding and Developing Combat Power," SAMS monograph, 10 Feb 1984.

^{lix} Ibid., p. 7.

^{lx} Ibid., p.28,

^{lxi} Ibid., p. 16.

^{lxii} Ibid., p. 62.

^{lxiii} Ibid., pp. 17, 18.

^{lxiv} Ibid., pp. 16, 70.

^{lxv} Ibid., pp. 46, 47.

^{lxvi} Ibid., p. 42.

^{lxvii} Ibid., p. 7.

^{lxviii} Ibid., pp.7, 8.

^{lxix} This was brought out in a question and answer period from a lecture given by MAJ J. Lawton Collins, "The Army and Large Units in Offensive Combat," AWC file CMND #8 1939. "Lightening Joe" of WWII fame was already contemplating fast movement matched with large unit maneuver.

^{lxx} The AWC Presentation to NWC, COL C.H. Wright, "Strategic Employment of Military Forces," 21 Oct 1937, AWC file 195-38-2K. AWC Course 1938-39. COL Ned B. Rehkopf, Assistant Commandant AWC, "Strategy, a lecture, 11 Apr 1939, AWC file WP #19, 1939.

^{lxxi} AWC Course 1930-31, CAPT W.D. Puleston, "The Probable Future Trend of Joint Operations," lecture, Conduct of War CSE #16, AWC file 376-A-16.

^{lxxii} AWC Course 1930-31, Report of Committee #5, Employment and Organization of Army Aviation and Anti-Aircraft Defense" 27 Sept 1930, AWC file 373-5.

^{lxxiii} Collins, "Army and Large Units.", p. 3.

^{lxxiv} Memo from MAJ J.H. Wilson to Director WPD, SUBJ: GHQ AF Units Attached to Group of Armies," dtd 2 May 1936, AWC file 7-1936-50.

^{lxxv} Air Force Manual, The Employment of Combat Aviation, (Maxwell Field, AL: Air Corps Tactical School, 1 Apr 1939). P. 32,WC file 97-124D.

^{lxxvi} See 1936-1937 Air Force Problems, (Maxwell Field, AL: Air Corps Tactical School), AWC file 97-124C.

^{lxxvii} AWC Course 1935-36, Report of War Plans Group #4, "Participation with Allies," 15 Apr 1936, AWC file 5-1936-21.

^{lxxviii} AWC Course 1933-34, War Plans Group #4, "Participation with Allies, Blue, Pink, Red, Yellow VS. Orange, Carnation," 21 Apr 1934, AWC file 405-24.

^{lxxix} Ibid., p. 17.

^{lxxx} AWC Course 1937-38, BG Walter Kreuger, A C/S WPD, "The War Plans Division, War Department General Staff," lecture, 1 Mar 1938, AWC file WP #5, 1938.

^{lxxxi} AWC Course 1933-34, Report of Committee #1, Joint Plans and Army Strategical Plans," 22 Sept 1933, AWC file 403-1.