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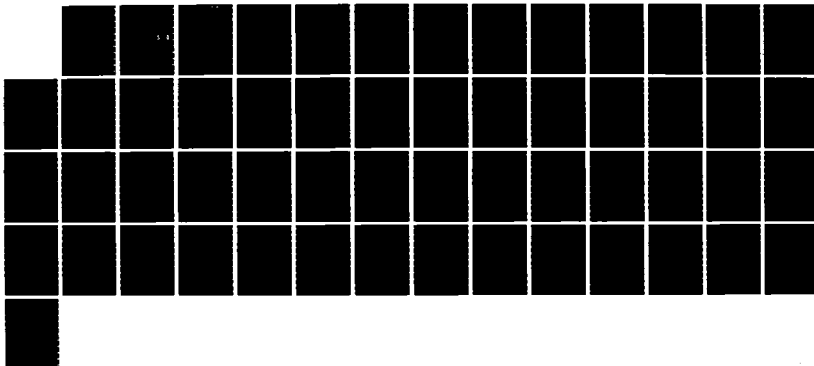
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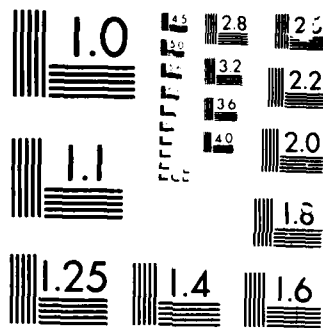
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Brigade Organization and the AirLand Battle

by

Major Robert W. Burkhardt
Engineer

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School of Advanced Military Studies
U.S. Army Command and General Staff College
Fort Leavenworth, Kansas

2 December 1985

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The monograph concludes that brigades should ~~be~~ permanently contain ~~at~~ units of all combat, combat support, and combat service support functions. The balance of these units should provide self-sufficiency in combat operations and sustainment for reasonable periods of time.

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ABSTRACT

Brigade Organization and the AirLand Battle by Robert W. Burkhardt, USA,
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This ^{first} monograph investigates the ability of heavy brigades to conduct AirLand Battle. The investigation takes three paths. The first is a development of organizational theory for combat units. In theory there are a finite number of factors which influence organizational design. These are doctrine, training, leadership, control systems, objectives, forces available, forces opposed, characteristics of warfare, and relationships to higher echelon organizations.

The second path examines the theory as it applies to the evolution of World War II infantry divisions. The changes in the infantry divisions show trends toward decentralizing combat, combat support, and combat service support units to lower levels, greater self-sufficiency in lower echelon units, and greater sustainability in lower echelon units.

The final path compares the theoretical factors influencing organizational design against today's brigade organization. This comparison finds shortfalls in today's organization which need correction. The lack of agility, sustainability, control, and combined arms training stand out as major shortcomings.

The monograph concludes that brigades should permanently contain units of all combat, combat support, and combat service support functions. The balance of these units should provide self-sufficiency in combat operations and sustainment for reasonable periods of time.

Brigade Organization and the AirLand Battle

INTRODUCTION:

AirLand Battle doctrine describes U.S. Army principles for operational and tactical warfighting and envisions conditions of the next mid- to high-intensity war. Since promulgation of this new doctrine, the U.S. Army has made no attempt to redesign its basic tactical units, brigades and battalions, to match its radically altered view toward warfighting. Today, three years after publication of Field Manual (FM) 100-5, Operations, debate is lively regarding the degree to which doctrine and tactical organization correlate.

This essay continues the current debate. First, it asks what factors, in general, are important in designing military organizations, that is, in developing tables of organization and equipment for particular levels of command. Then, more specifically, it asks what design factors were important in the evolution of the World War II infantry division. After establishing, in theory and history, the basic factors that influence organizational design, the paper continues by analyzing these factors with regard to today's circumstances. The analysis determines whether the current brigade organization adequately takes into account considerations most important in designing effective military organizations. This should assist those who must deal with the tough issues of determining how small units ought to be organized to confront the challenges of the present, as well as the future.

FACTORS INFLUENCING ORGANIZATIONAL DESIGN:

An understanding of why and how armies organize draws attention to factors influencing organizational design. Organizations achieve systematic planning and united effort by arranging interdependent elements into a whole.¹ The primary reason armies organize into units is for control.² In turn, the purpose of control is to gain unity of effort.³ In war, organization is not the only control technique used to bring about this unity. Additionally, each control technique affects the others. Therefore, factors influencing organizational design include all control techniques used to defeat the enemy.

Doctrine is the first of these influencing factors. Doctrine accepted and applied throughout an army helps control unit actions. Doctrinal control produces unity of effort between the different combined arms functional areas. Common procedures and thinking processes achieve unity of effort. Since doctrine is a control technique it must influence organizational design.

Training is another factor influencing organizational design. Training in method, drill, and routine helps control units. Control is achieved through repetition. Repetition develops a common understanding of individual actions and responsibilities required to accomplish a particular mission. Therefore, training is a control technique and a second factor influencing organizational design.

Command systems and leadership are both factors which influence organizational design. Command systems consist of technical systems and staff procedures which control unit actions. Control is achieved by coordinating details between functional areas for unity of effort.⁴ Leadership, properly applied, forms a moral bond between soldiers, units, and leaders. This bond controls individual and collective actions within units and achieves common unit goals through united wills. Since command systems and leadership are control techniques used to achieve mission objectives, then they are also factors influencing organizational design.

Organization, doctrine, training, command systems, and leadership interact with each other. A change in one may affect the others. For example, a unit's level of training may affect what doctrine it is capable of using. A poorly trained unit cannot be expected to use complex doctrine successfully. The level of training also affects organizational design. A poorly trained unit may not be able to use a complex organizational design. This is because subunits probably have not adequately developed coordination and timing. Examples can also be thought of for the interaction between each control technique and the other four. Therefore, organization, doctrine, training, command systems, and leadership are all interdependent. These warfighting elements should be considered as a complete control system. An isolated development of one may cause difficulties in the others and loss of unity of effort.

An understanding of what armies do draws attention to other factors influencing organizational design. Armies exist primarily to fight wars and preserve peace. E.S. Johnston, author of the 1944 version of FM 100-5, observed the following about warfighting decisions:

The correct decision as to any matter in war is determined by: The object. The means available and opposed... The characteristics of the theater... The probable consequences of failure.⁵

The list of factors influencing organizational design must include the objective, available force (eg. armor, infantry, engineer, aviation), threat force, character of the war (how and where it is fought), and the consequences of failure.

These additional factors influencing organizational design also affect doctrine, training, command systems, and leadership. For example, the character of the war may affect the organizational design. A unit fighting in a jungle does not need an organization dominated by heavy tanks.

E.S. Johnston also explained the limits of organizational design. He identified two theoretical ways to organize. The first is to assign all units a permanent function and place in the organization. The second is to assign all the units a temporary function and place in the organization for the completion of a task. Most organizations are created somewhere between the two. The amount a unit resembles either theoretical design depends on the factors influencing organizational design.⁶ For instance, if the character of the war and threat are well known (eg. intensity, location, sustainment needs), then a unit may be

designed more permanently. This is because the unit would not require the adaptability to fight a different threat in a different type of war. The need for a permanent or temporary organization differs for each organizational echelon according to its purpose.⁷ The purpose may be as a unit of tactical maneuver, tactical concentration, operational maneuver, or operational concentration.⁸

As developed , the components of organizational design are; doctrine, training, command systems, leadership, forces available, threat forces, character of war, and consequences of failure.

WORLD WAR II ORGANIZATIONAL DESIGN:

Since well before World War II the U.S. Army has attempted to answer the difficult questions of whether to attach units to organizations permanently or temporarily. The history of World War II organizational design helps clarify the relationships between the factors influencing organizational design. The infantry division eventually contained permanently assigned units of all existing branches. These historical decisions parallel questions surrounding today's brigades. The utility of an independent self sustaining fighting unit for tactical maneuver has always been understood. At what echelons this type of unit needs to be organized is a continuing question. The debate concerning at which levels independent, self-sustained units of tactical maneuver should exist, as well as what the components should be , has continued since World War II.

U.S. Army divisions of World War II were designed around General McNair's "leading idea".⁹ The idea was to "concentrate a maximum of men and materials in offensive striking units, capable of destroying the enemy's capacity for resistance."¹⁰ Doctrine called for self-sufficient divisions to be shifted from corps to corps as the situation required.¹¹ Additionally, General McNair saw the need for divisions of various designs to meet differing missions, enemies, and theaters. While the infantry division initially was not an independent, self-sustaining unit, it became one during the war.

The infantry division at the beginning of World War II did not have all combined arms assigned. Each of the division's three infantry regiments had three infantry battalions, an antitank company, and a headquarters company. One medium and three light field artillery battalions made up the division's field artillery. Additional units were an engineer battalion, a medical battalion, a quartermaster company, a signal company, a military police platoon, and a headquarters company.¹²

Historian Kent Greenfield states that the prewar design goals for the infantry division were to provide streamlined control, economic utilization of men and materials, and a minimum combat effective organization. General McNair devised a two part solution to achieve these goals. First he took out all organizations and troops that prewar exercises demonstrated were not needed for the "normal" infantry division mission. These units were economically distributed to

divisions as the mission dictated from pools of units at corps and army. The number of pooled troops would, therefore, be less than if all infantry divisions were organized with all known unit types. Reduced numbers of these units (tank, engineer bridge, air defense artillery, reconnaissance, transportation, and signal) would be required, since they would be centralized above division and be attached to a division only when needed. The second part was to train infantry and artillery soldiers to perform common additional skills. Soldiers were expected to be truck drivers, engineers, signalmen, and reconnaissance troops. These economies allowed the War Department to create more divisions. Additionally, these divisions were more strategically mobile and organizationally flexible than the previous infantry division.¹³

Actual combat experience demonstrated that General McNair's "leading idea" of infantry division design contained significant weaknesses. A unit designed for the lower margin of success (minimum combat effectiveness) was not powerful enough to destroy certain World War II enemy forces. The fast pace of combat and the requirement to task organize pooled assets for each operation created confusion and highlighted command relationship problems. A pooled unit, when attached, had links to its parent unit, its supported unit, and sometimes to the supported unit's corps or army for missions and support.¹⁴ These confusing links may have limited a supported commander's ability to use pooled units in ways he would have liked. Pooled and divisional units did not train together for combat

operations. The focus on specific skills dominated training. Captain Putnam, an American infantryman in Sicily, stated the problem well.

I know our regiment didn't have any training with tanks in preparation for combat...If we had known how to go forward with them we could have...gotten all the Germans' vehicles and material...we strongly recommend that all infantry be given practical training in cooperation with tanks in action.¹⁵

Numerous examples such as the 27th Division fight on the Tanapag Plain in Saipan and the 351st Infantry Regiment of the 88th Division in Santa Maria Infante, Italy, show that these divisions had difficulty using pooled and auxiliary troops for basic combat missions.¹⁶

Interrelationships between the doctrine of offensive action, the task organization of forces from corps, and the enemy made the performance of basic divisional missions of offense and defense difficult. Germans integrated counter mobility and air-ground cooperation with tanks into nearly all operations. U.S. divisions constantly required corps and army augmentation in order to combat this coordinated threat. Infantry divisions required tanks, tank destroyers, automatic antiaircraft guns, military police, additional signalmen, and additional engineers to attack or defend. Successful sustainment required auxiliary transportation, quartermaster, and supply units. The problems created by so many auxiliary organizations trying to cooperate and achieve unity of effort at the decisive point and time were tremendous. Field commanders also faced leadership problems because of the influx of augmenting units. Augmentation units felt they had no real organizational home. They could be assigned to almost any corps or

division in the theater, depending upon the circumstances.¹⁷

Based on combat experience, some European Theater corps and army field commanders created more effective infantry divisions by assigning the augmentation units for extended periods of time.¹⁸ Commanders justified these changes by demonstrated improvements in leadership, cohesion, and morale.¹⁹ Napoleon stated that the moral is to the physical as three is to one.²⁰ Experience in World War II reaffirmed his dictum. The principal advantage of the assignment of combined arms units to infantry divisions was increased morale. Better combat effectiveness was the result. As Clausewitz proclaimed, "In the engagement, the loss of morale has proved the major decisive factor."²¹

Physical improvement also was significant. Corps and army commanders assigned tank, tank destroyer, antiaircraft, transportation, engineer, and logistic units to infantry divisions. Using the same reasoning, General Eisenhower won arguments with the War Department and General McNair. He retained in the infantry division countermine/mine platoons, infantry regiment howitzer batteries, a military police platoon, service batteries in the field artillery battalions, a quartermaster company, and four hundred two and one-half ton trucks.²²

Evidence shows that by the end of World War II, the U.S. Army infantry division was an independent, self-sustaining organization, combining all necessary units for the conduct of combat operations. The division had a headquarters company, cavalry troop, three infantry regiments, a heavy tank battalion, an artillery regiment consisting of

four field artillery battalions and one antiaircraft artillery battalion, an engineer battalion consisting of five companies, a medical battalion, a replacement company, a maintenance company, a signal company, a supply and service company, and a military police company. Each infantry regiment had three battalions of infantry, a tank company, a 120mm mortar battery, a medical company, and a headquarters company.²³

World War II changes in the infantry division organization were in line with historical trends toward the creation of independent, self-sufficient combined arms units at lower echelons. This historical trend was paralleled by decentralization of control, greater battlefield mobility, and increased weapons lethality and engagement ranges.²⁴ In World War II the lowest echelon requiring self-sufficiency was the infantry division. This was determined by experience and prewar testing. The basis for this thought relates to World War II doctrine, training, command systems, leadership, forces available, threat forces, and character of the war. Analysis of these factors influencing organizational design today may indicate whether a permanent organization of independent, self-sustaining tactical maneuver units is required at the brigade or division level.

CHARACTERISTICS OF MODERN WAR:

The next mid- to high-intensity war described in Field Manual 100-5 will continue the trend towards greater dispersal of forces, greater lethality of weapons, longer ranges of weapon effectiveness, and more

sophisticated forces to conduct warfare. The trend makes penetration of opposing formations nearly inevitable. Nonlinear operations are expected because of the increases in dispersal and speed. Nonlinear operations and penetrations create depth in both enemy and friendly formations. Therefore, success in a nonlinear battle requires units to organize specifically to meet this condition of fluid operations.²⁵ Units must be capable of all-around security and self-sufficiency for extended periods of time when conducting offensive or defensive missions. Units must detect the enemy early, promptly mass fires, and conduct immediate maneuver. Defensive and offensive capabilities need to exist simultaneously. Combat, combat support, and combat service support units require equal degrees of mobility to prevent separation and exposure which would decrease effective unity of effort.²⁶

Intelligence and target acquisition systems have contributed to an increase in the range and scope of battle. Sensors provide real time and near real time information about friendly and enemy dispositions.²⁷ Units must be capable of detecting the enemy first. This is best done with intelligence and counterintelligence equal to or better than the enemy. The intelligence units required to obtain this information differ at each echelon. The determination of units required depends on analysis of missions, threat, and sensor capability.²⁸

Escalation to nuclear and chemical war is a possibility in future conflict. Conventional operational objectives can be limited by fear of escalation. Nuclear or chemical use alters the balance between

firepower and maneuver. When either is used the battlefield area enlarges, and the destructiveness of war increases. Therefore, battles could last hours instead of days.²⁹ Units must not present themselves as lucrative targets, thus requiring tactical maneuver units to be small, yet large enough to be combat effective. Additionally, independent units in a nuclear or chemical war require special command and control procedures, since communications are always vulnerable.³⁰

According to Field Manual 100-5, command and control in a mid- to high-intensity war will be more important, yet more difficult. The fluid character and fear of escalation to nuclear or chemical war make the decisive point of a battle harder to determine. The interruption of communications is expected at critical times through chance or overt enemy action. Auftragstaktik is one way of operating in these conditions. Auftragstaktik is the concept of "shared vision", based on mutual trust, a common vocabulary and background, and an accepted tactical command and operations doctrine everyone understands. Uniformity of thinking and reliability of action are its critical preconditions.³¹ Subordinates are expected to act on their own initiative within the commander's intent, even to the point of changing the mission if the situation demands. Units must be organized to use auftragstaktik. They must have the forces available to change missions. If the unit was only capable of defense, then the unit commander would be unable to use initiative to go on the offense. Therefore, some element of initiative is directly correlated with a commander's available force.

Division commanders are particularly handicapped by poor communications, fluid operations, the inability to locate the enemy's center of gravity, and lack of air superiority. Their ability to concentrate combined arms in brigades, at decisive points and times, is suspect. This may indicate that brigade is a better place to assign permanently combined arms units.³³

Logistical support in future mid- to high-intensity war will be austere. Austerity comes in part from increased battlefield depth, which creates long vulnerable lines of communication. Units may be sensitive to this austerity, since consumption of fuel, ammunition, and spare parts in combat will be high. Interdiction of combat service support units not moving with combat units is likely.³⁴ Austere support from division and corps influences organizational design below division. An independent self-sustaining tactical maneuver unit needs to have sufficient combat support and combat service support to sustain itself for extended periods on the nonlinear battlefield. If division units are unable to support along lines of communication, then support units must move with brigades.³⁵

Terrain influences the mobility, maneuver, firepower, and protection forces required to conduct successful combat operations. In particular, mountainous, jungle, and urban terrain influence organizational design by restricting movement, direct fire, and visibility. Proportions of light infantry, heavy forces, and weapon

systems need to be balanced with the terrain. World War II battles in close terrain demonstrated the need for all technologically available forces. Only the proportions of the various types of forces changed.³⁶ Therefore, there may exist a requirement for self-sufficient tactical maneuver units possessing all types of forces, regardless of terrain variations.

Characteristics of modern mid- to high-intensity war affect brigade organization. These characteristics influence organizational design in the same way World War II combat experience influenced the infantry division design. In summary, brigades require the units to organize quickly for diverse missions, act independently, fight in various terrain settings, and conduct offensive and defensive operations at will. Some of the characteristics of modern war that led to this reasoning are: 1) depth and penetrations, 2) loss of communications, 3) interdiction of lines of communications, and 4) opportunities for initiative. A possible conclusion is the need for an independent, self-sustaining tactical maneuver unit smaller than a division.

AIRLAND BATTLE DOCTRINE:

FM 100-5 (DRAFT,85) and FM 100-5 (82) detail the way to win engagements, battles, operations, and campaigns through the application of warfighting principles. The tenets of agility, initiative, depth, and synchronization express some important interdependent combat factors. These tenets are analogous to some of the factors influencing organizational design. Synchronization is the unity of effort needed to

attain the objective. Initiative, depth, and agility are all qualities needed today to get to the decisive point at the decisive time to attain the objective. Since the tenets represent current doctrine and are similar to some factors which influence organizational design, a detailed examination is required to understand the influence of each on organizational design.³⁷

FM 100-5 defines agility as the ability of friendly forces to act faster than the enemy. The prerequisites for seizing and holding the initiative are mental and physical agility. Agility must overcome the friction caused by unforeseen errors, confusion, and difficulties. Commanders and troops must be physically and psychologically capable of responding rapidly to changing situations. A unit's agility is based on its organizational design. Agility is used to concentrate successively at the decisive points and times against weaker combat formations to disorganize, disrupt, and destroy larger opposing formations.³⁸ Some writers use flexibility and agility synonymously when actually they are nearly opposite in the consideration of organizational design. Flexibility is a unit's ready capability to adjust to new, different, or changing characteristics of warfare.³⁹ Flexibility is usually accomplished by radically changing organizational design. When situations and requirements for mission accomplishment are not well known, a unit may require more flexibility at the expense of agility. When situations are well known, the unit may give up some of its flexibility in order to achieve a greater degree of agility.

Flexibility is usually accomplished by radically changing organizational design. Agility is usually accomplished by responding with organic means to unexpected situations.⁴⁰

Brigades with many different contingency missions may face a variety of wartime circumstances. They must be prepared to fight low intensity warfare against threats other than Soviet forces. Therefore, a brigade with varied contingency missions requires more flexibility than agility.

Brigade design for mid- to high-intensity warfare requires more agility than flexibility. Heavy division forces are expressly designed to counter Soviet forces or their surrogates in a mid- to high-intensity war. Therefore, in these units agility is preferred to flexibility. To achieve agility, organizations must reduce the time required to task, organize for combat missions. Proficiency in accomplishing combat missions is achieved through training which increases a unit's agility. Agility is enhanced by using standard operating procedures, drills, and methods that are well known and exercised by all elements in the unit.⁴¹ Agility and freedom of action are enhanced when a unit possesses maneuver, firepower, and protection forces greater than or equal to the enemy. The overall effect of the requirement for agility on organizational design may be the necessity for a permanent brigade organization. This unit would have the force sufficient to develop agility in training and in combat.

Initiative is the setting or changing of the terms of battle by

action.⁴² Tactical units must first seize or provide the opportunities for seizing the initiative. This enables higher echelons to gain the initiative. Lower echelon commanders, in addition to understanding the higher commander's intent and deciding on a proper response to the opportunity, need the forces to take action. The greater the force the more frequent will be the opportunities to seize the initiative. Conversely, if a lower echelon commander is limited by available forces, he has fewer opportunities for action. Agility and initiative are closely related. Agility relates to the quickness of taking action and initiative to the capability and will to take action.⁴³

Depth is the extension of operations in time, space, and resources.⁴⁴ A unit requires enough assets to operate securely in the depths of the battlefield for extended periods of time. Depth gives a commander the necessary space in which to maneuver, a quality essential to winning when outnumbered. An outnumbered unit is crushed by sheer weight of resources when it is unable to maneuver. From depth comes elasticity in defense and momentum in offense. There are some organizational requirements for the use of depth. A unit operating in depth becomes survivable and effective when it has sufficient forces to sustain operations, to demonstrate mobility, to conduct reconnaissance, and to provide its own security. Motivation, courage, and will are bolstered by the necessary assets to conduct battles in depth.⁴⁵

FM 100-5 defines synchronization as "the process of arranging combat activities in time, space and purpose to develop maximum combat

power from the resources available to the commander"⁴⁶ Synchronization equates directly to the control techniques (organization, doctrine, training, command systems, and leadership), which produce unity of effort. Synchronization and the achievement of unity of effort, with the force available at the decisive point and time, are synonymous. Units applying this tenet seek perfect economy of force through the full exploitation of all combat power potential.⁴⁷ Maneuver, firepower, and protection units are coordinated in time, space, and objective. The ability to do this quickly, correctly, and with minimum confusion depends on a unit's agility. Additionally, good unit morale helps achieve unity of effort. Unity of effort between widely separated units depends upon reliable communications, uncontested routes, cooperative spirit, and identical missions. These are not characteristics of modern war and organizations. They preclude unity of effort between combat support, combat service support, and combat units, except when organized in a single tactical unit. Lack of training may also reduce a unit's ability to create unity of effort. Therefore, a unit's organization should not inhibit combined training.⁴⁸

In summary, doctrine, as a control technique, does affect the organization of available forces. To apply AirLand Battle doctrine, brigades need sustainment, intelligence, firepower, mobility, maneuver, and protection compatible with the mission and comparable to the enemy.

TRAINING FOR WAR:

Training as a technique of control can be a difficult concept in a technical world. Branches of the Army show parochial interest in teaching highly technical skills in isolation from other branches. Branches primarily train soldiers in technical skills. Specialized training of soldiers varies considerably from aircraft mechanics and missile repairmen to highly trained special forces soldiers. Specialized training, however, is only a part of the training required for combat. Airland Battle doctrine affirms that the best training approximates battle. Clausewitz says that, "Peacetime maneuvers are a feeble substitute for the real thing; but even they can give an army an advantage...."⁴⁹ Combined arms training, according to FM 100-5 "is far more effective and realistic than the training of units in isolation from their routine attachments and support."⁵⁰ In theory, the current organization of units does not preclude necessary combined arms training. Evidence from training experiences at the National Training Center and at home stations demonstrates that realistic combined arms training, with all combat, combat support, and combat service support integrated, is difficult to accomplish.⁵¹

A unit's organization should facilitate combined arms training using current doctrine. This is best accomplished by providing to the unit each type of force it is expected to use in combat.⁵² The lack of unity of effort between armor and infantry in early World War II combat demonstrates the need for closely aligning organization, doctrine, and

training. As shown earlier, there was little training between tanks and infantry, although doctrine called for combined arms combat. The lack of tanks in the World War II infantry division influenced the poor cooperation between the branches. Technical armor training was supposed to be a part of combined arms training, but it was done in isolation. Technical skill, taught where it is to be used, has purpose and develops trust and cooperation between arms. Therefore, organizational problems may be obstacles to essential combined arms training. Organizational design needs to focus on increasing the likelihood of combined arms training.

LEADERSHIP AND COMMAND:

Leadership and command affect organizational design and the other factors influencing organizational design. In part, leadership is a control technique that uses person to person persuasion to attain objectives. Command is a control technique that uses organization, staff, and decision processes. According to Clausewitz, the best commander is a genius. The genius possesses extraordinary intellectual gifts and vision. Using these gifts he tailors his organization to obtain the most from the resources available.⁵³ Average commanders seldom obtain the most from their resources. Average commanders require more and better balanced assets in their organizations than the genius to accomplish the same missions. The genius may be able to win using an economically efficient unit. The average commander would probably have a difficult time. The need for more than minimum resources relates to

General McNair's failure to understand the difference between an economically efficient organization and a combat effective one. Average commanders require an organization of abundance to be combat effective. An economically efficient organization does not compensate for the friction, unknowns, and risks that must be counterbalanced with abundant resources.

A leader benefits from leading the same units in training as in combat. A leader's dynamic nature, energy, charisma, courage, and determination can be transferred into his organic units during training. When a leader receives units he has not trained, he can not assume these units have the same traits as his organic units. Friction can develop between organic and attached units. If attached units are habitually required by a brigade, then it may be best to make them organic. This would insure that the full effect of leadership is felt in training and in combat.⁵⁴

THE SOVIET THREAT:

The likely opponent in a mid- to high-intensity war is the Soviet Union or its surrogates. A comparison between forces available in U.S. and Soviet units will help to determine the effectiveness of both. Soviet motorized rifle divisions and motorized rifle regiments are the organizations a brigade can expect to encounter.

A BMR motorized rifle regiment is an independently sustainable combined arms formation consisting of three motorized rifle battalions.

Each battalion is organized with three motorized rifle companies, an antiaircraft platoon, a mortar battery, a medical element, a maintenance element, a supply platoon, a communications platoon, and an auto-grenade launcher platoon. The regiment has one battalion each of tanks and self-propelled artillery. Organic companies in the regiment include engineer, reconnaissance, antitank missile, antiaircraft missile and artillery, signal, chemical defense, motor transport, maintenance, and medical. In addition to the regimental headquarters, the regiment includes a supply and services platoon. In all, there are forty tanks, one hundred and fifty-two armored fighting vehicles, thirty-eight antiaircraft systems, eighteen howitzers, seven bridges, and five counter-mobility systems. Types of forces not organic to the regiment are aviation, surface-to-surface missiles, and unconventional warfare.⁵⁵

The motorized rifle division contains six regiments, two BTR rifle regiments, a BMP rifle regiment, a tank regiment, an artillery regiment, and a surface to air missile regiment. Within the division are individual battalions of surface to surface missiles, antitank, reconnaissance, engineer, signal, motor transport, maintenance, chemical defense, medical, and helicopters. An artillery command battery, mobile field bakery, and divisional headquarters company round out the division. This division is a complete combined arms organization.⁵⁶ The only type of force not organic to the division is unconventional warfare.

Soviet combined arms units are identical in peace and war. Training in combined arms oriented skills is not hindered by the organizational structure. All types of forces a commander may employ in combat are available for peacetime training. The design is not tailored economically, but rather functionally as it is expected to fight. The Soviets expect the characteristics of modern warfare to be similar to those foreseen by the U.S. Army. Their doctrine is similar to U.S. Army doctrine, since both are derived from a similar understanding of the fundamentals of war. Therefore, U.S. tactical organizations must fight successfully against these organizations at the tactical level in order for operational and strategic goals to be met.

U.S. BRIGADE OBJECTIVES:

U.S. units below division may frequently have the objective of defeating a Soviet first echelon division when on the defensive, or elements of a Soviet division when on the offensive.⁵⁷ The search for the best organization to conduct AirLand Battle at this level should consider the unit's ability to attain these objectives. The objective of defeating a Soviet division is to be carried out by maneuver style warfare described in FM 100-5. The unit employs maneuver battalions, supported by field artillery battalions, combat support, and combat service support units to fight engagements. Currently, brigades are responsible for synchronizing the plans and actions of their subordinate units to accomplish tasks for the division and corps.⁵⁸ The organization should be designed to win close combat against Soviet

units.

To win the close battle , the brigade must defeat a Soviet division in defensive operations. Therefore, it is useful to compare and contrast the forces available to each unit. The brigade need not have numerical superiority, but it should have comparable functional capabilities.⁵⁹ Therefore, the combat power available to the brigade should be in balance with the Soviet unit.⁵⁰ For example, if the Soviet division has tanks, the U.S. brigade needs at least anti-tank capability. Therefore, the forces needed organically or habitually to accomplish missions below division level are armor, infantry, reconnaissance, engineer, antitank, aviation, signal, maintenance, supply, transportation, air defense artillery, medical, and artillery.

BRIGADE DESIGN COMPARED TO FACTORS INFLUENCING ORGANIZATIONAL DESIGN:

Army of Excellence (AOE) heavy division brigades contain only some of the forces needed to fight the Soviets effectively. AOE brigades are established with a headquarters company and a mix of mechanized infantry and armor battalions. The headquarters company has the ability to support the brigade headquarters staff with communications, food services, and transportation. The maneuver battalions are not permanent organizations assigned to the brigades but are rather habitually attached. The mix of battalions in a brigade is expected to change during combat, thereby, retaining flexibility. Therefore, a brigade can be designed for differing circumstances of warfare.⁶¹

Brigade organization for combat demands assignment of a habitual slice of divisional support assets. This slice includes a military police platoon, a signal platoon, task organized military intelligence teams, an artillery battalion, an engineer company, an air defense artillery battery, and a task organized forward support battalion. The forward support battalion contains a supply company, a medical company, and a task organized maintenance company.⁶²

The mechanized infantry battalion consists of six companies: four mechanized rifle companies, one antitank company, and a headquarters company. The headquarters company has a platoon each of scouts, medical, maintenance, signal, support, and mortars. The tank battalion consists of five companies: four tank companies, and a headquarters company. The headquarters company design is similar to that of the headquarters company in the mechanized infantry battalion.⁶³ The battalions are designed to task organize by exchanging companies between tank battalions and mechanized infantry battalions.⁶⁴

A brigade receives additional support based on mission requirements. AOE heavy divisions can augment the brigade by diving support missions or attaching elements of the division's Nuclear, Biological and Chemical (NBC) company and combat aviation brigade.⁶⁵ Additional augmentation could be provided by corps. Possible units include engineer, artillery, air defense artillery, NBC, combat service support, and aviation.⁶⁶ U.S. Air Force close air support also comes to the brigade through corps and division.

Some critics claim that the current design is a result of and in consonance with the 1976 U.S. Army doctrine of Active Defense. Active Defense was an attempt to fight an attrition-style war that discouraged war weariness, attempted to maintain a linear defense, and to employ initiative, required near perfect intelligence, *oriental* defensive tactics, and required *centralized* command and control. The AOE *organizational* design and its predecessor, Division Reorganization, in the Training and Doctrine Command's 1976 Division Restructuring Study. This study was founded on Active Defense principles.²⁸ It concluded that divisions should concentrate combat power, integrate combined arms, employ combat support and combat service support units, and use firepower from the rear battle area. Additionally, battalions should be reduced in size, increased in number, and integrate combat arms. Other conclusions were that logistics should be keyed to weapon systems and intelligence should be centralized.²⁹ Current brigade organizational design reflects the Active Defense doctrine, since it is consistent with the Division Restructuring Study conclusions.

A gap exists between the units available to the AOE brigade and to the Soviet units facing it. The brigade has a quantitative and functional shortage of resources to accomplish defensive and offensive missions. Quantitatively, the enemy outweighs it in air defense artillery, artillery, transportation, and engineer assets. The types of forces unavailable are aviation, reconnaissance, and NBC. A U.S.

brigade's margin of error in combat with the Soviets might be narrow.

The AOE brigade organization has some advantages over the Soviet organization. The ability to task organize gives the brigade flexibility. For example, current brigades could be organized to fight on the plains of Russia or just as easily to fight in the dense forests of the Federal Republic of Germany. The Soviets must fight with the same basic organization in both places, never being capable of optimizing the organization to the terrain characteristics. U.S. brigade commanders have the advantage of a smaller span of control. This may increase the unit's effectiveness.⁷⁰

The AOE brigade has significant organizational shortcomings when compared with doctrine, training, command systems, characteristics of modern war, threat, objective, and consequences of failure. First, an AOE brigade must task organize for combat and for each change of mission.⁷¹ Task organizing requires coordination between augmenting units and the brigade.⁷² World War II infantry divisions suffered from inefficiency and confusion when coordinating similar efforts. The ability to synchronize and create unity of effort is restricted by the AOE organization. In turn, the time required to accomplish coordination reduces responsiveness to changing situations. Although flexible, the AOE brigade might prove slow in taking advantage of changes in situations.⁷³ The movement of support forces and the rearranging of technical support also reduces the brigade's agility. AOE brigades are not assigned augmentation units until commitment. Therefore, brigades

are unable to provide security for themselves or the units nearby.⁷⁴ These brigades are vulnerable to penetrations and deep operations by the Soviets.

Supporting units come with linkages to their own senior command and support organizations. These command and support links reduce the brigade commander's options for employing supporting units.⁷⁵ Initiative in using supporting units is restricted by these command and support links.⁷⁶ The possibility of unfamiliar units being assigned to support the brigade is possible within the AOE design.⁷⁷ These units most probably use different standard operating procedures, drills, and methods. Unfamiliar units can cause leadership problems and friction with organic units.⁷⁸ The AOE organization, while assisting the training of specialists, inhibits combined arms training. AOE brigade design could possibly create inefficiency and confusion in combat.⁷⁹

ALTERNATIVE DESIGNS:

Recent articles, studies, and concept statements propose alternatives to the shortcomings present in the AOE brigade organization. The proposals range from brigade level combined arms organizations to centralization of more units at corps level. The Maneuver Oriented Division 1995 (MOD 95) Study⁸⁰, 9th Infantry Division (Motorized) Concept⁸¹, Heavy Separate Brigade Concept⁸², Army 21 Concept⁸³, Balanced Combined Arms Battalion⁸⁴, K Structure, Theater Defense Force Concept⁸⁵, and the "Bahnsen Division"⁸⁶ are among some of

the alternatives. Some allied armies, in particular the French, British, and German, have decentralized their combined and supporting arms below division level.⁸⁷

The dominant characteristic in most of these approaches is decentralization of combined arms and support units below division level. Lieutenant Colonels Alfred J. Bergeron, James H. Chapman, and John E. Goff published the Maneuver Oriented Division 1995 (MOD 95) study while attending The National Defense University in 1985. MOD 95 is representative of the trend to decentralize. This division design includes three regiments, either two armor and one mechanized, or one armor and two mechanized. The division has additional battalions of reconnaissance, aviation, signal, intelligence, and special troops. The regiments each have five battalions. In the armor regiments are two armor, one mechanized infantry, one self propelled artillery, and one support battalion. The armor, mechanized infantry, and artillery battalions each have three line companies or batteries, a headquarters company or battery, and a support company. The support battalion has a company each of maintenance, transportation/supply, and medical. The regiment also has an engineer company, which includes three line platoons, an assault bridge platoon, and an equipment support platoon. Rounding out the regiment is a headquarters company, with elements of military police, NBC, air defense artillery, signal, and support. The available warfighting functions that this design does not provide at regiment level are aviation and reconnaissance. The reconnaissance function is found at the level above and below regiment, and the

aviation only above regiment.⁸⁸ This design corrects the AOE design problems of poor agility, limited sustainability, complicated command and support links, reduced opportunities for initiative, combined arms training ineffectiveness, poor security in depth, and overall confusion. In this example the factors influencing organizational design are consistent with one another.

DESIGN EFFECT ON HIGHER ECHELONS:

The U.S. Army should reevaluate the factors influencing organizational design for division and corps. The relationships between echelons need to be included in the analysis. This relationship begins at a low tactical level, where tactical success or the creation of opportunities for initiative happens first. Unit missions are the focus of all echelons. The attainment of operational and strategic goals is dependent on opportunities provided at the tactical level.⁸⁹ Clausewitz wrote that,

The original means of strategy is victory—that is, tactical success; its ends, in the final analysis, are those objects which will lead directly to peace.⁹⁰

Therefore, the proper place to start organizational development is at a low tactical level. By creating an ability to achieve success at the lower level, the division and corps then can be designed for their specific functions.

The slip echelon technique of sustainment and planning was useful in world War II. The corps during World War II was a planning and

operational headquarters for tactical missions.⁹¹ Divisions were assigned to corps based on the mission, theater characteristics, enemy, and main effort. The infantry division in the European Theater became an independently operating combined arms unit, capable of self-sustained operations for reasonable periods of time.⁹² The army provided logistical support for divisions and units operating in the army area of operation. The corps contained special troops, usually consisting of reconnaissance, engineer, signal, and some field artillery.⁹³ This system allowed flexibility at corps level and agility at division level. Therefore, the corps could adapt to long-term changes in the character of the war while the division adapted to immediate tactical changes.

Decentralizing self-sufficiency to brigade level within a division would call for changes in division and corps designs. The division may require more flexibility and less organic units, thereby becoming a unit of tactical concentration. The corps becomes the sustaining headquarters for brigades and continues as a unit of operational maneuver. The agility, depth, initiative, and unity of effort (synchronization) described in FM 100-5 would then be better achieved. A complete analysis of the corps and division control measures and objectives, however, is the best way to determine exact functions and assets required in each organization.

EXTERNAL EFFECTS ON DESIGN:

Politics, economics, technological base, and sociological factors affect the organization of national armies.⁹⁴ Historical evidence shows that each of these external factors influences the types of weapons manufactured, the overall size of the army, and the way the army is manned. Recent Department of Defense reports demonstrate that this is still true today.⁹⁵ General McNair's decisions even on tactical organization were driven by politics and economics. It became apparent, as World War II progressed, that these decisions were faulty. Field commanders corrected the organizational design problems by making the division a complete unit of tactical maneuver. The division became capable of winning tactical battles, which eventually brought about operational and strategic success. These successes led to ultimate victory. Therefore, the external factors affecting the raising of an army are not necessarily relevant to tactical organization. The external factors, however, do influence how many tactical units will be built, the spirit of the soldiers, and the resources at their disposal.

CONCLUSIONS:

The current brigade organization is in need of change. Analysis of the relationships between brigade missions, characteristics of future mid- to high-intensity war, Soviet threat, doctrine, command systems, leadership, training, and current brigade design all demonstrate this need. Success may be possible with the current organization. However,

any changes that increase the probability of success and effectiveness of units cannot be ignored.

Decisions during World War II to decentralize combat units to division level resulted in increasing effectiveness with decreased confusion and inefficiency. Today's brigades, like World War II divisions, require augmentation from higher echelons to conduct combat missions. The infantry division achieved tactical agility when these augmentations were permanently attached. The attachments caused significant gains in combat capability because of the improvements in morale. The infantry divisions, organized with all necessary units to conduct combat, used agility to create initiative and offensive spirit. Brigades today, covering nearly the same terrain as an infantry division in World War II, need these same attributes.

Characteristics of modern mid- to high-intensity war dictate a need to exploit fleeting opportunities. The requirement for exploiting these opportunities is agile units possessing adequate resources. Brigades need maneuver, firepower, self-sustainment, security, mobility, and countermobility units to conduct effective offensive and defensive battles. For an organization to use current doctrine effectively, it must have sustainment, intelligence, firepower, mobility, maneuver, and protection units necessary for the mission and comparable to the enemy. Training as combined arms units is necessary to overcome uncertainty and friction inherent in combat. Organizational design should not inhibit combined arms training, but enhance it, increasing a commander's ability

to overcome friction and uncertainty. Organizational design must take into account chance, friction, and the unknown. Organizational design should not hinder a commander's influence in improving the fighting spirit of the units which fight under him. Comparison and analysis of Soviet forces and brigade objectives result in a conclusion that armor, infantry, engineer, reconnaissance, antitank, air defense artillery, aviation, signal, maintenance, supply, transportation, medical, and artillery units are probably necessary at the brigade level.

An examination of the current brigade design shows some decided shortcomings. Among the shortcomings are the absence of aviation, reconnaissance, and NBC assets. The current design does not enhance moral cohesion between its organic units and its auxiliary pooled assets, an important factor in World War II infantry division combat. The brigade lacks agility because of the time required to organize and coordinate for combat missions. The brigade lacks the quantity of assets compared with its Soviet counterpart. Therefore, it operates on a thin margin of error. The brigade lacks the ability to conduct independent, self-sustained operations. However, the brigade will be operating in the depths of Soviet formations, and Soviet units will be penetrating the depths of U.S. divisions. The brigade lacks the organic units to train constantly in combined arms warfare.

The brigade, as currently organized, has some advantages. One of these is the flexibility to change organizationally for different circumstances of modern war. However, this does require time. Also

many improvements in technical skill training, sustainment and increased numbers of formations are possible using pooled troops.

Brigade organizational design should be along the lines of a combined arms regiment. The regiment should be able to operate independently, sustaining itself for reasonable periods of time in high-intensity war with the Soviets. The regiment must contain all the forces it would normally employ in that type of warfare. The assignment of these units to one organization and the proper use of training, doctrine, leadership, and control systems produces agility, depth, initiative, and synchronization. These traits are required to conduct AirLand Battle doctrine at the brigade level. Training for combat would be enhanced. However, care must be taken by higher echelons to insure that technical skills are adequately maintained in the regiments. The exact proportion of units is clearly a difficult problem which cannot be answered within the scope of this paper. The proportions need to be balanced for the tasks, characteristics of modern war, and the enemy. The units of such a regiment in descending quantitative measure are: infantry, armor, artillery, engineer, medical, maintenance, supply, transportation, antitank, reconnaissance, air defense, aviation, intelligence, military police, NBC, and signal. The heavy division brigade should be replaced with a combined arms regiment to create a unit of tactical maneuver below division.

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