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Simultaneous Operations: The Airborne Force Has a Major Role, But is it Capable?

A Monograph
by

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ABSTRACT

SIMULTANEOUS OPERATIONS: THE AIRBORNE FORCE HAS A MAJOR ROLE, BUT IS IT CAPABLE? by MAJ Thomas W. Kula, USA, 60 pages.

This monograph analyzes whether the US airborne force is capable of contributing to simultaneous operations on the next battlefield. Specifically, is the airborne force doctrine and organization adequate for employment as an operational maneuver force on the next battlefield? The next battlefield, for the purpose of this monograph, is one which will require simultaneous operations by joint US forces and their allies to achieve quick decisive victory with minimal casualties in a mid to high-intensity combat environment.

The 82d Airborne Division, today's US conventional airborne force, has been used a number of times in strategic and tactical roles since World War II. However, not since World War II has the US used an airborne force as an operational maneuver force in a mid to high-intensity combat environment. An airborne force whose capability is limited to a strategic role, even as critical as this role is, does not fulfill the concept of versatility. Most importantly, simultaneous operations confirm a need for operational airborne assaults.

This monograph first reviews the Soviet concept of simultaneous operations or simultaneity to determine the theoretical role of airborne forces in simultaneous operations. The US has used the concept of deep operations since World War II but only recently identified "simultaneity" as fundamental to warfighting. The Soviets, however, long considered the concept of simultaneity as a classic principle of war and their airborne forces have played an important role in simultaneous operations. From this analysis of the Soviet concept of simultaneity, the criteria for airborne force employment in simultaneous operations are identified: surprise, mobility, firepower, protection and link up. Next, a review of the US concept of simultaneous operations, instilled in the 1993 version of FM 100-5, is provided along with an examination of the doctrine and organization of the current airborne force. Then the adequacy of US airborne force doctrine and organization is determined based on the criteria for airborne force requirements in simultaneous operations on the next battlefield. In the conclusion, suggestions are provided to improve the doctrine for airborne operations and modernize, specifically motorize, the airborne force so it is capable of fully contributing to simultaneous operations on the next battlefield.

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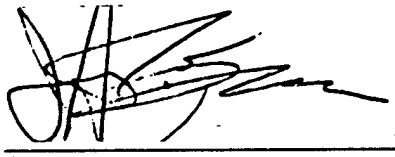

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I. Introduction

> They want war too methodical, too measured; I would make it brisk, bold, impetuous, perhaps sometimes even audacious. Jomini[1]

The concept of operational employment of airborne forces by the US Army in a theater of operations has remained in a deep slumber since World War II. Focused primarily on the Soviet threat until recently, the US Army has devoted its doctrine and force development to defeating this mobile mechanized threat on a high intensity battlefield in Europe. All the while, the airborne force organization and doctrine has changed little since World War II. In light of recent changes in the global environment, military strategy, and doctrine for warfighting on the next battlefield, it is time to revive the concept of operational employment of airborne forces and prepare airborne forces adequately to contribute on the next battlefield.

The dramatic changes in the threats and risks to US security caused by the end of the Cold War prompted changes in military strategy and force structure. Within the Army, this caused a reassessment of doctrine and restructuring of the Army. Today's smaller US Army must be able to deploy rapidly, to fight and sustain itself and win decisively and quickly with minimal casualties. To do this, the new doctrine emphasizes force projection, versatility, and simultaneous operations.

Force projection is the military's ability to respond quickly and decisively to global requirements, and is key to accomplishing the strategic principle of power projection. The 82d Airborne Division, today's conventional US airborne force, is the Army's premier force projection force with the capability to deploy world wide on short notice and conduct forced entry operations. The strategic role the 82d performs as a deterrent or vanguard is its most important role. In order to fulfill this role as a crisis response force, the Army has kept the division strategically mobile. The 82d Airborne Division's

tactical shortcomings of mobility and firepower have been accepted as a necessary price to pay to retain a strategic crisis response.

The 82d Airborne Division has been used a number of times in its strategic capacity since World War II. The 82d and other airborne forces have also been employed as tactical forces in a few cases in the last fifty years. However, not since World War II has an airborne force been used as an operational maneuver force in a mid to high-intensity combat environment.[2]

The Army has implied through its newest tenet, versatility, that units in a downsized force must meet more diverse mission requirements and perform at the tactical, operational, and strategic levels of war.[3] An airborne force whose capability is limited to a strategic role, even as critical as this role is, does not fulfill the concept of versatility. The Army must again realize the potential of operational employment of airborne forces on the modern battlefield and ensure it is capable of contributing to a quick decisive victory. A smaller US Army can not limit its vision of the employment of airborne forces to the strategic or tactical levels of war.

If the current US doctrine is on the mark, there will be a need for operational employment of airborne forces on the next battlefield. Airborne forces can play a significant role in simultaneous operations. General Sullivan, Chief of Staff of the Army, explains how simultaneity is fundamental to quick decisive victory on the next battlefield. He says success will be determined by the ability to strike simultaneously throughout the entire depth and width of the battlefield; to use all assets to overwhelm and destroy an enemy and with minimal casualties.[4] Airborne forces are one of the Army's assets for use at operational depths in simultaneous operations. The importance of the 82d Airborne Division to the Army in a strategic context has existed for years and will not fade. However, versatility and more so, simultaneous operations have put new emphasis on the

concept of operational employment of the airborne force.

The purpose of this monograph is to determine if US airborne forces are capable of contributing to simultaneous operations on the next battlefield. Specifically, is the airborne force doctrine and organization adequate for employment as an operational maneuver force on the next battlefield?

The 82d Airborne Division will continue to play a key role in fulfilling the National Military Strategy in the future with its strategic mobility and status as America's premier conventional initial entry force. Since its origin in World War II, the 82d Airborne Division has demonstrated its responsiveness and flexibility many times on drop zones and battlefields all over the world. After suffering a number of airborne disasters in Sicily and North Africa in late 1942 and 1943, the 82d won fame for its airborne assaults into Normandy and Nijmegen, and performance in the Ardennes in late 1944 and early 1945. In 1958, the division was designated as the back-up airborne division to the newly formed Strategic Army Corps, XVIII Airborne Corps. The 82d Airborne Division has retained the mission of providing a flexible, mobile strike capability deployable worldwide since 1958.[5] In the last eleven years, America has sent the 82d Airborne Division into harms way as a deterrent or combat force four times to protect vital US interests around the world. Their ability to rapidly deploy and conduct decisive, short notice forced entry operations as a deterrent or combat force has and will remain vital to US interests and worldwide commitments. However, the division's worth in an operational context must be examined.

The primary focus of this paper is on the operational level of war and the use of airborne forces in an operational maneuver role in a theater of operations. (Refer to Appendix A for "Definitions of Operational Terms".) The airborne division, or elements of it, are capable of achieving an operational objective or decisively

influencing major operations; history has shown this. Field Manual (FM) 100-5, Operations (1993) supports this, stating that the intended purpose of the mission, not the level of command, determines whether a unit functions at the operational level. Simply, if the airborne mission is vital for the success of the operation, then it is operational in nature. In Appendix B, "Components of Operational Design", the key concepts of operational design and examples of operational level airborne assaults for each component are provided.

Before addressing the research methodology, the "next battlefield" must be defined. Using General Sullivan's description of the next battlefield, it is one which will require simultaneous operations by joint US forces and their allies to achieve quick decisive victory with minimal casualties. The next battlefield will feature a threat that has been ill-defined since the end of the Cold War. However, the most likely are the regional threats or Third World armies, which have sophisticated weaponry. Due to worldwide proliferation of military hardware, Third World armies now or soon will have: sophisticated surveillance; reconnaissance and target acquisition assets; armored and mechanized forces; modernized air defense systems; precision guided munitions; and weapons of mass destruction.[6] Therefore, the next battlefield, for the purpose of this paper, is one which will require simultaneous operations in a mid to high-intensity combat environment.

The body of this monograph is organized into four sections. First, the concept of simultaneous operations or simultaneity is analyzed to determine the theoretical role of airborne forces in simultaneous operations. The concept of simultaneity is not new to warfighting. The US has used the concept of deep operations since World War II but only recently identified "simultaneity" as fundamental to warfighting. The Soviets[7], however, long considered the concept of simultaneity as a classic principle of war. The Soviet

military considered the concept of simultaneity as fundamental to offensive operations since the 1920s and their concept will offer the framework for analysis of simultaneous operations. The Soviet airborne forces played an important role as operational "desant" forces in their deep operation theory since the 1930s.[8] From this analysis of the Soviet concept of simultaneity, the criteria for airborne force employment in simultaneous operations are identified: surprise, mobility, firepower, protection and link up. Section II contains this review of the Soviet concept of simultaneous operations and the role of their airborne forces at the operational level of war.

Second, a review of the US concept of simultaneous operations, instilled in the 1993 version of FM 100-5, is provided in Section III. Additionally, US theory and doctrine of the role of airborne forces in simultaneous operations is examined. The airborne division organization is also reviewed in this section.

Section IV is an analysis of the adequacy of US airborne force doctrine and organization. In this section, it is determined whether the current airborne division doctrine and organization meet the criteria for airborne force requirements in simultaneous operations on the next battlefield. Finally, Section V provides conclusions on the capability of the airborne force to conduct operational maneuver on the next battlefield.

II. The Soviet Concept of Simultaneous Operations and the Role of Soviet Airborne Forces

> This principle of simultaneity is fundamental to Russian operational thinking. It goes back at least as far as the 18th century writer General Ukuniev (quoted by Jomini).[9]

The Soviets long considered the indirect approach, known as the turning movement, as fundamental to offensive operations. This turning movement, in the 18th century as well as today, is achieved

through the use of the principle of simultaneity. Simultaneity in General Ukuniev's day meant the interaction between the holding force and turning force in the turning movement.[10]

More than a century later, the Soviet theorists in the 1920s still considered the idea of simultaneity key to their thoughts on military theory. At that time, the concept was defined as "simultaneous neutralization of the enemy's entire tactical depth."[11]

Mikhail Tuchachevsky, one of the leading Soviet theorists of the 1920s and 1930s, used the concept of simultaneity as a basis for his tactical and operational thinking. Tukhachevsky's means of achieving simultaneity began with the broad front concept and evolved to the concept of deep battle and deep operations. Tukhachevsky's broad front concept was formed after the Russian Civil War when his thoughts were still focused on the infantry battlefield. With limited mobility and weapon ranges, he felt he could best attain simultaneity by establishing the greatest possible contact area between two forces. The broad front concept entailed pinning down the enemy over the entire front, breaching the defense at a weak point, and moving a "shock army" through the breach to conduct a turning movement.[12]

However, Soviet theorists in the 1920s also took a technology based approach to theory and doctrine and anticipated improvements in artillery range and tank mobility. This naturally led to "thinking deeper", because simultaneity could be achieved out to greater depths.[13] The concept of deep battle, which would later evolve into deep operations, began to take form.

Throughout this period of the 1920s and 1930s, the leading Soviet military theorists prepared doctrine which emphasized the offense and use of highly mobile forces to prevent the deadlock suffered in World War I. A generation of Soviet military leaders and thinkers had formed new ideas of warfare based on experiences during the Russian Civil War. The Russian Civil War, where maneuver was facilitated by

small forces waging war over vast areas, renewed the focus on maneuver warfare. The Soviets envisioned the use of highly mobile forces in the offensive which could maneuver to destroy the enemy's forces as the means of avoiding another World War I-type war of attrition. The new theory "sought to combine the offensive potential of new weapons with the ideological zeal and faith in the offensive which was born of...civil war experience."[14]

Tukhachevsky and his peer Viktor Triandifilov provided some of the earliest writings on "battle in depth". In 1926, Triandifilov described "battle in depth" as attacking an enemy's forces throughout their entire depth as well as along their entire front. Simultaneously, Tukhachevsky wrote an article combining Triandifilov's and Mikhail Frunze's doctrines, stressing that modern operations involve simultaneous strikes against the enemy throughout an extremely deep area.[15]

It was Tukhachevsky's generation which first formulated the concept of deep battle, of attacking the enemy throughout the depth of his formation, as a means of achieving simultaneity. Later, the Soviet theorists developed the concept of deep operations as they anticipated the capability to attack to operational depths. This focus on the operational level of war was also a Soviet breakthrough in evolving military theory. Beginning in the 1920s, Soviet theorists contemplated maneuver success in tactical as well as operational depths. They had determined that strategic success required more than just an accumulation of tactical successes. Operational success was necessary for strategic success; hence they defined the parameters for the operational level of war. A. A. Svechin, among others, is noted for his work on creating operational art as a new category of military theory. Svechin articulated the interconnection between the strategic, operational and tactical levels of war: "tactics make the steps from which operational leaps are assembled; strategy points out

the path."[16]

However, the concept of deep battle and deep operations remained an abstract objective that could only be realized when technology and industry provided the modern equipment necessary for its execution. The Soviets set about building the military force in the 1930s to conduct mobile war which emphasized extensive maneuver by mechanized forces at the tactical and operational level. Creation of an airborne force was part of their force development.[17]

Tanks and aircraft were viewed as the dominant tools to wage deep battle. While the Soviet theorists saw the tank as primary instrument to conduct deep battle, the aircraft offered not only aerial firepower but the prospects for vertical envelopment. Vertical envelopment was seen as supplementing offensive maneuver of mechanized forces to guarantee success in deep battle. The emerging doctrinal fixation on deep battle sparked experimentation with airborne forces which began in earnest in the late twenties.[18]

Tukhachevsky played the leading role in developing the use of airborne forces to support deep battle. As commander of the Leningrad Military District from 1928-1931, Tukhachevsky was in an ideal situation to experiment with the role of airborne forces in deep battle. During his tenure as commander, he conducted numerous trial exercises with airborne forces and prepared concept papers on use of airborne forces. He also developed a structure for an air-motorized division, which included the airborne troops, to be used as an operational-strategic landing force.[19]

From the beginning, Tukhachevsky saw the need not just for airborne forces but for mechanized airborne forces. As Richard Simpkin states,

> He evidently saw from the start the basic weakness of a force whose mobility plummets from that of the transport aircraft to that of the boot--three orders of magnitude nowadays--as its men jump to touch down. This lack of tactical mobility at once telegraphs paratroops' objective and makes them unable to organise themselves before a vehicle-based enemy can respond.[20]

Therefore, Tukhachevsky not only grasped the concept of projecting airborne forces far into the enemy operational depth, but that the forces had to be motorized (he later changed the word to mechanized) and able to cope with mechanized forces they encountered.[21] This initiative to mechanize the airborne force began with Tukhachevsky and has continued to present day.

Experimentation continued and the first major test of an airborne operation occurred during a military exercise near Voronezh on 2 August 1930. Airdrop techniques were tested rather than tactics, however, the twelve man airborne detachment had the mission to perform a diversionary mission in the enemy rear. The exercise was repeated at the same location in September 1930 and an eleven man airborne detachment successfully seized documents from an enemy division headquarters. The success of these experiments led to additional airborne exercises in 1931. "From 1933 on, virtually all Soviet field exercises included airborne operations."[22]

From these early tests, an experimental aviation motorized landing detachment was formed in Tukhachevsky's military district in March 1931. This 164 man detachment at first tested concepts for airlanding but did not test airdropping. In June 1931, a 46 man volunteer parachute detachment was added to the landing detachment to test the airdrop dimension of airborne operations. In 1932 this unit was expanded to include a parachute battalion, and a landing group consisting of an armored company, a motorized company and an artillery battery and was redesignated the 3rd Motorized Airborne Landing Detachment. Experimentation with airborne forces continued "hand in glove" with development of doctrine.[23]

In February 1932, the Red Army began to recognize that the 1929 concept of deep battle was possible and published a regulation on deep battle. The regulation emphasized that success in deep battle rested on the mechanized forces, however, the utility of airborne was also highlighted. The regulation provided details on the types of missions airborne forces would execute: conduct diversionary missions, support ground offensive operations, block enemy withdrawal or reinforcements, and support defensive operations.[24]

Soviet theorists began to devote more energy to the development of the theory of deep operations. They saw that deep operations required cooperation between aviation, airborne, mechanized and motorized units which would operate independently of the main force. These mobile forces would penetrate to the enemy's operational depths, up to 50 to 60 kilometers deep to reach the line of the enemy's operational reserves, tactical airfields and army headquarters.[25]

Tukhachevsky and E.I. Tatarchenko, the chief of airborne forces of the Red Army air force staff, published articles in 1932 which fueled the movement for forming larger and more numerous airborne units. Tukhachevsky explained the operational role of airborne forces as conducting operations between deployed enemy corps, army, and front reserves, disrupting the action of the forces throughout the operational depth of the defense. Tatarchenko's article seconded the views of Tukhachevsky and argued for creation of separate airborne forces.[26]

However, Soviet equipment capabilities continued to lag behind doctrine. While the military realized the usefulness of airborne troops in assaults of tactical and operational depth, they still did not have the means for delivering such an assault force. A larger more versatile fleet of aircraft was essential for larger, deeper operations. In exercises the Soviets relied on the TB-3 which was a bomber converted to transport by removing turret guns and adapting

bomb racks to transport equipment. The TB-3 carried an insufficient amount of troops and equipment and had a poor operational readiness rate. This constraint in airlift did not accomplish the aim of dropping all of the first airborne wave at one time to limit exposure to enemy ground-fire and prevent a loss of surprise. By 1933 the USSR had initiated the development of their own aviation-industrial complex. The beginning of development in new equipment coupled with the improvements in doctrine provided the impetus to form larger airborne units.[27]

The Leningrad Military District's 3rd Motorized Airborne Landing Detachment became the 3rd Airborne Brigade (Special Purpose) in 1933. The brigade had a battalion-size parachute detachment, a battalion-size motorized-mechanized detachment, an artillery battalion, and an air group. Airborne detachments were also formed in the other military districts and by 1934, the Soviet airborne force totalled 10,000 men.[28] The Soviets included motorized and mechanized forces in these early airborne units, even though they still did not have adequate transport to move such a force.

Work continued on the theory for airborne force employment and airborne exercises became more elaborate. A 1933 regulation described that operational airborne assaults were conducted by a regiment or brigade against objectives in the operational depth of the defense. More extensive exercises in 1934-37 included the use of airborne forces and verified both the utility and doctrinal concepts of airborne forces and tested deep operations theory.[29]

The 1936 Soviet Field Regulation established both deep battle and deep operations as tenets of Soviet military art. Deep battle focused on the attack of an army against the enemy's tactical defense. Deep operations focused on operational attacks of fronts and armies at the operational depth of enemy defenses. The 1936 regulation defined the concept of deep operations as the simultaneous assault by aviation and

artillery to the depth of the defense, penetration of the tactical zone by tanks, and violent development of tactical success into operational success with the aim of complete encirclement and destruction of the enemy. The regulation also outlined the role airborne forces performed to disorganize the enemy in his rear area. Airborne forces could also have a decisive influence on the destruction of the enemy along the main axis. The concept emphasized simultaneity through use of mobile forces in deep operations, relying primarily on mechanized and tank forces. Airborne forces played a considerable supporting role and were assigned limited, yet possibly decisive, tactical and operational missions.[30] (See Figure 1, page 45.)

As the overall Soviet force structure continued to expand, the airborne structure also grew. By 1936, the Soviet Army had fielded three airborne brigades and by 1939, the Soviets had six fully trained airborne brigades (3,000 men each).[31]

The military purges of the late 1930s wiped out Tukhachevsky and other leading theorists of deep battle and the generation of military leaders who developed the concept of mechanized and airborne warfare. As David Glantz explained in The Soviet Airborne Experience, the impact of the military purges on the Soviet airborne forces is unknown. Airborne units continued to expand in size and number and 1940 and 1941 Field Regulations retained the concepts from the 1936 regulation. However, it is reasonable to assume that the execution of these key founders of deep battle and airborne warfare "crippled further improvement of doctrine and imaginative work in perfecting airborne tactics."[32]

Specific missions assigned to airborne forces in 1940 and 1941 regulations basically echoed previous thoughts on airborne missions. Airborne forces were expected to: disrupt army command and control and supply functions; destroy communication routes; interrupt enemy

troops, arms, and supply movements; capture and destroy airfields and bases; seize coastal areas in support of naval landings; reinforce troops in encirclement and of mobile units operating in the enemy rear; and fight against enemy airborne landings in one's own rear area.[33]

The German 1939 campaign in Poland and the 1940 campaign in France showed Soviet military theory to have been on the right track.[34] German World War II success in the west was due to the high tempo operational offensive conducted by tanks, aviation, and artillery in cooperation with motorized forces and airborne forces. Tactical penetration was converted into an operational-strategic one by introduction of mobile forces into the penetration and by operations of airborne forces.[35]

As war with Germany became imminent, the Soviets rushed to prepare their forces. The airborne force was expanded. Yet, in spite of the increased number of airborne forces and adequate doctrine for employment, severe equipment shortages, mainly motorized and mechanized vehicles, radios, and transport aircraft would hinder expected employment of the force. As Glantz also suggested, the purges had eliminated the leadership who had the potential vision and ability to make deep operations possible. Glantz cited incompetent leadership, inadequate weaponry, and lack of equipment as the primary reasons for initial Soviet failures in World War II.[36]

The Soviets only used their airborne forces in an operational role twice during World War II. They did, however, conduct numerous tactical level operations. Initially, airborne forces were used as "fire brigades" or leg infantry to stop the deepest German penetrations.[37] However, in January 1942, the Soviet High Command attempted to destroy an overextended and exhausted German Army Group Center outside Moscow and saw deep operations with the use of airborne forces as the means of destroying the enemy.

The Soviets committed the majority of their rifle forces in an offensive against the Germans and gathered its scarce mobile forces in an attempt to convert tactical successes into operational success. The Soviet mobile groups consisted of ski battalions, cavalry divisions and corps, a few tank brigades, and its airborne forces. Initially, battalion-size airborne forces were used in tactical and diversionary missions on main army attack axes. In February 1942, the 4th Airborne Corps was dropped into the German Army Group Center's rear area near Vyaz'ma to assist in the encirclement and destruction of the German army group. The airborne forces failed to achieve operational success for they had limited mobility and staying power and ultimately had to fight encircled for four months before breaking free of the German rear and rejoining Soviet main forces. Glantz attributed the operational failure to: lack of the element of surprise; poor intelligence on enemy dispositions; poor planning; inadequate quantities of transport aircraft; faulty coordination of air, ground, and airborne units; inaccurate drop techniques which scattered the airborne forces; deficient weaponry (artillery and heavy weapons); and poor weather.[38]

The Soviets conducted their second and last operational level airborne operation of World War II in September 1943 on the Dnepr River line. The Soviets were conducting a broad front pursuit of German forces who were withdrawing toward the Dnepr River. The river was a significant obstacle and the Soviets planned to establish bridgeheads across the river before the Germans could establish a defense. An airborne corps was formed and assigned to the Voronezh Front commander for use in the airborne operation. The airborne corps' mission "was to cooperate with the front to secure a bridgehead on the right bank of the Dnepr River near Velikyi Bukrin and to widen and fortify the expanded bridgehead."[39]

Glantz described the Dnepr operation as "a classic case of how not

to conduct an airborne operation."[40] The men of the parachute units were victims of higher command planning failures. Glantz said the operation failed for many of the same reasons that the 1942 operations near Vyaz'ma had failed. Overall, more than 4,500 parachutists were dropped into the Dnepr River line region and more than 60 percent did not survive the airborne assault and month-long ground operations. The airborne force incurred the majority of their casualties during the airdrop into an area infested with German defensive positions. Glantz said the airborne assault was a disaster, not only from Soviet paratroopers jumping right into the teeth of the German defense but also from the scattered landing over a thirty-by-ninety kilometer area instead of the planned ten-by-fourteen kilometer area.[41]

Because of the very limited success of these operational level airborne operations, the Soviets abandoned the ideas of using large airborne forces later in the war. However, the Soviets studied the reasons for failure of their airborne operations in the war in an attempt to create a sounder theory and doctrine in the future. The Soviets continued to build a formidable airborne force and refined their doctrine based on World War II experiences. Airborne forces retained a role in operational maneuver, however it was a more modest role due to the overall complexity of airborne operations and the vulnerability of the force once on the ground.[42]

However, in the 1960s, a "revolution in military affairs" and improved Soviet technology reemphasized airborne warfare. The Soviets regarded airborne forces as essential to high-speed armored and mechanized forces exploiting the effects of nuclear fires deep into enemy defenses. Technological advances increased the firepower, mobility and survivability of airborne forces. Advancements in air transport; helicopters for transport, resupply, and fire support; airborne combat vehicles; light assault guns; light air defense weapons; and communications equipment made the Soviet airborne forces

a very flexible organization geared to meet the demands of the modern battlefield.[43]

In terms of theory and doctrine, the Soviets retained the principle of simultaneity from the deep battle and deep operation theories of the 1920s and 1930s. In the FM 100-2-1, The Soviet Army: Operations and Tactics (1984), "simultaneity of actions" was listed as one of the "classic Russian military principles". The intent of simultaneity was to confront the enemy with more than one situation to deal with; keep the enemy reacting to situations that you controlled. Further, the Soviets included simultaneity as one of their modern operational and tactical principles. Simultaneity supported the Soviet reliance on the offense to achieve a decisive victory. Destruction of the enemy was achieved by a resolute offense conducted at a high tempo and to great depth. The Soviets retained the definition of simultaneity from Tukhachevsky's day.[44]

The Soviets began to fulfill Tukhachevsky's vision of a mechanized airborne force by motorizing its airborne forces as soon as jeep-type vehicles became available. Later, in the sixties they developed the BMD multipurpose airborne armored vehicle. In the seventies they equipped first one-third, then one-half of their airborne battalions with the BMD; and in the eighties they fielded fully mechanized airborne divisions.[45] As Simpkin says, "It took the Soviet Army almost 35 years to bring this concept to fruition with the introduction of the BMD multipurpose airportable armoured vehicle."[46]

The introduction of the (rotary-wing) air assault brigade in the late 1970s provided a new layer to deep battle and deep operations. The Soviets long considered the airborne force as an operational formation and since its creation, considered the air assault force also capable of achieving tactical-operational objectives.[47] Both air assault brigades and airborne regiments supported front operations. They operated in close coordination with other front forces to support

front missions, like penetration, exploitation, and destruction of enemy group units. Air assault battalions initially supported tactical penetrations. The front air assault brigade supported the lead elements of the main attack army in their operational penetration at depths up to 100 kilometers and further supported exploitation into the enemy operational rear. Once the Soviets penetrated enemy army group defenses, regimental (or more) airborne assaults were used at depths up to 300 kilometers to seize major terrain features, such as river crossings, or to disrupt enemy attempts to regroup or establish new defenses. These deep airborne drops were only used if required by the front offensive and if link up with advancing ground elements could occur within two to three days of the drop. The BMD equipped airborne forces would fight as motorized infantry in the enemy rear. The Soviets also would use small airborne teams to conduct diversionary missions to disrupt enemy army group operations.[48]

In the 1980s, the Soviets considered "Attack in Depth" as one of the seven prerequisites for victory in a strategic offensive operation against NATO's Central Region. The Soviets used technology of the 1980s (all weather strike aviation and SSMs, special forces, air assault brigades, mechanized airborne regiments, and highly mobile ground forces) to execute theory from the 1930s. The goal of operations in the enemy's depth was to erode his defense from within, where he was most vulnerable. The deep operations helped reduce the problems of the main forces and would ensure their rapid advance. Their rapid advance would help the groups operating in depth; the defender would be denied the time he needed to react effectively to the threat in his rear areas.[49]

The table below reflects the Soviet planned use of forces and resources in the 1980s to achieve simultaneity. The Soviets delineated the battlefield into various depths and designated the force required to exploit the vertical dimension at those depths.

This allowed the Soviets to apply combat power on a well-balanced and continuous spectrum over the entire depth of the battlefield.[50]

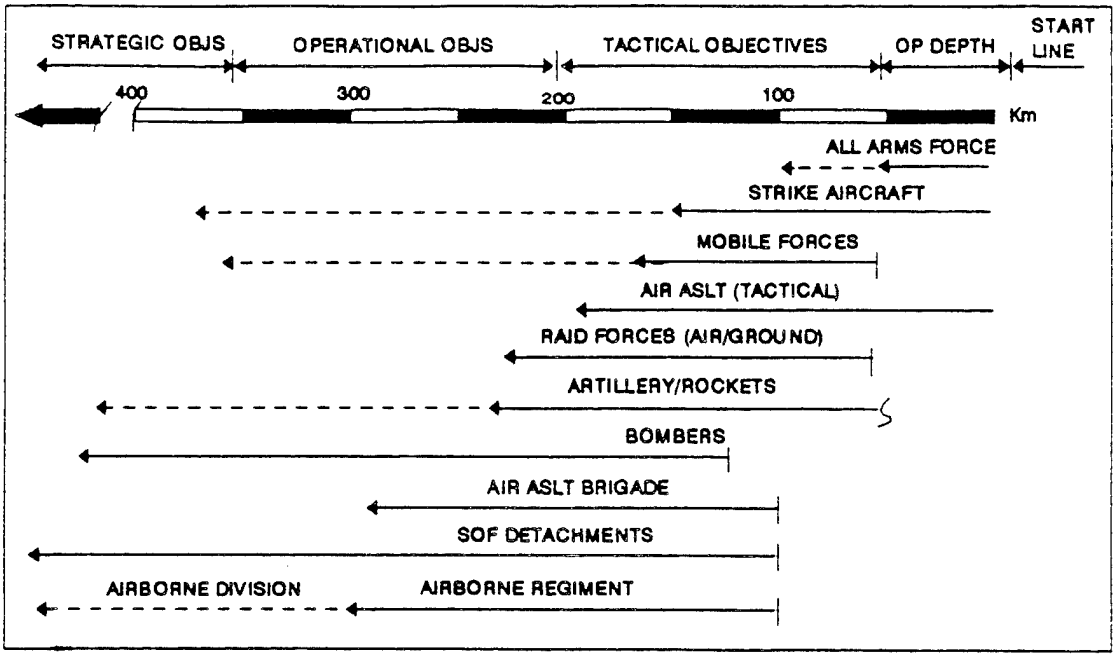

Table 1. Soviet Use of Forces and Resources to Achieve Simultaneity.[51]

In agreement with Richard Simpkin, this overlap of capabilities covering the entire depth of the battlefield validated the principle of simultaneity. As Simpkin explained, all units would not strike their objectives at H hour, but rather two events were considered simultaneous if they occurred within the response time or the "decision loop" of the enemy at the level affected. Some of the most important actions depended on success of other activities, for example a tactical air assault force. Others required a suitable air or electronic warfare situation before execution.[52]

The concept of simultaneity in the eyes of the Soviets and other theorists such as Richard Simpkin has been proven as a valid fundamental of war. Tukhachevsky only had the capability to extend the concept of simultaneity to tactical depths. Modern commanders,

with special forces, mechanized airborne forces and operational helicopter formations are very capable of achieving operational success.

From analysis of Tukhachevsky's and his generation's writings on the airborne role in deep operations and the evolution of this concept to present day doctrinal use of airborne forces in deep operations, some key criteria for operational level airborne operations are identified. They are: surprise, mobility, firepower, protection, and link up with a conventional force. The Soviets long emphasized the requirement for surprise, along with deception and use of darkness as necessary for the success of airborne operations.[53] Mobility was considered essential for airborne forces back in Tukhachevsky's day so that once on the ground, airborne forces could fight on equal terms with enemy motorized or mechanized forces. Fighting on equal terms also implied the need for firepower. The mobility and firepower provided by mechanized and motorized vehicles also protected their force against the most likely threats. Last, the operational use of an airborne force necessitated link up with an advancing ground force. The time-distance between link up was critical so that the enemy felt pressure from front and rear simultaneously, and ultimately the airborne force was relieved from the all-around pressure before its combat power culminated.

Richard Simpkin also describes the Soviet view of operational planning which applied the concept of simultaneity. "To apply the principle of simultaneity, one must take a bird's-eye view of the entire depth of the operational area, or if needs be the entire theatre."[54] Intelligence and an appreciation for the terrain are a must. By taking this bird's eye view, the planner sees the entire depth of the battlefield. The planner must not only take the bird's eye view but also plan from the rear of it (the operational objective) inwards rather than from the front outwards.[55] Figure 2, on page 46

illustrates this Soviet planning sequence, where the plan is formed from the final operational objective back to initial dispositions.

While the Soviet development of airborne forces was influenced by their historical experiences, by the 1980s they had created airborne forces capable of fully contributing to simultaneous operations on the modern and future battlefield. The Soviets determined that the effect achieved from a mobile and lethal airborne force in the enemy's rear was worth the expenditure of resources required to execute the airborne operation. The Soviet concept for operational use of airborne forces can contribute to the US Army's current and future efforts to use all available assets to achieve simultaneity.

III. The US Concept of Simultaneous Operations and Doctrine for Use of US Airborne Forces

> Soviet authorities from Tukhachevsky onwards accept this principle [simultaneity] as fundamental, while Western masters of manoeuvre still tend to pooh-pooh it. Richard E. Simpkin, 1985[56]

> The enemy is best defeated by fighting him close and deep simultaneously. FM 100-5, 1993[57]

Since Simpkin's quote in 1985 in reference to Western reluctance to accept simultaneity as a fundamental of warfare, the US military has embraced the concept of simultaneity. The 1993 FM 100-5, Operations manual has recognized "simultaneous operations throughout the depth of the battlefield" as a means of achieving quick, decisive victory. Prior to the 1993 manual, the concept of simultaneity did not exist in American doctrine.[58] However, America's recent combat experiences in Panama and the Gulf War along with advancements in technology are reflected in the 1993 doctrine. A doctrine which is forward looking accommodates technological opportunities which afford soldiers a battlefield advantage.[59] Simultaneity has proven its worth in recent experiences, it is a technological reality, and is a concept the US has recognized it must exploit on the next battlefield.

The Army's FM 100-5 (1993) manual is regarded as "doctrine for the full dimensions of the battlefield in a force-projection environment."[60] The doctrine has evolved as warfighting has evolved in some key areas in the last two decades. One area of evolution is from a set-piece sequential battle to simultaneous operations throughout the depth of the battlefield.[61]

While the US concept of simultaneous attack was not formally delineated until 1993, this new doctrine was employed in Operations Just Cause and Desert Storm. General Franks, TRADOC Commander, supports this in a recent Military Review article.

> The doctrine establishes the concept of depth and simultaneous attack--the idea of presenting the enemy with a series of simultaneous attacks throughout the depth of the battle space as an integral requirement for decisive victory. This simultaneous application of combat power ... frames a new preferred method that results in seamless strategic, operational and tactical levels of war. We saw this doctrinal approach in JUST CAUSE and DESERT STORM.[62]

General Sullivan described Just Cause as the first battle of the 21st century: "In that short, violent operation, we can see the future--overwhelming complementary combat power synchronized with decisive effect."[63] During Operation Just Cause, Joint Task Force (JTF) South capitalized on the capabilities of its joint forces to attack 27 different objectives at virtually the same time. Just Cause has been described as a coup de main: an operation that gained strategic, operational and tactical objectives in a single operation.[64] Lieutenant General Carl W. Stiner, commander of JTF South for the operation, best described the concept of the operation: "[we] go in at night with overwhelming combat power on multiple, simultaneous objectives to force the PDF to surrender quickly."[65]

In Desert Storm, simultaneity was reflected by the coalition forces simultaneously striking the Iraqi forces in their front, flanks and rear, disintegrating the Iraqi defense.[66] The operations of XVIII

Airborne Corps best exemplify this use of simultaneous attacks. The current commander of XVIII Airborne Corps, LTG Hugh Shelton, explained that the versatile mix of armored and air assault forces

> enabled the corps to achieve and maintain a rapid operational tempo, striking deep into Iraqi defenses and overwhelming the enemy's ability to respond in a coherent manner. The corps seized and held the initiative in DESERT STORM by simultaneously striking enemy positions ranging from front lines to the distant rear and multiple points in between. Exploiting the vertical dimension, the corps placed maneuver forces behind the enemy. The 101st Air Assault used its forward-operating bases to stage even deeper attack helicopter missions, severing Iraqi resupply and withdrawal routes.[67]

Operation Just Cause provides a good model for simultaneous operations, although a limited one in the sense of the low-intensity threat environment. In Operation Desert Storm, the overall ground campaign exhibited more of a broad front concept to achieve simultaneity, or Tukhachevsky's earliest concept before mobile ground forces and airborne force made deep maneuver operations possible. However, the activities by the armored and air assault forces of XVIII Airborne Corps came closest to the simultaneous operations envisioned by the Soviets in the 1980s. The XVIII Airborne Corps effectively used its air assault forces in a tactical-operational role to seize decisive points to maintain the momentum of advancing ground forces and to facilitate future deep attack helicopter missions.

The US doctrine does not categorize simultaneity as a principle of war as the Soviets did, but defines the concept in the discussion of depth, one of the tenets of Army operations. Depth in FM 100-5 is defined as the extension of operations in time, space, resources, and purpose. The manual describes the link between depth and simultaneity. When commanders think in depth, they can forecast and anticipate operations. They can sustain momentum and take advantage of all available resources to press the fight, attacking enemy forces and capabilities simultaneously throughout the battlefield. Attacks

in depth at the operational level requires commanders to employ joint assets with Army forces to extend their ability to attack the enemy simultaneously throughout the battlefield. Multiple modes of attack on different targets in a reasonable sequence are used to achieve a common objective. The intent of attacking the enemy simultaneously throughout the depth of the battlefield is to force the enemy to fight on your terms.[68]

The US concept of simultaneity and deep operations considers the integrated application of firepower and maneuver as paramount to success. Field Manual 100-5 describes maneuver as the movement of combat forces to gain positional advantage. It is positioning forces at decisive points to achieve surprise, psychological shock, physical momentum, massed effects, and moral dominance. Maneuver also implies the direct or indirect application of lethal power. Therefore, maneuver is rarely effective without firepower and protection. Firepower provides destructive force which is essential in defeating the enemy's ability and will to fight. "Protection conserves the fighting potential of a force so that commanders can apply it at the decisive time and place."[69]

Simultaneous attacks achieve battle tempo or operational tempo, which directly affects the ability to win quickly with minimum casualties. Tempo "is the ability to focus and apply combat power at a rate the enemy cannot handle and in a way that preserves the coherence of friendly forces."[70] This capability to simultaneously attack multiple decisive points or the center of gravity at the different levels of war concentrates effect in a short time span, causing staggering shock at every echelon of the enemy warfighting system.[71]

Not surprisingly, the US concept of simultaneity is similar to the Soviet concept. The Soviets determined that maneuver was the decisive way of achieving the effects of simultaneity and operational success. The Soviets planned to use air assault and airborne forces to ensure

rapid advance of their mobile ground forces. The US, however, advocates the integrated application of firepower and maneuver. The US also focuses more on using joint assets and fires for deep operations than it does the use of maneuver forces in conjunction with supporting assets.

While the concept of simultaneous operations is now firmly planted in US doctrine, and our Army executed the doctrine fully in Just Cause and partially in Desert Storm, much work lies ahead to inculcate simultaneity and deep maneuver warfare in the minds and hearts of the planners and executors of Army operations. Joint and Army doctrine both emphasize simultaneous operations, however, the approach to operational planning remains a sequential approach. The campaign planning begins with positioning forces in a base of operations. From their base of operations forces move along lines of operation to decisive points where they can get to the enemy center of gravity. In other words, the operational planning starts from the outside and then works its way in toward the enemy's center of gravity. The focus is on the center of gravity, but the method for getting at it is a phased approach. This was not the case in Just Cause, but was certainly the case in Desert Storm. It remains to be seen how effectively future planners will integrate simultaneous and sequential operations.

The US operational level commander has numerous resources available to execute simultaneous operations: air and naval operations, fires, space assets, Special Operations Forces (SOF), and maneuver. The operational level commander integrates and synchronizes interdiction by air and naval forces to complement maneuver. Fires provided by air, naval and army assets also complement maneuver. Attack aviation and Army Tactical Missile Systems (ATACMS) are fires readily available to the operational-level ground commander. Operational intelligence is crucial to successful simultaneous operations and the commander has systems which can provide near real

time information, such as the Joint Surveillance and Target Attack Radar System (JSTARS) and Unmanned Aerial Vehicles (UAVs). Space assets also provide intelligence in the form of imagery, but may provide their greatest contribution in the form of satellite communications. Special Operations Forces have the capability to perform reconnaissance and diversionary missions in the enemy rear. The commander may also have a versatile mix of maneuver forces to execute simultaneous operations. Airborne and air assault forces, attack aviation units, and high-speed armor forces can thrust deep to seize operational objectives. The essence of simultaneity is in placing more demands on the enemy than he can handle.

The operational level commander has a substantial arsenal of tools with which to execute simultaneous operations and air assault and airborne forces may be some of his resources. The XVIII Airborne Corps effectively used air assault forces in Desert Storm to tactical-operational depths. However, the airborne assault capability available to both XVIII Corps and the theater in Desert Storm was not used. The current doctrine mentions that airborne forces play a role in simultaneous operations, yet the importance of this role is not identified nor was it exercised in the mid to high-intensity threat environment of Desert Storm.

The US doctrine for airborne operations is contained in FM 90-26, Airborne Operations (1990). This manual does not reflect the concept of simultaneity. The manual defines the mission of airborne forces: to execute parachute assaults to destroy the enemy and to seize and hold important objectives until linkup is accomplished. Airborne forces can be employed at the strategic, operational, or tactical levels of war.[72] Specifically, airborne forces can be used anywhere in the theater of war for operational missions. They attack deep to achieve operational level objectives, such as airfields, bridges, or other key terrain deep in the enemy's rear area. These missions are

linked to the operational commander's concept and support his accomplishment of assigned tasks. These airborne operations are usually short and require a linkup with other friendly forces or extraction of the airborne force. Operation Market Garden in the fall of 1944 is a good example of an operational mission to seize decisive points to facilitate operational maneuver.[73]

The doctrine illustrates the inherent jointness of airborne operations. The airborne force depends on US Air Force (USAF) aircraft for air superiority, air movement, fire support and resupply. The USAF is a key player in neutralization and joint suppression of enemy air defenses (JSEAD).[74] The USAF helps isolate the airborne objective by attacking ground forces which can react against the airborne forces. USAF can neutralize or destroy enemy radar, communication facilities, and reserves near the objective.

As already stated, intelligence is crucial to operational level airborne assaults. The operational level command supports the airborne force by finding out four things about the enemy. First, the operational level command must look for the enemy air defense array to determine the gaps and exploit these gaps with JSEAD. Enemy air defense capability will affect the feasibility of any airborne operation. Second, enemy artillery that can range the proposed drop zone must be identified and targeted. This is the enemy's most responsive means of engaging a surprise airborne landing in his rear area. Third, command and control nodes which can direct counterattacks against the airborne landing must be identified and neutralized. Finally, enemy mobile reserves which can react to the deep operation are identified and targeted for interdiction.[75]

The airborne force uses three basic methods for attacking a strategic, operational, or tactical objective:

1. Jumping or landing on top of the objective is used for attacking a small objective that is fortified against ground attack.

2. Jumping or landing near the objective is best for capture of a lightly defended objective that must be seized intact such as a bridge.

3. Jumping or landing at a distance from the objective is the technique least often used. This method is used when airborne forces must seize large objectives by conducting a deliberate attack. The drop zone is selected to provide security and preserve the airborne force. In all three methods, surprise is critical.[76]

The exact configuration of the airborne force for an operational level airborne assault in the theater of operations depends on the mission, enemy situation, terrain in the objective area, friendly troops and joint support available, and time available, or "METT-T". The 82d Airborne Division's Readiness Standing Operating Procedures (RSOP) outlines eight generic force packages and twenty-two incremental force packages for strategic through tactical planning purposes.[77] In a mid to high-intensity threat environment, the initial brigade task force would probably be similar to an Airfield Seizure Package (Medium). This package consists of: tailored division, brigade, and artillery battalion assault Command Posts (Cps); two tailored battalion task forces; anti-armor company(-) with 4 TOWs; armor platoon of 4 M551 Sheridan tanks; field artillery battery; air defense battery(-); two engineer platoons; military police platoon; signal package; CEWI detachment; and logistic/medical support. Aviation assets would also be included in this package, such as UH60 Blackhawks and AH58D Kiowa Warriors, and they would self-deploy if within range of the airhead or would airland. Corps would also augment the division with aviation assets to support the brigade task force. Additionally, combat service support for 72 hour operations is in the airland echelon.

Most importantly, the METT-T consideration which has the greatest impact on airborne operations is the airlift available. For strategic

deployment of the Division Ready Brigade (DRB), sufficient airlift is made available. However, during major ground operations within the theater of operations, supporting an operational airborne operation of even a brigade-sized task force requires significant effort by the theater command. It will require the decision by the theater commander to assemble adequate airlift and may require him to apportion some of his strategic airlift to execute the airborne operation.[78] The command must also consider follow-on support to the airborne task force, such as incremental packages, if required, and daily resupply.

The 82d Airborne Division has numerous assets to augment a brigade task force conducting an airborne assault. Additionally, the XVIII Airborne Corps and the operational level command have resources to improve the intelligence, firepower, and protection of the airborne task force. A properly synchronized plan at the operational level will also ensure link up with airborne force by advancing ground forces within the required 72 hours. However, the one criteria the higher levels are severely limited in improving the airborne task force is mobility.

The 82d Airborne Division must rely on an organization that has changed little in terms of mobility since the World War II operational level airborne assaults into Normandy and Nijmegen. Today's airborne battalion, which is the building block for brigade-sized task forces, has no organic vehicles in its three rifle companies and its scout platoon is also foot mobile. Whatever the configuration of the airborne assault force package, whether it include M551 Sheridan tanks, anti-armor companies with vehicle mounted TOWs, or aviation brigade assets, the infantry rifle companies and reconnaissance platoons have the mobility of the boot once on the ground.[79]

The airborne brigade can augment the airborne infantry battalions with M35 2 1/2 ton trucks for mobility but these must be airlanded.

These vehicles only offer rapid movement and provide little in the way of firepower or protection. Additionally, division can provide UH60 Blackhawk assault helicopters but they must either self-deploy to the airhead or must airland on transport aircraft. Unlike the Soviets who had transformed their foot mobile airborne forces of World War II into mechanized airborne forces of the 1980s, the US airborne forces do not have secondary mobility. Near term force modernization of the 82d Airborne Division does not provide any additional mobility for the airborne battalions. This lack of secondary mobility severely limits the operational employment of airborne forces on the next battlefield.

IV. Adequacy of US Doctrine and Organization

> The whole idea of dropping onto or very near the objective, assembling, and seizing the objective before the enemy could make any substantial response stemmed from the fact that, once down, paratroops had the mobility of the boot. Incapable of maneuver and short of heavy equipment, they were at the mercy of even the lightest mechanized security force until they had completed their mission and dug in or evaded. By contrast, the last thing mechanized airborne troops want to do is to drop onto or near their objective, forfeiting tactical surprise and exposing themselves to battle when at their weakest. Ideally they should go in at a point an hour or more from two or three possible objectives, before the development of friendly ground force or rotary-wing action discloses which is the most probable one. Richard E. Simpkin[80]

Much can be learned from the Soviet concept of simultaneity and the use of its airborne forces. Richard Simpkin highlights above the mobility disparity between the Soviet airborne forces of the 1980s and the US airborne forces of today. While the capstone doctrine in FM 100-5 captures the essence of simultaneous operations, the doctrine for and the organization of US airborne forces severely limits the use of airborne operations to contribute to simultaneous operations.

Since Tukhachevsky's day, the Soviets recognized the importance of the airborne mission to simultaneous operations and operational success. Soviet planners of the late 1980s still concluded that

airborne force employment was essential for conduct of modern offensive operations, with or without the use of nuclear weapons.[81] The Soviets devoted more than 60 years to the development of their airborne forces and maintained many of the theories developed in the 1920s and 1930s. They "built on their pre-World War II theories, early exercises, numerous experiments and over 50 airborne operations during World War II."[82] Their extensive analysis and experiments resulted in force structure changes, equipment developments and improved operational concepts. As a result of their continued effort to correct mistakes from the past and better their equipment, the Soviets markedly improved the mobility, firepower, and protection of their airborne forces. The Soviet airborne forces of the 1980s were considered second to none.[83]

The US, however, has not made the effort the Soviets have in development and modernization of airborne forces. The US has failed to modernize its airborne forces despite the need for a future strategic forced entry capability against the increased power and sophistication of Third World armies.[84] Because the US has failed to modernize its airborne force, it currently has an airborne organization and doctrine that is fifty years old. A comparison of the 1980s Soviet to a 1990s US airborne doctrine and organization highlights this disparity.

The analysis of Soviet operational airborne missions revealed that the missions had significantly changed since World War II. Airborne units had limited missions in World War II: to capture objectives and hold them until advancing forces could link up. The depth of these objectives did not exceed 100 kilometers from the advancing ground forces; the duration of the combat was short. Tactical mobility was extremely limited, hence the airborne force performed mainly defensive operations once on the ground. The airborne forces also had insufficient weapons to deal with enemy tanks. To overcome these

shortcomings and to contribute to offensive maneuver and operational success, the Soviets designed and produced the airlift aircraft and airborne equipment required to realize their concepts.[85]

In line with the capabilities of Soviet airborne forces and their role in operational maneuver and simultaneous operations, 1980s Soviet operational level missions were both offensive and defensive in nature. They could assault to a depth of several hundred kilometers (100 - 300) in support of army or front missions. They were capable of destroying operational-tactical nuclear weapons, important command posts and installations in the enemy rear; interdicting the operational reserves; assisting the advance of ground troops; capturing airfields; capturing islands, straits, ports, naval bases and beaches to support combat operations; and assisting in encircling and destroying large enemy groupings. The ability of the Soviet airborne to accomplish these missions was demonstrated on numerous large-scale exercises in the 1970s and 80s.[86]

The US operational level airborne missions, outlined in FM 90-26, are essentially the same missions assigned to US and Soviet airborne forces in World War II. The missions are seizing and holding vital objectives behind enemy lines until link up with advancing ground forces. This need for a link up with ground forces within three days suggests a fairly shallow depth for the assault, probably less than 150 kilometers.[87] In the Soviet Army of the 1980s, this was a mission for their air assault brigade. Their airborne regiments were used for deeper operations in accordance with their layer approach to simultaneous attacks throughout the depth of the battlefield. Likewise, in the US Army, this is a tactical-operational mission best suited for and within the capability of US air assault forces. While the Soviets had clear, attainable operational missions for their airborne forces, the US has limited, defensive and tactically oriented missions for a low to mid-intensity threat environment.[88]

The US doctrine for methods of conducting airborne assaults to attack operational objectives rates jumping on top of the objective as most preferred, followed by near the objective. Jumping at a distance from the objective is least preferred. This is the case because the US airborne division does not have the tactical mobility to maneuver rapidly once on the ground. Essentially, the US wants to avoid the legendary "Bridge Too Far" suffered by the British 1st Airborne Division in their failed attempt to seize the Arnhem bridges during Operation Market Garden, September 1944. The 1st Airborne Division was dropped six miles from the Arnhem bridges because the Royal Air Force over-rated the German air defense around the drop zones closer to the bridges. The 1st Airborne Division failed to seize the bridges due to stiff German resistance and counterattacks by mobile armored forces. The 1st Airborne Division did not have sufficient vehicles on the ground in the first crucial hours of the operation to rapidly move to and seize the bridges while they still maintained the element of surprise. The 1st Airborne Division was destroyed before the main ground force, the British XXX Corps, could link up.[89]

This US airborne requirement to drop on or near the objective is exactly what Simpkin argues against. A brigade task force from the 82d Airborne Division normally must conduct a parachute assault to seize an airfield in the enemy rear area for subsequent airlanding of support forces. This reliance on an airfield allows the enemy to focus his air defense threat against the most likely locations for assaults in his rear. Simulations of an airdrop to seize an airfield consistently predicted losses of two to three aircraft to shoulder fired surface-to-air missiles (SAMs), even after extensive suppression of enemy air defense (SEAD) eliminated all fixed Air Defense Artillery (ADA) sites. However, no aircraft were lost in simulations of an airdrop outside the ADA threat. In this simulation, a 100% mobile airborne battalion was airdropped away from its objective (up to 30

kilometers) and had mobility on the ground to maneuver rapidly to seize its objective.[90] While an airborne drop on top of an enemy objective is still possible in some situations, this method appears more unlikely with modern threat air defense weapons.

The greatest disparity in current US and 1980s Soviet airborne forces is tactical mobility of the force once its on the ground. The 82d Airborne Division is still primarily foot mobile. In the Soviet mechanized airborne forces, nobody walked.[91] The development of the BMD allowed forces to land some distance from their objective and maneuver to attack several targets with some degree of security and surprise. The BMD provided not only mobility but also firepower.[92] Mobility and mechanized vehicles provide a significant level of protection over dismounted troops against both mechanized enemy counterattacks and artillery strikes.

An analysis of US airborne capabilities against the criteria for operational employment of airborne forces in simultaneous operations reveals no startling conclusions. The US doctrine emphasizes surprise and the airborne division, corps, and supporting joint assets have substantial firepower capabilities to support an airborne operation. Protection is insufficient if the airborne force is targeted by enemy artillery or opposed by mechanized counterattack forces. Link up with the airborne force by a ground force is a fundamental concept of US airborne operations today as it was in World War II, however the operational depth is limited as it was in World War II. Due to lack of tactical mobility, the airborne force must drop on or near its objective which may make the airborne operation infeasible with modern enemy ADA capabilities. If the drop is feasible, the airborne force is constrained to defensive missions primarily, and it loses all potential for further surprise and security once on the ground.

The Soviets showed vision and unity of effort to develop their airborne forces as an essential part of their deep operations

capability. Most importantly, because of their central Eurasian geostrategic position, the Soviets were already strategically located and were able to focus on development of an airborne force and airlift to achieve operational depths. The Soviets did not bear the burden of providing an airborne force that first and foremost must be strategically deployable. The US has felt this tension between strategic and tactical mobility since World War II and correctly has opted for strategic mobility. In light of the next battlefield, can the US still afford not to modernize the doctrine and capability of its airborne forces?

V. Conclusions

> There is only one means of preventing decay--never to stop growing, never to become slaves to the present or the past, never to hesitate attempting something new for fear of making a mistake.[93] J.F.C. Fuller

Today's US airborne force has limited utility as an operational maneuver force in simultaneous operations on the next battlefield. Airborne force doctrine suggests the use of airborne forces in a defensive role only, to drop onto the objective and hold it to support advancing ground maneuver. While the airborne doctrine can be fixed to better support simultaneous operations, the current organization of the airborne division limits its use on the next battlefield. The sophisticated threat on the next battlefield will severely constrict where and how the airborne force can be used. Most likely, use of airborne forces in an operational maneuver role will be limited to situations where the threat is predominantly light infantry, like in Grenada and Panama. The 82d Airborne Division will retain its important strategic crisis response capability, however, versatility and simultaneous operations demand a greater contribution from this airborne force.

The airborne force can play a significant role in the attainment

of operational objectives in simultaneous operations. Simultaneity is achieved through maneuver of a well-balanced attack by ground forces, air assault and airborne forces complemented by joint assets available to the commander. Maneuver is the movement of combat forces to gain positional advantage. It is positioning forces at decisive points to achieve surprise, psychological shock, physical momentum, massed effects, and moral dominance. The airborne force is ideally suited to achieve these effects in the enemy rear.

To improve the capability of the airborne force to contribute to simultaneous operations, the US Army must take a fresh look at operational level planning, update the airborne doctrine, and modernize the 82d Airborne Division.

Richard Simpkin's alternate view of operational planning, based on the Soviet technique, offers a method worth considering. By taking a bird's eye view, the planner sees the entire depth of the battlefield. He does not fall into the trap of just focusing on the tactical depth, as would someone at ground level who would only see the enemy forces to his front. Simpkin believed that Western attrition oriented forces demonstrate this pedestrian viewpoint. The addict of attrition is prevented from taking the bird's eye view which maneuver theory requires because of his preoccupation with attritional warfare. "This makes him regard any success as better than none. He therefore concentrates on success in "Phase 1" and sees anything beyond this as a bonus."[94] While the US executed simultaneous operations in Just Cause, the Army has yet to prove it has overcome purely sequential planning and can now effectively integrate simultaneous operations.

Simpkin asserts that the addicts of attrition, or Western planners, must first convince themselves that the means for conducting simultaneous operations do exist. Next, the Western planner must accept the Soviet concept that "the operational aim is of a higher order of importance than the tactical aims which go towards its

attainment."[95] With this accomplished, the planner can then plan from the rear of it inwards, or from the operational objective back toward initial dispositions. This reversal of mental approach may become easier if one also appreciates that, in maneuver theory, "an objective--certainly an operational objective--is not a chunk of real estate but an enemy force or a key enemy facility."[96] The planner must not only focus first on the operational objective but consider the combination of assets which will provide the quickest and greatest chance of achieving the objective: joint, ground maneuver, airborne forces, air assault forces and SOF.

Along with taking an alternate approach to operational planning, the US Army must update its airborne doctrine. The 1980s Soviet operational airborne missions are the type of offensive missions the US airborne must be capable of accomplishing to fully support simultaneous operations. Suitable operational missions for a highly mobile airborne force are: destroying weapons of mass destruction, important command posts and installations in the enemy rear; interdicting the operational reserves; assisting the advance of ground troops; capturing airfields; and capturing ports, naval bases and beaches to support combat operations. While the US air assault forces have a tactical-operational depth capability and a role in simultaneous operations, only the airborne force provides the layer required for deeper operations. Airborne assaults in the future must be conducted some distance away from heavily defended objectives. The subsequent ground attack to the objective with or without significant joint and aviation support against a modern mechanized enemy requires an offensively designed and equipped force. However, until the airborne force is modernized, specifically motorized, the doctrine for the operational use of airborne forces must remain the same -- limited and defensive in nature.

To best support simultaneous operations against a sophisticated

threat on the next battlefield, the 82d Airborne Division must be designed and equipped to conduct offensive operations. Airborne assaults conducted away from heavily air defended objectives requires an airborne force that is tactically mobile. All airborne equipment which provides combat power and tactical mobility must be air droppable. The force must shed its reliance on seizing airfields for the future threat may be capable of preventing airlanding. The airborne force must be motorized and have a significant anti-armor capability to fight on equal terms with a mechanized or armored enemy counterattack force.

The lack of tactical mobility in the 82d Airborne Division is the primary inhibitor to its use in simultaneous operations on the next battlefield. Recognition of the tactical shortcomings of the division is not new; US leaders from General Eisenhower on have acknowledged the limitations of the airborne division once it touched down. Many sources are available that have analyzed the current organization of the airborne division and recommend improvements to modernize the force to meet the 21st century challenges. In all cases, the challenge for the airborne force is "bang for the ft3" -- how to get the most flexibility and firepower from the severely constrained volume of airlift available.

With this in mind, any design of the 82d Airborne Division should proceed from the following assumptions:

1. Strategic airlift will remain limited. Forty C17s will improve this situation in 1997, but the future of the C17 program remains uncertain.[97]

2. The division design must continue to meet the one-third ready concept (DRB) for strategic deployment.

3. Air defense weapons available to Third World armies will be significant.

4. Improved tactical mobility is possible, but with

concomitant reduction in numbers of infantry soldiers.

5. The greatest immediate gain in lift available versus firepower is in the area of fire support. Precision standoff munitions, improved joint communications, and air support can assume some of the load and the airborne force can lighten up its fire support.

Two recent studies worth noting recommend motorizing the airborne force, the first with a reduction in infantry soldiers and the second through prepositioning of equipment with no reduction in force size.

James R. Lunsford's thesis provides an in-depth analysis and recommendation to modernize the 82d Airborne Division to succeed in a future threat environment. He recommends a mix of standard airborne battalions and Enhanced Mobility Airborne Battalions (EMABs) in the division. The EMAB is 100% mobile (HMMWV squad carriers with Mk-19 Grenade Launchers) and replaces the DRB (Medium) for strategic deployment. The EMAB uses approximately the same amount of strategic airlift as the DRB. It has 33% of the infantry of the medium DRB, but increased firepower. However, for operational employment in a theater of operations, a theater commander will be hard-pressed to assemble the airlift to airdrop this force.[98]

Another detailed study on modernization of the airborne division is John Nicholson's "America's Middleweight Force: Enhancing the Versatility of the 82nd Airborne Division for the 21st Century".[99] In his monograph, Nicholson provides an innovative approach to modernizing the division. Prepositioning force enhancement packages around the world and using intratheater airlift to transport the packages into a lodgement or the theater of operations appears to be an affordable way to address the shortcomings of the division. The force packages include HMMWVs to make the rifle companies and scout platoons of the lead brigade tactically mobile. This recommendation enhances the mobility and firepower of the lead DRB in theater without

further stressing strategic (intertheater) airlift.

In both recommendations proposed above, the theater commander would have an airborne force with tactical mobility that can be tailored to the operational mission. A motorized 82d Airborne Division appears to be the answer to future airborne operational requirements in simultaneous operations. A motorized 82d Airborne Division becomes a mobile, more lethal force which is still capable of accomplishing dismounted infantry operations, when required.[100] However, even a fully motorized airborne battalion as it is currently configured will most likely exceed available airlift for an operational airborne assault. The best alternative to both the strategic and operational requirements is a redesigned airborne force which is smaller, more mobile, more lethal and which relies on enhanced firepower from corps, Army, and joint assets. This is a force that will be deployable strategically and more versatile for use in an operational role in theater.

The strategic role the 82d performs as vanguard to dull the edge of crisis will continue as its most important role in the future. The political purpose of arriving early in a crisis area presents the enemy with a dilemma of escalation.[101] The enemy knows that when the 82d arrives, the force of the nation is behind it. However, in a smaller US Army, the 82d Airborne Division must also be capable of contributing at the operational level of war against the expected sophisticated threat on the next battlefield. An airborne force that can execute its strategic mission but then has limited capability for further employment in theater is not versatile. The Soviets have provided a model for conducting simultaneous operations and airborne forces play a significant role. The 82d must be modernized so it can contribute to simultaneous operations on the next battlefield.

Since the US Army is now fully committed to the concept of simultaneous operations, continued study of the Soviet concept of

simultaneity is worth the time and effort. The recent US interest in Light Cavalry and Mobile Strike Forces are also reminders of past Soviet concepts. The US Army is clearly developing the mobile ground forces to strike deep. It already has the air assault forces in the 101st Air Assault Division to support simultaneous operations at the tactical-operational level. The weak link in fully executing simultaneous operations on the next battlefield appears to be the airborne force. A modernized airborne force would complement US initiatives in deep ground maneuver and existing capabilities of air assault, SOF, and joint assets and provide the operational commander with an arrayment of assets the Soviets would have dreamed of.

The Soviets may have been the trendsetters in airborne operations, but the Americans came up with the idea first. In World War I, Colonel "Billy" Mitchell suggested dropping soldiers of the 1st Infantry Division behind the German lines in an attempt to overcome the static trench warfare. However, due to a lack of suitable transport aircraft, the suggestion was dismissed.[102] Many years before this, a great American had a vision for use of airborne troops:

> Where is the prince who can afford so to cover his country with troops for its defense as that 10,000 men descending from the clouds might not in many places do an infinite deal of mischief before a force could be brought together to repel them?" Benjamin Franklin[103]

In the final analysis, the concept of simultaneous operations has stirred the US airborne from its operational slumber. The airborne force can contribute on the next battlefield if its doctrine and organization are modernized.

Appendix A

Definitions of Operational Terms[104]

Campaign: a series of related military operations designed to achieve one or more strategic objectives within a given time and space.

Center of gravity: the hub of all power and movement upon which everything depends; that characteristic, capability, or location from which enemy and friendly forces derive their freedom of action, physical strength, or the will to fight.

Decisive point: a point, usually geographical in nature, that, when retained, provides a commander with a marked advantage over his opponent. Decisive points could also include other physical elements such as enemy formations, command posts, and communication nodes.

Deep operations: operations designed in depth to secure advantages in later engagements, protect the current close fight, and defeat the enemy more rapidly by denying freedom of action and disrupting or destroying the coherence and tempo of its operation.

Full-dimensional operations: the application of all capabilities available to an Army commander to accomplish his mission decisively and at the least cost across the full range of possible operations.

Major operation: the coordinated actions of large forces in a single phase of a campaign. A major operation could contain a number of battles or could be a single, critical battle.

Operational art: the employment of military forces to attain strategic goals through the design, organization, integration, and execution of battles and engagements into campaigns and major operations. In war, operational art determines when, where, and for what purpose major forces will fight over time.

Operations in depth: the totality of the commanders operations against the enemy--composed of deep, close, and rear operations which are usually conducted simultaneously in a manner that appears as one continuous operation against the enemy.

Operational level of war: the level of war at which campaigns and major operations are planned, conducted, and sustained to accomplish strategic objectives within theaters or areas of operation. Activities at this level link tactics and strategy by establishing operational objectives needed to accomplish the strategic objectives, sequencing events to achieve the operational objective, initiating actions, and applying resources to bring about and sustain these events.[105]

Simultaneous operations: two or more campaigns and complementary operations or activities within those campaigns occurring concurrently within the same theater.

Appendix B

Components of Operational Design

Field Manual (FM) 100-5, Operations (1993), lists several key concepts for theater and operational level planners to use as guideposts. They are center of gravity, lines of operation, decisive points and culminating point.

The essence of operational art lies in the ability to mass effects against the enemy's center of gravity, his hub of all power. Several traditional examples of center of gravity are the mass of the enemy army, the enemy's battle command structure, public opinion, national will, and an alliance or coalition structure. The enemy center of gravity is often difficult to strike because he protects it or it is abstract, like the enemy's national will.[106] The Soviet airborne operation in February 1942 near Vyaz'ma to encircle and assist in the destruction of German Army group Center is an example of an airborne assault geared to striking the center of gravity. See Section II for more information on this airborne operation.

Lines of operation define the directional orientation of the force in space and time in relation to the enemy. Lines of operation extend out from the forces' base of operation to its objectives.[107] While airborne forces conduct an aerial movement to their objectives, they still project forward from bases of operation, may follow different lines of operation, but normally converge at the objective. Securing a base of operations is a mission well-suited for the force entry capability of airborne forces, as demonstrated in Operation Just Cause. (See Endnote 2.)

Decisive points are keys to getting at centers of gravity. They provide a marked advantage over the enemy and are often terrain features but also include "elements that sustain command such as a command post, critical boundary, airspace, or communications node."[108] Planners must determine the decisive points which provide a means of

getting at the center of gravity. Planners must also choose decisive points which help the commander gain or maintain the initiative. Controlling these decisive points helps gain or maintain operational maneuver. These decisive points may be transportation nets or terrain features that are key to continued operational maneuver. The allied effort to seize the three bridgeheads in Operation Market Garden, September 1944, is a good example of an attempt to control decisive points to maintain the momentum of the attack.[109]

The culminating point has application in the offense and defense. In the offense, the culminating point is the point in time where the attacker's combat power no longer exceeds that of the defender. A defender reaches culmination when he no longer has the capability to defend successfully or launch a counteroffensive. The operational artist seeks to seize the operational objective in the offense before culminating. Airborne forces can be instrumental in extending the culminating point of the attacking ground forces. An example of this are the airborne assaults onto the Normandy peninsula in Operation Overlord, June 1944. The airborne forces dropped behind the German coastline defenses to interrupt the enemy defenses and delay movement of reserves to avoid the culmination of the amphibious operation before it established a foothold on the Normandy peninsula.[110]

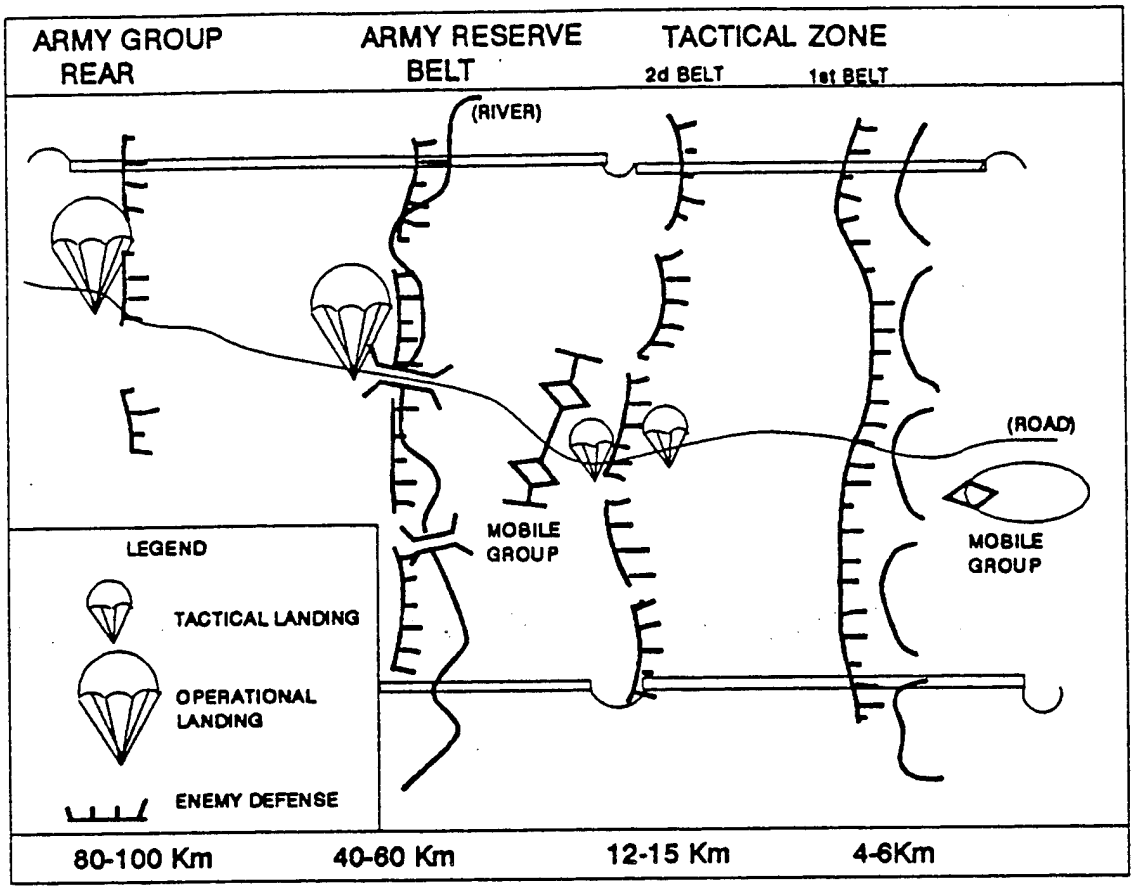

Figure 1. Soviet Use of Airborne Forces, 1936[111]

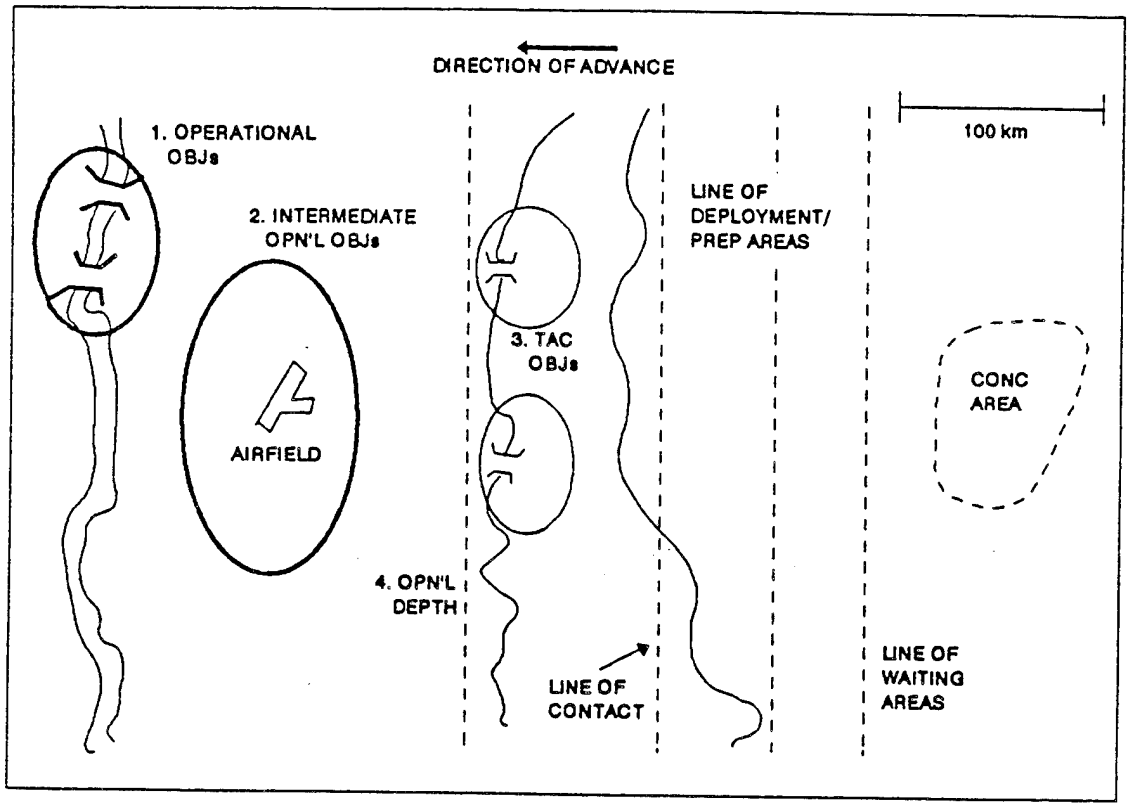

Figure 2. Soviet Operational Planning Sequence[112]

This figure illustrates the Soviet planning sequence and spatial symmetry. The commander plans inwards from the final operational objective, to the tactical objectives required to achieve the operational aims, back to the initial dispositions of forces where the attempt is made to portray an appearance of equilibrium.

ENDNOTES

1. Henri Jomini, Art of War in Roots of Strategy: Book 2 (Harrisburg, PA: Stackpole Books, 1987), 393.

2. Since World War II, the division has been used as a strategic force in: the Dominican Republic, 1965; Honduras, 1988; Grenada, 1983; Panama, 1989; and Saudi Arabia (Desert Shield), 1990. In the Korean and Vietnam wars, US airborne forces were used in tactical roles.

The US Army Field Manual (FM) 90-26, Airborne Operations (Washington: Department of the Army, 1990), 1-4, describes the airborne mission in Panama as an example of a strategic mission. However, the mission by elements of the 75th Ranger Regiment and the ready brigade from the 82d Airborne Division to secure the Torrijos and Tocumen airfields is also an example of an operational level mission to secure a second base of operations from which to conduct combat operations. Thomas Donnelly, Margaret Roth, and Caleb Baker, Operation Just Cause: The Storming of Panama (New York: Lexington Books, 1991), 70-87.

Most recently, in the mid to high-intensity environment of Operation Desert Storm, one brigade of the 82d was used in a ground role in XVIII Airborne Corps' attack in the west; the remainder of the division had a reserve mission. Planners in the 82d and XVIII Airborne Corps developed plans for operational and tactical airborne missions to support the ground effort, however, General Schwarzkopf would not allow any airborne operations during the ground war. Interview in April 1994 with Lieutenant Colonel Michael Burke at Fort Leavenworth, KS. Burke was an XVIII Airborne Corps planner during Operation Desert Storm.

3. US Army, FM 100-5, Operations (Washington: Department of the Army, 1993), 2-9.

4. Gordon R. Sullivan, America's Army Into the Twenty-First Century, National Security Paper Number 14 (Cambridge, MA: Institute for Foreign Policy Analysis, 1993), 24.

5. Gordon Rottman, US Army Airborne 1940-90 (London: Osprey Publishing, 1990), 9-22.

6. Michael J. Kazmierski, "United States Army Power Projection in the 21st Century: The Conventional Airborne Forces Must Be Modernized to Meet the Army's Strategic Force Requirements and the Nation's Future Threats," (MMAS Thesis, US Army Command and General Staff College, 1990), 3 and 91-118; Potential threats the US may face on the next battlefield, for example, Cuba, Ethiopia, Iran, Iraq, Libya, Syria, Vietnam, and many other developing states possess between six hundred and four thousand tanks apiece, along with hundreds of artillery pieces, thousands of armored personnel carriers, and other armored fighting vehicles. Michael J. Mazarr, Light Forces and the Future of U.S. Military Strategy (Washington DC: Brassey's (US), Inc., 1990), 81.

7. While the "Soviets" no longer exist, the analysis of the "Soviet" concept of simultaneity comprises the period 1920 through the 1980s when the Soviet Union did exist.

8. Richard Simpkin, Race to the Swift: Thoughts on Twenty-First Century Warfare (London: Brassey's Defence Publishers, 1985), 46. The Russian word desant, which basically means "descent", describes the arrival in enemy held territory by any force by use of an indirect approach. Operationally, the Soviets use the concept for major airborne, air assault, and amphibious operations.

9. Richard Simpkin, Deep Battle: The Brainchild of Marshal Tukhachevskii (London: Brassey's Defence Publishers, 1987), 182.

10. Ibid., 34.

11. Ibid.

12. Ibid.

13. Ibid., 37.

14. David M. Glantz, The Soviet Airborne Experience, Research Survey No. 4 (Fort Leavenworth, KS: Combat Studies Institute, US Army Command and General Staff College, 1984), 2-3. (Cited hereafter as Soviet Airborne.)

15. Scott M. Smith, "Soviet Airborne Forces: 1928-1945" in Historical Analysis of the Use of Mobile Forces by Russia and the USSR, Occasional Paper No. 10 College Station, TX: Center for Strategic Technology, Texas Engineering Experiment Station of the Texas A&M University System, 1985), 162; taken from Mikhail N. Tuckhachevskiy [sic], "War," in Scott and Scott, Soviet Art of War, 44.

16. David M. Glantz, Deep Attack: The Soviet Conduct of Operational Maneuver (Fort Leavenworth, KS: Soviet Army Studies Office, 1987), 7-9; The Soviets define operational as the level between tactics and strategy, a level principally concerned with the activities of armies and army groups (fronts). Chris Bellamy, "Red Star in the West: Marshal Tukhachevskiy [sic] and East-West Exchanges on the Art of War," RUSI (December 1987): 64.

17. Glantz, Soviet Airborne, 3; and Glantz, Deep Attack, 9.

18. Glantz, Soviet Airborne, 4.

19. Ibid., 3-4; taken from N. Ramanichev, "The Development of the Theory and Practice of the Combat Use of Airlanding Forces in the Interwar Period," VIZh (October 1982): 72-77.

20. Simpkin, Race to the Swift, 46.

21. Chris Bellamy, "Red Star in the West: Marshal Tukhachevskiy and East-West Exchanges on the Art of War" RUSI (December 1987): 66.

22. Glantz, Soviet Airborne, 5; and "Soviet Airborne Forces (Part 1)," Defence Update (96): 13-14. In the August 1930 exercise, the 12 man detachment dropped from two twin-wing Farman-Goliat airplanes from heights of 500 and 300 meters, while three R-1 reconnaissance aircraft dropped their supplies by parachute.

23. Glantz, Soviet Airborne, 4-5; and Smith, 164.

24. Ibid., 7; taken from I. Korotkov, Questions of general tactics in Soviet military histiography" VIZh, December 1977: 88; and Ramanichev, 73.

25. Simpkin, Deep Battle, 40.

26. Glantz, Soviet Airborne, 8. Tatarchenko also stressed the need for simultaneous airdrop to reduce dispersion and airdrop time, which had been problems in previous exercises. He also proposed a phased assault: first, a small group airdropped to prepare the landing site, an advanced guard followed by airdrop or airland to secure a larger landing area, and then the main force landed to conduct the decisive phase of the operation.

27. Glantz, Soviet Airborne, 8, 14; The TB-3 only carried 32 troops. When airdropped from the TB-3, the paratroopers jumped from the fuselage, wings, doors, and bomb bays. Of the converted TB-3s, typically only 20 percent (about 80) were operational at one time. Smith, 166-168, 173.

28. Glantz, Soviet Airborne, 9; taken from Ramanichev, 75.

29. Glantz, Soviet Airborne, 10, 13. The Soviets identified problems areas during the exercises which they would have to correct in the future, such as: tactics for operating in the enemy rear area, waging battle while encircled, and escaping from encirclement.

30. Glantz, Soviet Airborne, 14-16; and Smith, 171-172.

31. Glantz, Soviet Airborne, 16; and Defence Update (96): 14-15.

32. Glantz, Soviet Airborne, 17.

33. Ibid., 20.

34. Earl F. Ziemke, "The Soviet Theory of Deep Operations," Parameters (Volume XIII, No 2): 27.

35. Glantz, Soviet Airborne, 21; taken from D.S. Sukhorukov, Soviet Airlanding Forces (Moscow: Voennoe Izdatel'stvo, 1980), 50.

36. Glantz, Soviet Airborne, 23, 25.

37. Ibid., 160.

38. Ibid., 29, 86 and 160.

39. Ibid., 94.

40. Ibid., 109.

41. Ibid., 100-111, and 161.

42. Ibid., 161. The complexity of airborne operations, the vulnerability of the lightly equipped airborne forces in mechanized warfare, the limited mobility of airborne forces once on the ground, and limited transport aircraft dictated that airborne units perform only modest missions in close coordination with ground forces.

43. Ibid., 161-162.

44. US Army, FM 100-2-1, The Soviet Army: Operations and Tactics (Washington: Department of the Army, 1984), 2-3 - 2-4. The 1980s Soviet definition of simultaneity: attack the enemy violently and simultaneously throughout his depth. Carry the battle to the enemy rear with swift penetrations by maneuver units, fires, aviation, airborne and heliborne assaults, and by unconventional warfare means.

45. Simpkin, Race to the Swift, 118-119.

46. Ibid., 46.

47. Wallace P. Franz, "Airmechanization: The Next Generation," Military Review (February 1992): 61.

48. Glantz, Soviet Airborne, 156-157.

49. C.J. Dick, "Soviet Operational Art (Part 2)," International Defence Review (August 1988): 901-904.

50. Simpkin, Race to the Swift, 147.

51. Ibid., 146. Simpkin's depths for operational employment of air assault brigades and airborne forces do differ from David Glantz's in The Soviet Airborne Experience, 156-157. While this is Simpkin's chart, Glantz is used as the primary source for data on operational depths of air assault and airborne forces.

52. Simpkin, Deep Battle, 253; and Race to the Swift, 147.

53. Glantz, Soviet Airborne, 139.

54. Simpkin, Deep Battle, 255.

55. Ibid.

56. Simpkin, Race to the Swift, 147.

57. FM 100-5 (1993), 6-14.

58. The term and the concept of simultaneity were not present in the 1986 version of FM 100-5. However, the tenet of depth focused on the extension of operations in space and time and the concept of deep operations was designed to influence the future close fight.

59. FM 100-5 (1993), 1-2.

60. Ibid., vi.

61. Ibid.

62. Frederick M. Franks Jr., "Full-Dimensional Operations: A Doctrine for an Era of Change," Military Review (December 1993): 9.

63. Gordon R. Sullivan, "Moving Into the 21st Century: America's Army and Modernization," Military Review (July 1993): 11.

64. H. Hugh Shelton and Kevin C. M. Benson, "Depth and Simultaneity: Half the Battle," Military Review (December 1993): 59.

65. Ibid., 58. Source obtained LTG Carl W. Stiner's quote from his speech to the Cincinnati Club, 9 March 1990.

66. Richard D. Hooker, Jr., "Redefining Maneuver Warfare," Military Review (February 1992): 52.

67. Shelton and Benson, "Depth and Simultaneity,": 61.

68. FM 100-5 (1993), 2-7.

69. Ibid., 2-10 - 2-13.

70. Franks, "Full-Dimensional Operations,": 9.

71. Shelton and Benson, "Depth and Simultaneity,": 59-60; taken from Henry G. Franke, The Offense and Preemptive Strikes, 4.

72. Strategic missions. Simply alerting airborne forces for employment is a show of force that is politically significant in a strategic context. With their strategic mobility, they can move from distant bases to strike at important targets deep in enemy-held territory with little warning.

Tactical missions. Airborne forces assault in the rear or to the flank of the enemy, preferably where few fixed defenses exist and where well-organized enemy combat units are not initially present. Airborne units either assault their objectives and move to linkup with

friendly forces, or seize an objective and hold for the arrival of other friendly ground forces. US Army, FM 90-26, Airborne Operations (Washington: Department of the Army, 1990), 1-4.

73. FM 90-26, 1-4.

74. Ibid., 1-6 - 1-9; John E. Miller, and Daniel P. Bolger, "Going Deep: Division Air Assault Operations," Military Review (April 1993): 7. JSEAD assets such as USAF aircraft, AH-64A Apache attack helicopters, ATACMS, MLRS, and electronic jamming all cooperate to rip out key strips in the enemy air defense system.

75. FM 90-26, 1-8 - 1-9; Miller and Bolger, "Going Deep": 6.

76. FM 90-26, 4-3.

77. 82d Airborne Division, Readiness Standing Operating Procedures (RSOP) (Fort Bragg, NC: 1992), 16-1 - 16-7. The eight generic force packages are: Airfield Seizure Package (Light) and (Medium); DRB Light, Medium, and Heavy; and Division Light, Medium, and Heavy. These force packages are designed to conduct forced entry operations in low to mid intensity environments and have adequate but austere CS and CSS assets, capable of sustaining operations for 72 hours. Light force packages are designed for forced entry where the threat is primarily light infantry with little or no armor or air capability. Medium packages are designed for forced entry where the threat possesses moderate armor and/or air capability.

The generic force packages deploy in two echelons: airdrop and airland. The airdrop or Alpha echelon conducts a parachute assault onto the objective, usually an airfield, and secures the area to receive airland aircraft. The Bravo or airland echelon arrives by airland aircraft as soon as possible after the assault. Most of vehicles of a generic force package and all of its helicopters (if they can not self-deploy) are in the Bravo echelon.

Tailored incremental force packages are designed to increase combat and combat support units. Some examples of incremental force packages are: Infantry Battalion (Light), Anti-Armor Company, Engineer Company (-), and a Medical Alpha Package.

78. The airlift requirement for the Airfield Seizure (Medium) is 96 C130s or 60 C141 sorties; or a combination of 41 C141 for PAX and Heavy Drop (HD) and 29 C130 for airland. Currently there are over 400 C130s and over 200 C141s in the USAF inventory. Granted, only a portion of both intra- and intertheater airlift will be available to the theater commander, and an airborne operation ultimately depends on whether there are adequate assets available. This also assumes helicopters can self-deploy and will not require airland (range to the airhead is less than 300 kms). 82d Airborne Division RSOP, 16-J-1. Strategic or intertheater airlift, primarily C141s, was overtaxed during Operation Desert Shield/Storm and the aging fleet of C141s are currently being overhauled. The strategic airlift capability will improve in 1997 with the proposed addition of 40 C17s, with an option

to buy up to 120 C17s. Information on the C17 program obtained from conversation with Major Brian Layer, US Army Transportation Officer and SAMS student, April 1994. Layer received an update on the C17 program during a conversation in January 1994 with Mark O'Konski, Deputy Director of Transportation, Energy, and Troop Support, ODCSLOG, Department of the Army.

79. 82d Airborne Division RSOP, Chapter 16.

80. Simpkin, Race to the Swift, 156.

81. Kazmierski, 2; taken from Graham H. Turbiville, Jr., "Soviet Airborne Operations in Theater War," Foreign Policy (Volume XIII, Nos 1-2, 1986): 183.

82. Kazmierski, 2; taken from V.F. Margelov, "Development of the Theory of Employment of Airborne Troops in the Postwar Period," Voenno-istoricheskil zhurnal (January 1977): 54. The majority of the 50 airborne operations mentioned in this quote were small tactical operations of less than regiment size.

83. Kazmierski, 2-3; and David Eshel, "Soviet Airborne Forces," Military Technology (July 1990): 50.

84. Kazmierski, iii, 3, and 91-118 (See endnote 6). In his thesis, "United States Army Power Projection in the 21st Century: The Conventional Airborne Forces Must Be Modernized to Meet the Army's Strategic Force Requirements and the Nation's Future Threats," he analyzes the evolution of airborne forces with a special emphasis on the divergent paths taken by the US and the Soviets. Kazmierski concluded that the future threat, especially with regard to its impact on airborne operations, poses serious limitations on the usefulness of US airborne forces as they are currently organized.

85. Kazmierski, 71.

86. Ibid., 71-72.

87. Ibid., 73.

88. Ibid., 75.

89. Maurice Tugwell, Airborne to Battle (London: William Kimber, 1971), 231-266; Michael Hickey, Out of the Sky: A History of Airborne Warfare (New York: Charles Scribner's Sons, 1979), 153-172. The I Airborne Corps' task was to hold open the canal and river crossings along the Eindhoven to Arnhem road, laying down a sixty mile "airborne carpet" for the advancing XXX Corps. Planners estimated that the northern bridges at Arnhem, British 1st Airborne Division's objective, would be reached within 48 and 72 hours. The 1st Airborne Division used drop zones 6 miles from the bridges because the Royal Air Force (RAF) did not want to use drop zones closer to the bridges where they

thought there was a heavy concentration of flak guns. Both the 101st and 82d Airborne Divisions succeeded in their missions at Eindhoven and Nijmegen respectively. The RAF over-rated the German air defense around the closest drop zones to the Arnhem bridges and the I Airborne Corps underestimated the ability of the Germans to react with sufficient force. The I Airborne Corps did not know that the German 9th Panzer Division, which was the German force that reacted to the 1st Airborne Division's landing, was in the Arnhem area. The operation was also hampered by insufficient aircraft to carry the airborne divisions in on one lift, and all three division landings were conducted over a three day period. While the 1st Airborne Division had hundreds of vehicles airlanding by glider the first day, they did not have sufficient number of vehicle in the first hours to make a rapid assault to seize the bridges. It took XXX Corps 3 days to break through the Nijmegen area. After another four days of fighting the XXX Corps attack stalled short of Arnhem due to stiff German resistance along the Nijmegen-Arnhem road. The line stabilized between Nijmegen and Arnhem and the Germans controlled the Arnhem crossings. The operation was an operational failure overall. Both Tugwell and Hickey have the opinion that a more rapid push by 1st Airborne Division to seize the bridges may have provided a different outcome.

90. James R. Lunsford, "Keeping the Airborne Division a Viable Force," (MMAS Thesis, Fort Leavenworth, KS: US Army Command and General Staff College, 1993), 19-20. Lunsford reports the details of the studies on aircraft survivability during an airdrop conducted by the Airborne Airlift Action Office (AAACO) of the US Army's Combined Arms Command. These studies predicted that transport aircraft would suffer a 6% attrition rate while conducting an airdrop on an airfield defended by shoulder fire SAMs alone. If only one AAA weapon survived the SEAD and pre-assault fires on the airfield, the attrition rate for aircraft could jump to 50%. Lunsford's 100% mobile airborne battalion was equipped with HMMWVs.

91. Nick Nichols, "Soviet Airborne: Mechanized Strike Force," International Combat Arms (May 1989): 61.

92. US Army, FM 100-2-3, The Soviet Army: Troops, Organization, and Equipment (Washington: Department of the Army, 1991), 5-37 - 5-39. The BMD or airborne combat vehicle, initially fielded in 1970, was the Soviet answer to the problem of secondary mobility in the enemy's rear area. This armored tracked vehicle had a 73mm gun, an antitank missile launcher, machine guns, 320 kilometer cruising range and carried a six-man airborne squad.

93. J.F.C. Fuller, "The Influence of Armour from Alexander to Joan of Arc," The Army Quarterly (April 1927): 66, as quoted by Anthony M. Coroalles, "The Master Weapon: The Tactical Thought of J.F.C. Fuller Applied to Future War," Military Review (January 1991): 72.

94. Simpkin, Deep Battle, 255.

95. Ibid.

96. Ibid.

97. See endnote 78.

98. In Lunsford's thesis, the EMAB required 82 C17 sorties versus 78 for the DRB (Medium). This is approximately 128 C141 sorties according to the 82d RSOP. The EMAB consists of an airborne battalion, an AGS company, 155mm (Towed) artillery battery, an engineer company, and an ADA platoon. Lunsford, "Keeping the Airborne Division a Viable Force," 47, 69.

99. John W. Nicholson, "America's Middleweight Force: Enhancing the Versatility of the 82nd Airborne Division for the 21st Century," (SAMS Monograph, Fort Leavenworth, KS: US Army Command and General Staff College, 1993).

100. A motorized airborne force with squad vehicles equipped with Mk-19s possesses greater mobility and firepower than the current airborne force. The airborne force will continue to face situations in the future where dismounted forces are needed. Unlike a mechanized airborne force which would be encumbered with greater maintenance and training implications, motorized airborne forces would have more time available to practice dismounted operations. Peter F. Herrly, "The Army's Light Divisions: Where Next?" Military Review (January 1994): 78-80.

101. In regard to Nathan Bedford Forrest's axiom about "getting there firstest with the mostest", the speed-of-force insertion into a crisis area appears to be the more important aspect of this strategy. Getting there first presents the opponent with a situation in which he must back down or face the prospect of escalation. Peter J. Boylan, "Power Projection, Risk and the Light Force," Military Review (May 1982): 69.

102. Defence Update (96): 14.

103. Shelton and Benson, "Depth and Simultaneity,": 57; taken from Benjamin Franklin quotation found in the 82d Airborne Division Museum.

104. FM 100-5 (1993), Glossary. All definitions in Appendix A are from this source, except for "operational level of war".

105. Joint Chiefs of Staff, JCS Pub 3-0, Doctrine for Unified and Joint Operations (Test Pub) (Washington: The Joint Staff, 1990), xiii.

106. FM 100-5 (1993), 6-7.

107. Ibid.

108. Ibid., 6-7 - 6-8.

109. Ibid., 6-8.

110. Ibid.; and Anthony J. Tata, "The Airborne Force Role in Operational Maneuver," (SAMS Monograph, Fort Leavenworth, KS: US Army Command and General Staff College, 1993), 26-27.

111. Glantz, Soviet Airborne, 15.

112. Simpkin, Deep Battle, 256.

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