

**GLOBAL CHALLENGES & REGIONAL RESPONSES
ORGANIZING FOR THE FUTURE**

A Monograph

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ABSTRACT

GLOBAL CHALLENGES & REGIONAL RESPONSES: ORGANIZING FOR THE FUTURE by Michael E. Mathes, Infantry, 53 pages.

The advent of globalization and the revolution in military affairs necessitates making substantive changes to the Army's organizational structure. The current traditional hierarchical structure worked well in the Cold War era but is now a source of rising tension between warfighting effectiveness and peace keeping efficiencies. Acknowledging the impact of globalization on the Army, Army Chief of Staff General Eric K. Shinseki stated his willingness to tackle tough organizational change.

This monograph researches organizational change from the perspective of international corporations responding to the forces of globalization. By studying corporate organizational structure and corporate organizational change, numerous lessons can be drawn that are applicable to the Army's transformation efforts. An analysis of General Motors demonstrates the need for large, traditionally structured organizations to embrace change while the study of Shell Oil demonstrates the necessity of sustaining structural change.

Given the difficulty and the importance of the organizational redesign process, it is critical that the Army's leadership studies past efforts to reorganize the Army and researches corporate case studies focusing on organizational transformation. Many of the concerns that General Shinseki is facing in his attempt to organize the Army into a strategically responsive force are identical to the ones faced by chief executive officers in the corporate arena. A failure to study corporate America's reorganization efforts increases the risk that the Army's transformation efforts will fail, leaving the Army isolated and operationally and strategically irrelevant in comparison with its forward looking sister services.

TABLE OF CONTENTS

CHAPTER ONE.....	1
Introduction	1
Criteria.....	7
CHAPTER TWO	10
Background.....	10
CHAPTER THREE	16
Streamlining and Pooling	16
General Lesley J. McNair.....	18
Precedent for Change.....	21
CHAPTER FOUR.....	23
Traditional Organizational Structure	23
General Motors Case Study.....	25
Criteria.....	28
Summary.....	33
CHAPTER FIVE.....	35
Matrix Organizational Structure.....	35
Shell Oil Case Study.....	37
Criteria.....	39
Summary.....	45
CHAPTER SIX.....	47
Conclusions	47
Recommendations	50
END NOTES.....	54
BIBLIOGRAPHY.....	58

CHAPTER ONE

Introduction

Ten years have passed since the end of the Cold War and with them also the hope that the post-Cold War era would usher in a more stable world free from the threat of war. Despite rising but spotty prosperity, the “New World Order” is increasingly marked by turbulence, uncertainty and intra- rather than interstate violence. Recent experience suggests that these qualities are not transitional in nature (moving towards a new equilibrium) but will endure. This uncertainty is all the more unsettling because of the absence of an interpretative framework – akin to the Cold War bipolar framework - with which to define national security threats and gauge responses.

With the collapse of the Soviet Union, it is no longer possible to comprehend world politics simply in terms of relationships between and among sovereign states. The post Cold War era has witnessed an explosion in the number and variety of states in the world as well as a tremendous increase in the influence of nonstate institutions, ethnic groups, criminal and terrorist organizations and global corporations.¹ Many of these nonstate players, acting in a manner unrestrained by the responsibilities of sovereignty, are powerful enough to challenge traditional states and to seek to impose radical solutions on their own terms. The political parameters have changed from a sovereign state centric world to a multicentric, complex world. The end of the Cold War did more than end bipolar competition; it also called into question the dominant assumptions of an order based on the Westphalian order of sovereign states. The implications on the role and place of military power in this emerging order hold great significance for the United States Army and its mission.

With America enjoying unrivaled military superiority and economic prosperity, one could ponder just why America should concern itself with the problems of a multicentric world? President William J. Clinton answers this question in the preface to the *1999 National Security Strategy For A New Century (NSS)*. “At a time of rapid globalization, when events halfway around the earth can profoundly affect our safety and prosperity, America must lead in the world to protect our people at home and our way of life.”² Global engagement has become an inherent element of national security policy but it is an element that is not necessarily connected to any specific threat in any given region. The Clinton Administration’s *National Security Strategy* specifies the Army’s role in this global engagement strategy is to shape the international environment in ways that promote U.S. interests – acknowledging that this role can potentially burden the Army’s ability to perform its time-tested primary mission of fighting and winning the nation’s wars. The NSS utilizes the terminology small scale contingency operations when addressing the range of threats to U.S. interests abroad. These threats encompass the full range of joint military operations beyond peacetime engagement but short of major theater warfare.

A summary of U.S. military operations since 1945 (see figure 1.1) illustrates the burden of preparing for warfighting missions while routinely performing stability and support operations. The Army’s significant role in shaping operations is demonstrated by the fact that the Army provided almost 80% of the total forces for U.S. contingency operations in the 1990s. In 1998, for example, 36,274 soldiers deployed on various small scale contingency operations.³ If the United States maintains a global engagement

U.S. MILITARY OPERATIONS

TRADITIONAL WARFARE	NONTRADITIONAL MILITARY OPERATIONS
Korean War Vietnam War Gulf War	Greek Civil War 1947-49 Huk Insurrection in the Philippines 1946-54 Peace Operations in Lebanon 1958 Nation Building in Vietnam Stability Operations in Dominican Republic 1965-66 U.S. Civil Disturbances 1960s Counterinsurgency in Latin America 1960s Mayaguez Incident Peacekeeping in Beirut 1982-84 Peacekeeping in the Sini Counterinsurgency in El Salvador Hurricane Andrew Relief Noncombatant Evacuation Operations in Africa Stability Operations in Bosnia/Herzegovina Restore Democracy in Haiti Stability Operations in Kosovo
CONTINGENCY OPERATIONS	
Blue Bat - Lebanon 1958 Power Pack – Dominican Republic 1965 Urgent Fury – Grenada 1983 Just Cause – Panama 1989	

Figure 1.1⁴

strategy, the disparity between the low number of traditional warfare operations and the high number of nontraditional operations will continue to grow. This imbalance between what the Army is called upon to do regularly and the need for sustained preparation to meet and achieve success in warfighting operations strains men, materiel, and morale and therefore cannot be ignored.

The rapid globalization that President Clinton refers to in the *National Security Strategy* is a process resulting from the accelerating rate of change in almost every sector of people's lives brought about by technological innovation. Anthony Giddens describes globalization as the "growth of an interdependent world economic system, coordinated through transnational corporations and a range of other international and transnational organizations, the operations of which have been facilitated by the electronic revolution in the means of communication."⁵ The implications of these changes are sufficiently unprecedented and sufficiently open-ended that globalization qualifies under Thomas Kuhn's criteria as a paradigm shift - complete with new rules, new standards, and new

converts.⁶ A significant consequence of this new paradigm is the spreading of Western style economic capitalism, political democracy, technology, and military power to all parts of the world. At the same time such diffusion of Western institutions and values has engendered a wide range of negative responses from elements within the societies undergoing transformation. These groups see globalism as an enemy of traditional values and often as a source of exploitation of the non-West by the West.

Expressions such as “information revolution” and the “revolution in military and business affairs” are popular examples of terminology use to describe the generally positive aspects of globalization.⁷ These positive aspects are contributing significantly to raising the living standards for much of the world. Globalization, however, also serves to accentuate the differences between the “have and the have-nots” – linking these differences in such a way that local events are impacted by international events and vice versa on an almost daily basis. This linkage profoundly impacts the international security environment by creating new threats and opportunities, which have global ramifications, but must be resolved at the local and regional level.

This dynamic complexity - perpetuated by the fact that national security threats evolve in response to changing international economic relationships and televised scenes of human suffering - makes it difficult to identify the Army's roles and missions. This difficulty is contributing to a rising tension between warfighting effectiveness and peace keeping efficiencies. This tension is played out daily between the operational Army deployed in Bosnia and Kosovo and the institutional army preparing for warfare in 2010 and beyond.

Studies at the National War College and the Arroyo Institute quantify the tremendous stress that the decade long disconnect, between a heavy force structure optimized for combat but routinely deployed on contingency operations, is placing on the Army – its people and its organizational structure. This tension is potentially crippling to efforts to transform the Army simply because the Army does not have the luxury of announcing that it is temporarily closed due to restructuring. The Army's leadership cannot adopt the attitude exhibited by a local bus service in England whose drivers passed by lines of would-be passengers (analogous to peace keeping missions) with a wave of the hand. "It is impossible for the drivers to keep their timetables (analogous to the Army's transformation efforts) if they must stop for passengers," explained a company official.⁸ In order for the Army to avoid future misfortunes, it must navigate a central path – improving its peace keeping efficiency simultaneously with improving its warfighting effectiveness.

Acknowledging the impact of globalization on the Army, Army Chief of Staff General Eric K. Shinseki, in June 1999, announced his overarching goal for the Army. His goal is to “provide the leadership, grounded in a vision for the future, to keep this Army the preeminent land warfighting force in the world – capable of dominating along the entire spectrum of operations.” General Shinseki, in calling for revolutionary not evolutionary change, is striving to make the Army organizationally adaptive and end the short-sighted practice of being situationally adaptive. This requires a tremendous amount of foresight and vision.

In the words of General Dubik, Deputy Commanding General for Army Transformation, “The Army no longer has the luxury of being really good at only one

thing [warfighting in Southwest Asia / Republic of Korea]. In order to meet the near term strategic requirements, the Army must be able to respond with speed, precision and force at any point on the spectrum.”⁹ In order to achieve this goal, General Shinseki acknowledges the need to secure the resources necessary for research, development, and experimentation in order to “tackle the tough organizational changes it dictates.”¹⁰ By tackling the organizational dimension (the ability of organizations to learn, anticipate and adapt), General Shinseki is tackling the dimension most closely related to “military misfortune.”¹¹

The Army’s traditional hierarchical structure worked well in a stable, predictable world – the period of the Cold War in which the United States faced a known enemy and technology advanced at a relatively moderate pace. That world no longer exists. With the advent of globalization and the revolution in military affairs it is time to make substantive changes to the Army’s organizational structure. In Darwinian times - survival demands change.

Where can the Army turn for guidance on the process of organizational transformation? One answer is to study global Corporations that have firmly establishing themselves as leaders in the world’s 21st Century economy. The thirty-second Chief of Staff of the Army, General Gordon R. Sullivan, wrote *Hope is Not a Method* with the aim of conveying to leaders in corporate America the values, vision and evolutionary strategy that allowed the Army to maintain its integrity during the post Cold-War downsizing era. Corporate America incorporated the Army’s strategy and successfully faced the technological/economical paradigm shift brought on by globalization. One of the key secrets of their success was the transformation of traditional corporate entities into

effective learning organizations and doing this without losing sight of day-to-day business. This lesson is crucial to the Army.

Organizational change is a threatening proposition, but its benefits are tremendous. Change can facilitate leveraging new technologies and taking advantage of new opportunities. It can also assist the Army in realizing the goal of becoming a true “learning organization.”¹² In the words of General Sullivan, the Army must undergo transformation in order to allow “creative and adaptive behaviors to become imbedded in its culture.”¹³

Researching corporate organizational structure and revolutionary change in response to globalization augments the available body of professional knowledge. An analysis of several case studies highlights organizational redesign lessons that can potentially guide efforts to reorganize the Army. The focus of the analysis is how organizational redesign can better align the Army’s structure, management processes, information systems, and people with General Shinseki’s vision of ensuring the Army remains the world’s finest land force in an uncertain future. These advantages are essential if the Army is to increase its capability to accomplish the expeditionary force type missions specified in the *National Security Strategy*.

Criteria

A comparative methodology is used to assess the inherent strengths and weaknesses of various organizational designs in enabling large organizations to successfully meet the challenges of globalization. These include: the traditional, bureaucratic-hierarchical, matrix and variations of the network. These assessments, drawn from corporate case studies, are useful tools for determining what organizational

design best supports efficient execution of stability and support operations while not degrading warfighting effectiveness? As tools, these case studies do not warrant blind acceptance just as they do not warrant outright rejection.

The criteria used for evaluating the potential benefits to the Army are taken from the list of force characteristics that General Shinseki identified in his June 1999 intent statement as mandatory in his vision of a strategically responsive Army. This study assesses that these criteria are equally applicable to both the business and military communities in the context of stability and support operations. The criteria, as defined in Department of the Army Field Manual 100-5, *Operations*, include:¹⁴

(1) Responsive / Deployable – The ability to rapidly alert, mobilize, deploy and operate anywhere in the world – predicated on readiness, force design, and strategic lift.

(2) Agile / Versatile – The ability to act faster than the enemy in seizing and holding the initiative coupled with the ability to meet diverse mission requirements by quickly and efficiently shifting focus across the full range of operations.

(3) Sustainable – The ability of the logistics system to provision the required personnel and logistics necessary to maintain an organization until it has successfully accomplished its mission.

Two of General Shinseki's characteristics - lethal and survivable - will not be utilized as criteria precisely because they are explicitly associated with warfighting. Keeping in mind General Shinseki's edict -- "We cannot neglect our ability to meet our Title 10 responsibilities to fight and win our Nation's wars - Warfighting is job #1."¹⁵ -- necessitates that any business applications deemed acceptable in accordance with the three criteria must not degrade unit lethality or survivability. However, efficiency in the

conduct of stability and support operations is critical to the resource management necessary to support the warfighting capabilities that are the lynch-pin of effective military presence and compellence.

The Army is actually better able to husband its warfighting capabilities by performing stability and support operations more efficiently. Increased efficiency means fewer soldiers and less equipment is necessary to accomplish stability and support operations operations. This translates to reduced requirements for retraining time and equipment repairs while getting peace keeping units back to warfighting standards. The three criteria selected guided the Army's transformation at the start of WWII, they guided the success of corporate America in addressing the challenges of globalization, and now they can guide the Army in achieving General Shinseki's vision.

CHAPTER TWO

Background

Sebestyen L. v. Gorka, Fellow at Harvard University's Kennedy School of Government, cites General Shinseki's vision for the future of American land forces as an overdue reveille. Since the collapse of the Soviet Union in 1991, it has grown increasingly clear that the Army's heavy-division, force-on-force Cold War concept is out of place. The last time the Army was the dominant player among U.S. forces was Operation Just Cause in 1989. This trend away from ground operations and territorial occupation is likely to continue.

The Army's sister services began to transform themselves in earnest following the 1997 release of a National Defense Panel report entitled *Transforming Defense: National Security in the 21st Century*. The Marine Corps, acting in conjunction with the vision of the Chief of Naval Operations, made the first adaptation by presenting a credible case for fighting the initial battles in wars by blending high-technology and maneuver warfare with the advantages of sea-based projection of power against the shore (Operational Maneuver from the Sea). The Air Force developed the concept of Air Expeditionary Forces - responsive force packages suited to the full spectrum of operations. This aerospace power concept implies truly global power-projection capabilities and "virtual presence" anywhere at anytime. The Navy, in support of Operational Maneuver from the Sea, has updated its deep attack capabilities against land targets via cruise missile strikes from surface and subsurface platforms.

Thus, the Army's sister services have all embraced flexibility and speed, giving them enhanced power-projection capabilities and virtual global presence. At the same

time, the Army has become a continental force that must prepare for regional wars in distant theaters and meet the requirements for contingent deployments to execute protracted stability and support operations. Now is the time for the Army to respond with a vision that reflects efficient and effective answers to these demands and underscores the vital importance of Army capabilities in the execution of national strategy. Having led the way into the post-Cold War era through the conduct of decisive maneuver during Operation Desert Storm, the Army has found it much more difficult to respond to the demands of contingency operations, involving more stability and support than warfighting, in widely separated theaters over extended periods of time.

As a result of its successes in the Gulf War, the Army has not had to respond to a military peer that could challenge it in symmetrical combat over the last decade. Some have accused the Army's leadership of a lack of vision and accused the Army of being the last of the services to respond to the post-Cold War, post-Desert Storm era. This interpretation, which sees the Army as a rigid and unchanging bureaucracy, is based more on stereotypes than reality and radically under-estimates the challenge of change before the Army.

The Army Training and Doctrine Command (TRADOC) has the mandate to assess the impact of a wide variety of factors - technological innovation, economic organization, and political, social and cultural factors - on the Army and to guide reorientation and transformation efforts as necessary.¹⁶ This organization, emerging out of the trauma of Vietnam, provided guidance for Army renewal during the 1970s and early 1980s, and equipped the Army with the doctrine of "Air-Land-Battle" that proved so effective in the campaign to liberate Kuwait.

In August 1991, TRADOC Commander General Frederick Franks, a Corps Commander in that campaign, set about formulating how the Army would fight in the greatly altered strategic world of the post-Desert Storm era. General Franks identified the new requirement for rapid force projection from the continental United States, but his focus was upon warfighting and heavy forces and not contingency deployments and peace keeping operations. General Shinseki's challenge at the dawn of the 21st Century is to achieve a rapid force projection capability and to ensure the Army is prepared for global challenges and regional responses. Given the demands placed upon the Army by protracted peace operations, the response must embrace maintaining warfighting capabilities while increasing the efficiency of forces deployed for stability and support operations. This challenge is not without precedent.

General Lesley J. McNair, Army Ground Forces Commander on the eve of America's entry into World War II, was tasked to reorganize Army Ground Forces to accommodate new technology and to accommodate austerity in deployment (shipping) assets. General McNair's objective was to create an expeditionary army by concentrating the maximum number of combat soldiers and the appropriate equipment in units capable of deploying globally and fighting under a wide array of regional conditions.¹⁷ The problem he faced was that the standard U.S. infantry division of the interwar years had been adapted from the lessons learned on the Western Front of World War I, where solid, square and redundant combat power had appeared to be the key to victory. In 1941 General McNair had to face the prospect of adapting that structure to global deployment requirements and a radical transformation in combined army combat.

Implementation of General McNair's 1942 organizational concept of "Streamlining and Pooling" suffered due to the tension that existed between the operational Army fighting in North Africa and the Southwest Pacific and the training Army preparing for the invasion of Europe and Japan. Raising new divisions out of old ones, adapting the force so that it could be rapidly deployed, and structuring the force for mechanized warfare demanded fundamental organizational adjustments. The tension that General McNair addressed in 1942 is similar to the tension that General Shinseki is addressing in 2000 with one significant difference. Under General Shinseki's watch the Army is preoccupied with stability and support operations, not major regional conflict. This period of relative calm provides an enviable window of opportunity in which to build consensus for the research, development and experimentation necessary for the Army to successfully tackle the tough issues surrounding organizational change.

A common mistake of leaders implementing change is to start recording data at the moment they accept responsibility for the change mandate. Often times, they completely overlook the background data that can be drawn from the groundwork that has already been laid.¹⁸ In this regard the experience of General McNair's attempt at organizational redesign can serve as the point of departure for researching the implications of organizational redesign within the Army at the dawn of the 21st Century. The practical application of General McNair's matrix style organization structure, as well as the practical application of the traditional and network style organizational structures, is assessed using business case studies focusing on Corporate America's responses to globalization. Although not a perfect match, these case studies are the best source of information for researching the macro level implications of the Army's reorganization

efforts – or lack there of. They provide excellent insight into the factors that necessitate organizational change and they highlight the principal tasks involved in managing the change.

At the beginning of the era of economic globalization - early 1980s - American businesses suddenly found themselves facing international competition from emerging industrial nations offering lower-cost or higher-quality alternatives to many products. With this threat came opportunity, as many businesses discovered new and expanded international markets for their goods and services. Success in these new markets was predicated on the organization's ability to meet the sometimes contradictory demands of developing global reach (leveraging consolidation and vertical integration) while simultaneously meeting the increasingly fickle demands of local markets.

Businesses discovered that their traditional hierarchical structure hampered this ability. Conversely, the adaptation of matrix and network style organizational structures allowed them, with varying degrees of success, to thrive in the new economic environment. The business world also learned that organizational change is a double-edge management tool. It can build a more agile and responsive organization or it can unleash a backlash of unrest and turbulence.

While focusing on market share - not preparing soldiers for war or contingency operations - these corporate analogies are valid because they can allow the Army to prosecute stability and support operations more efficiently. If the trend towards nontraditional military operations continues, warfighting effectiveness, more than ever before will be predicated on the efficient execution of stability and support operations. Besides reducing the warfighting degradation experienced by units, stability and support

operation efficiency also plays a critical role in politics. Every time the Army fails to highlight the successful execution of a stability and support operation in terms that underscore operational efficiency and political effectiveness it undermines the very contribution that the force - makes to the national security of the United States.

Given the difficulty and the importance of the organizational redesign process, it is critical that the Army's leadership studies past efforts to reorganize the Army and analyzes corporate case studies in order to take away current lessons learned. Many of the concerns that General Shinseki is facing in his attempt to organize the Army into a strategically responsive force are identical to the ones faced by chief executive officers in the corporate arena. A failure to study corporate America's reorganization efforts increases the risk that the Army's transformation efforts will fail, leaving the Army increasingly isolated and operationally and strategically irrelevant in comparison with its forward looking sister services. No organization will survive and prosper in the 21st Century if it is seen as increasingly irrelevant in a rapidly changing world.

CHAPTER THREE

Streamlining and Pooling

A review of past reorganization efforts emphasizes the fact that the Army, while in a constant state of flux, adopts a very conservative approach when it comes to organizational change. The profound uncertainties surrounding ground warfare is exemplified in the Army's offensive doctrine with calls for a three to one numeric advantage before attacking in order to ensure success. This conservatism coupled with the hectic pace of Army operations during the 1990s – the Army's senior leadership was consumed with issues of downsizing, budget reductions, force structure considerations, and Bosnia/Kosovo peacekeeping operations – serves to constrain the Army's ability to adapt to new global realities.

This apparent inability to quickly adapt is further reinforced by the tendency of personnel in large bureaucratic organizations to see new events in the world in the context of existing paradigms. Immediate issues conveniently serve as indicators of the future even though there is little evidence to support such a use. Operation Desert Storm may have validated the Cold War European order of battle but it is not necessarily representative of future combat. Congressional critics have argued that the Pentagon needs to shift away from Cold War weaponry and stop preparing to re-fight Operation Desert Storm.¹⁹ These critics support a comprehensive overhaul of the Army's combat posture and force mix, shifting away from threat-based planning, focusing instead on shaping capabilities.

Change in any bureaucracy, the Army included, requires momentum in order to overcome institutional inertia. In the case of the Army, this momentum for change has

often times been precipitated by a debacle. One example is the supply and logistics debacle during the Spanish American War that prompted Congress to eliminate the inefficient system of service supply.²⁰ A positive example of overcoming organizational inertia is the Army Ground Forces under the leadership of Army Chief of Staff General George C. Marshal, Jr. in the early 1940s. The convergence of industrialization trends plus resource and personnel constraints provided the catalyst that enabled General Marshall and his deputy, General McNair, to break the Army free from its existing organizational structure.

On the eve of World War II, the Army found itself in a rapidly changing world with technological advances on the rise mirrored by an increase in U.S. industrialization permitting the large-scale production of armored vehicles. These changes occurred against the contradictory backdrop of national self-absorption during the Great Depression and a rising tide of military adventurism by dictatorial regimes bent on hegemony in the international system. Mechanized warfare, the Blitzkrieg, had become the instrument of conquest.

General Marshall understood the necessity of transforming the American Army into an expeditionary force capable of land combat in Europe and the far reaches of the Pacific. That Army had to adapt to meet a modern foe in distant theaters. Marshall also understood that the Army had to be able to count on "superior quality and quantity in its equipment to compensate for its inability to mobilize superior manpower."²¹ General Marshall conveyed this necessity to General McNair.

General Lesley J. McNair

In March 1942, with the bulk of ground combat forces positioned in the U.S. awaiting commitment to battle, General Marshall authorized a plan to send thirty divisions to the United Kingdom for a cross-channel operation in April 1943. The bottleneck was shipping. General Marshall, hesitant to reduce the number of combat soldiers, was “extremely interested in maximum practicable reduction of overhead in all types of units.”²² The man General Marshall selected to direct the reorganization was General Lesley J. McNair in the role of Army Ground Forces Commander.

General McNair was a natural choice for the position as he was, by experience and inclination, an expert in organizational structures. As the leader of the reorganization effort, General McNair surveyed the Army’s internal and external environments and then formulated a strategy to manage the interactions between them. General McNair’s strategy for constructing the Army’s future was to aggressively challenge the prevailing factors internal to the Army while leaving to others the fight against the external factors. One external factor that significantly impacted the Army’s organization was the War Department memorandum dated 25 October 1942 notifying the Army Ground Forces:

Shipping considerations may dictate a considerable change in the basic structure of the Army. Since from the shipping capabilities already indicated, it appears that early employment of a mass Army, which must be transported by water, is not practicable, it follows that the trend must be toward light, easily transportable units.²³

The criticality of adopting a force structure with an efficient tooth-to-tail ratio was dramatically demonstrated by the fact that no infantry or armor divisions, formed after the bombing of Pearl Harbor, left the U.S. until December 1943 – two years after the declaration of war.²⁴ All ground combat operations launched in 1942 and 1943

emphasized the value of compactness in ground force organization. This compactness placed a premium on combat units actually being manned, equipped and trained to fight in combat and to do so with minimal support requirements.

General McNair's appreciation of the significance of organizational structure was gained as the Chief of Staff for the division conducting the exercises of 1937 and 1939 in which the War Department field-tested various organizational structures and by his tenure as Chief of Staff of General Headquarters. General McNair's leading concept in reorganizing Army tactical units was a simple one – concentrate the maximum of men and appropriate equipment in offensive striking units. General McNair's vision for tactical units in 1942 matches General Shinseki's vision for strategically responsive tactical units in the 21st Century – units characterized by responsiveness/deployability; agility/versatility; lethality/survivability; and sustainability.

General McNair derived from this simple concept the ideas of holding down non-tactical overhead, streamlining combat units for quick decisive action, and only assigning to units the personnel and equipment that were always needed. These ideas, categorized as Streamlining and Pooling, were designed to maximize the Army's ability to rapidly deploy anywhere in the world and successfully fight under a wide array of conditions. Under this concept, special personnel, special units and special equipment were maintained in a reserve pool under higher headquarters. Such pools kept personnel and equipment from idleness and permitted rapid massing for concentrated use – economy of force.

The two driving factors behind General McNair's Streamlining and Pooling concept were: economy and a wide fluctuation in mission requirements. Economy –

getting the maximum results out of allocated resources – entailed reducing the deployment footprint of combat units in response to shortages in manpower and equipment (the Air Forces and the Navy took priority). The wide variety of missions being assigned to combat units led to the conclusion that units “organically equipped with enough equipment to face all uncertainties would be so loaded down with usually unwanted appurtenances as to be disqualified to perform its normal role.”²⁵

In summary, a streamlined unit could respond to a wide variety of missions without being impaired by incidental elements. Pools existed to make disparate elements available when and where they could most profitably be employed. Advantages to Streamlining and Pooling are economy, mobility, and flexibility. Disadvantages are the dependency placed on combat commanders for support from higher commanders and the difficulties inherent in developing smoothly functioning combat teams from units that are only temporarily associated.

The Reduction Board (a team created by General McNair in answer to a War Department directive calling for a downward revision of tables of organization) ultimately tabled Streamlining and Pooling in favor of across the board cuts of 15 percent in personnel and 20 percent in equipment. The tabling of General McNair’s organization redesign was a result of the howls of protest from American commanders involved in combat in 1942 and 1943 as well as the general rush to get American units into theater.

The tension between the operational field Army in North Africa and General McNair’s training Army in America is illustrated in remarks made by General McNair following a field interview with General Patton. General McNair remarked that “the people over there are fighting and have given only fleeting consideration to organization.

Even though they have the prestige born of combat experience I certainly feel that their off-hand and fragmentary views are not infallible.”²⁶

Precedent for Change

General McNair was tragically killed in Normandy France while witnessing the first hand results of Army Ground Forces training programs. On 25 July 1944, U.S. aircraft dropped bombs short of their targets, causing 600 American casualties and the death of General McNair. Due to an absence of any substantive body of personal papers, little is written on General McNair and even less on his concept of Streamlining and Pooling. Although the Army collectively has forgotten General McNair’s organizational concept, the corporate business world has not. In today’s business vernacular, Streamlining and Pooling is analogous to a matrix style organizational structure. Despite being dated by 58 years, perhaps it is time for the Army to revisit General McNair’s concept.

The environment the U.S. Army finds itself in at the start of the 21st Century in many ways reflects the environment the Army faced in 1942. Due to the uncertain geopolitical environment following the end of the Cold War, Army units today face an incredible array of challenges ranging from major regional conflict to humanitarian missions. These challenges are even more diverse than those faced by General McNair’s Army Ground Forces units while preparing for world war.

The paradox that General McNair addressed – “an army may be immobilized by its own means of transportation” – is as true today as it was in 1942.²⁷ General McNair transformed an excessively heavy, continental U.S. based Army into one light enough for rapid global deployment. Similarly, General Shinseki is concerned with the challenge of

deploying and sustaining today's heavy combat units. In order to realize his ambitious goal of deploying a heavy brigade anywhere in the world within 96-hours, he must reduce the weight of combat units and he must do this in the face of tight budgets and shortages in personnel and equipment.

If the Army is to meet General Shinseki's vision for a rapidly deployable, strategically responsive force, it must adopt a revolutionary approach to organizational design; a revolutionary approach to training the force; and it must adopt an evolutionary approach to gaining the resources necessary to equip the force. A close examination of corporate responses to the challenges of globalization, if built upon the foundation laid by General McNair, can facilitate General Shinseki's revolutionary vision for organizational change. By heeding the lessons learned in the business community, General Shinseki can avoid missteps and in so doing, gain converts without the necessity of a galvanizing debacle.

Before studying the merits of General McNair's Streamlining and Pooling matrix style organizational structure in the 21st Century it is necessary to first assess the strengths and weaknesses of the traditional organizational structure. In organizational restructuring, knowing what an organization is changing from (what aspects of the present structure are blocking success?) is critical to deciding on a vision of what the organization should evolve into. The Army's traditional structure, after all, has served it well for many years.

CHAPTER FOUR

Traditional Organizational Structure

Traditional organizational structure, with its vertical hierarchy, was the natural form of military and civil organizational structure for more than two centuries. This was the genius of the Roman Cohort and Legion, rediscovered in the military revolution of the 17th Century and the foundation of modern standing armies. The reason is that hierarchy is the most effective social form for coordinating the interdependent behavior of thousands of people. By reducing the number of interfaces at each level of interaction, hierarchies limit an individual's span of control responsibilities to a manageable number of people.

The prevalence and longevity of the traditional style organization makes a strong case for the advantages of a hierarchy. Some of these advantages include: easier budgeting and cost control; availability of a broad manpower base with which to work; lines of responsibility easily defined and understandable; readily permits mass production activities and training within established specifications; and good control over personnel since each employee reports to only one boss. The traditional style organizational structure is extremely effective in a stable environment with known requirements.

Some of the disadvantages of a traditional organization include: long lead times required to gain approval of decisions; decisions normally favor the strongest functional group; response to customer needs is slow; motivation and innovation are decreased; and ideas tend to be functionally oriented with little regard for the overall organization.²⁸ The downside of the effectiveness of the traditional style is that it is not very efficient in responding to rapidly changing environmental factors.

Attempts to design less hierarchical organizations in the past have succeeded in reducing some of the debilitating side effects of rigid hierarchies, but decision and control processes remained hierarchical. The practical reason for this is that the information-processing task of managing all the interfaces in a nonhierarchical organization was simply overwhelming. A consequence of a traditional organization's rigid hierarchy is that the decision making process is slow and tedious with many good ideas never being reviewed because of the effort required to ensure that all communications travel up and down the vertical chains of command to the various functional managers.

From the business perspective, a major weakness of the traditional organizational structure is the fact that the tedious decision making process translates to a lack of customer focus. Typically the strongest functional group in the organization dominates the decision making process and the tendency is to do what favors their functional group rather than doing what is best for the long term success of the project and organization. Economies of scale, the secret to enhanced profitability, translates into an ossification of the control function and a corresponding reduction in adaptability.

With no customer focal point, the traditional organization responds in a similar fashion to all complex problems. Projects tend to fall behind schedule necessitating incredibly long lead times, which further reduces responsiveness. The cumulative effect is an organization that is incapable of taking into consideration changing consumer demands. In short, an organization that cannot adapt to its changing environment.

An example of a large traditionally organized corporation that almost failed due to its refusal to acknowledge the need for adaptation is the story of General Motors (GM). GM's decision making process - inherent to many traditional style organizations -

sufficed during predictable times. With the advent of globalization and the accompanying unpredictable external environment, however, the maximum control afforded by the classical structure becomes a liability - constraining GM's ability to adapt and survive. GM survived and is prospering today because it recognized the need to initiate organizational transformation.

General Motors Case Study

The extensive organizational similarities between GM and the Army ensures that many of the lessons GM learned while responding to the challenges of globalization are directly applicable to the Army and its attempts at revolutionary transformation. The Army and GM share a large scale, traditional organizational structure; both are governed by a culture of shared values; and both faced a growing loss of relevancy after enjoying decades of success. GM is of particular interest to the Army because its leadership addressed head-on the challenges of initiating transformation. The Army's senior leadership is experiencing the same pressures that GM's management experienced; a hesitancy to embrace new initiatives because of the feeling of being trapped without enough time to meet current commitments. The process is one of learning amid action - akin to "redesigning an airplane in flight."²⁹

GM's mastery of its business - the company enjoyed a brilliant sixty-year track record - made it the world's largest and most profitable manufacturing organization.³⁰ This run ended in the early 1980s when its main business - passenger automobiles - started reporting massive financial losses. What happened? Contributing factors include complacency, arrogance, and a static bureaucracy - classic symptoms of an organization that has stopped being a learning organization.

The malaise that GM experienced in the 1980s and early 1990s was due to the fact that its theory of the passenger automobile business was no longer valid. Since the 1920s, GM assumed that the U.S. automobile market was homogeneous in its values and segmented by extremely stable income groups. These market assumptions were the basis for decisions on how manufacturing should be organized. The goal was to maintain market share and high profits.

GM's manufacturing concept was long production runs of similar, mass-produced cars. The practice of producing large volumes of uniform cars built at low fixed costs worked well, even through the Depression, never failing to show a profit. During World War II, when contracts were awarded on a cost plus basis, GM took on a wide range of new products to arm U.S. and allied forces. In the first post-war decade, GM rode a pent-up demand for private cars into the future. By the 1980s, however, everything had changed. GM faced a serious challenge to not only its leadership but its very survival. The automobile market, similar to most other markets, started to fragment into highly volatile segments. Consumers began demanding differentiated products and products of greater quality. Low cost became only one of many factors consumers used in purchasing decisions.

The U.S. auto industry's first experience with globalization came at the hands of Japanese auto manufactures. The Japanese implementation of lean manufacturing techniques allowed them to produce small runs of widely diverse automobile models targeted initially at niche markets. GM, well aware of this practice, simply could not believe that their sixty-year-old business theory was in danger, much less invalid.

GM responded in the typically fashion of entrenched traditional organizations – it ignored the threat. GM's second step was to spend aggressively attempting to prove their invalid business theory correct. GM focused its efforts and resources on producing even larger numbers of low cost mass produced cars and lost an additional \$30 billion dollars in the process. It wasn't until GM faced fiscal ruin that it finally started thinking again – challenging its long held assumptions about the environment and its core competencies. GM's business theory was so successful for so long that the organization had forgotten the truism that eventually every business theory becomes obsolete and then invalid.

Under the guidance of John F. Smith, president and chief operating officer, GM responded to its business crisis by adopting a hybrid style organizational structure. Its core business is structured predominately as a traditional hierarchy, while a network of more than 260 major subsidiaries, joint ventures, and affiliates around the world meets its sustainment requirements. This style allows GM to focus on its core competency – manufacturing cars and trucks. By augmenting its traditional hierarchy with an experimental type organization, GM gained the ability to develop new technologies and new applications - to act with the urgency and speed of a small company while enjoying the economies of scale of a large company.

A reorganized GM survived the challenges of globalization, securing its position as the world's largest automotive corporation. GM reported first quarter 2000 earnings of over \$1.78 billion, employing more than 388,000 people and partnering with over 30,000 supplier companies worldwide.³¹ GM has a global presence in more than 200 countries including manufacturing operations in 50 countries. As these large numbers testify, a hybrid style GM still shares many similarities with the U.S. Army.

Criteria

The foremost lesson to be learned from GM's experience is that organizations resist organizational change at their own peril. In order to maintain viability during the globalization paradigm shift, all organizations must embrace organizational change. The Army must heed this lesson because it is so consumed with on-going small scale contingency operations that there is precious little discretionary time left over to pursue what is really important – initiating revolutionary transformation. What are the other lessons the Army can learn from General Motor's cautionary tale that will assist its transformation efforts into becoming the preeminent land warfighting force in the world - a full spectrum force capable of dominating at every point on the spectrum of operations?³²

Responsiveness & Deployability

An analysis of the GM case study indicates that large, traditional style organizations - industry immaterial - are typically at a disadvantage when evaluated for responsiveness and deployability. GM does enjoy a worldwide presence, but it has taken decades to establish this presence. During 1998, GM rolled the first Buick off the line at its new assembly plant in Shanghai, 18 months after the agreement to build products was signed. The speed of this feat is unprecedented for GM. Normally, years are required to reach agreements, build infrastructure and secure access to supplies before the first vehicle is built.

This long lead-time is analogous to the Army's forward deployment of heavy divisions and pre-positioned combat equipment in Europe during the Cold War and more recently to pre-position sites in the Gulf Region. The better part of fifty-years was spent

preparing the European battlefield – improving fighting positions and road / bridge networks – in anticipation of major land combat. In today’s era of global challenges, the Army can not plan on having such a luxury.

Army Chief of Staff General Eric Shinseki, speaking at the 1999 Association of the United States Army Convention, voiced his concern that the Army’s current force structure is poorly suited to meet the small-scale contingency requirements of the next century. General Shinseki specifically identified concerns with deploying and sustaining heavy divisions -- “heavy divisions are challenged to get to contingencies” -- and the fact that “light divisions lack staying power, lethality, and tactical mobility once inserted.”³³

Following Desert Storm, the Army responded in much the same manner as GM did when responding to the threat poised by Japanese auto-makers. The Army redoubled its efforts towards doing what it does best, essentially ignoring changes in the external environment. To the dismay of congressional critics, the Army focused its resources on upgrading the M1 tank and procuring weapon systems such as the 55-ton Crusader in anticipation of fighting the next Desert Storm.

The trend towards heavier systems in an era of increasing small scale contingency operations came to a head with the failure of the Army to achieve success in Kosovo with Task Force Hawk. Despite spending several hundred million dollars and employing 30 trains, 20 ships and 81 C-17 flights transporting two dozen AH-64 Apache attack helicopters to Albania, the Army never utilized them in combat. According to Army Secretary Louis Caldera, Task Force Hawk is a useful metaphor for the Army and why we need to transition to a lighter, more responsive force - one capable of deploying with minimal theater preparation.³⁴

Agility & Versatility

The traditional organization's disadvantage in terms of responsiveness and deployability is exceeded only by its disadvantages in terms of agility and versatility. Harry J. Pearce, vice chairman of GM, addressed this vulnerability in the March 2000 annual report to stockholders. Pearce, noting that most of GM's competition is striving to achieve the size and global reach of GM, concludes that the debate in the manufacturing community between big versus small is over. Big won.³⁵ Pearce, however, goes on to caution that with everyone striving to be big, GM needs more than just its size to maintain a competitive edge. It must maximize the strengths of being a large company, while acting with the urgency and speed of a small company. No small task, but one that mirrors the Army's challenges perfectly.

The difficulty with big is better is that agility is reduced and sometimes even eliminated. GM, for example, is at the fifteen-year mark in its efforts to establish manufacturing facilities in Latin America, Africa and the Middle East and these operations are still not yet profitable. Similarly, GM's inability to respond to Japanese auto manufacturer's "asymmetrical" attacks can be traced to GM's rigid decision making process.

GM's inability to respond to an asymmetrical attack presents an important lesson to the Army. The only certainty is that the next major regional conflict will not look like Operation Desert Storm. General Shinseki has voiced concerns about the "challenges that inhibit the Army's ability to negotiate rapidly the transitions from peacetime operations in one part of the world to small-scale contingencies or warfights in another."³⁶ GM's lack of agility and versatility negatively impacts its financial bottom

line; the Army's lack of agility and versatility potentially risks national security and the lives of soldiers.

As the Army embraces technology (the revolution in military affairs) to address the challenges of agility and versatility, it is increasing its vulnerability to asymmetrical attacks. This is because the information revolution favors loosely organized network style organizations, to include terrorist and criminal cells, over rigid hierarchical organizations like 20th Century militaries. To continue acting faster than potential enemies in seizing and holding the initiative, the Army must combine its combat arms core hierarchy with a more flexible alternative structure for combat support and service support elements. This is no small task.

Despite its hierarchical core, GM is able to maintain its technological edge - its technological agility and versatility - by incorporating entrepreneurial "skunk works" types of units.³⁷ These units typically are small, dynamic, semi isolated teams that produce genuine breakthroughs in development and design. This approach has allowed GM to develop cutting edge technology like the GM hybrid electric vehicle and space age fuel cells. General Shinseki's Medium Weight Brigade can serve effectively as the Army's "skunk works."

Sustainability

GM's presence in over 50 nations is analogous to the Army's world-wide operational commitments. A clear distinction, however, is that the Army sustains its operations with in-house personnel and assets while GM relies on over 30,000 supplier companies worldwide. GM recognized that sustainability was not a core business

function, so it contracted out those responsibilities. These contracts require extensive negotiations, long time horizons, and a great deal of trust.

The Army's sustainment requirements are complicated by two factors. The Army has grown accustomed to a prohibitively large logistic footprint and the unique requirement to ensure reliable resupply during times of heavy combat as well as in environments that are completely devoid of commercial infrastructure. The huge logistics base reflects the 50-year Cold War practice of prepositioning supplies (preparing the battlefield) in Europe in order to sustain major land combat. Operation Desert Storm was no different - six months were required to build the "iron-mountain" necessary to prepare the battlefield. Patriot air defense batteries have enjoyed success deploying to potentially hostile environments with a contingent of civilian technicians, but the requirement for sustainment during combat by civilian contractors remains problematic.

Despite these constraints, the fact remains that the Army can no longer afford to perform functions that can be more efficiently performed via contracts (medical, administrative, financial, mail), and it can no longer afford to buy and manage large quantities of spares in the field. The Army cannot follow GM's bigger is better philosophy due to fiscal restraints. Instead, the Army must increase reliance on automation and velocity management - skills that need to be contracted for from private companies (much like GM's global network of subsidiaries) - and it must augment military transportation assets focused on intra-theater movement with long-haul commercial air/sea transportation assets.

Summary

Rather than mimicking the decline of traditional corporate structures in the '80s, the Army must take advantage of this temporary period of unrivaled military supremacy and implement fundamental organizational change now. Business as usual will no longer suffice. The often-heard quip about how good people will make an organization work is quickly losing its validity.³⁸ Good personnel are important, but personnel alone are not sufficient to guarantee the success of an organization in the 21st Century. Only so much good can be accomplished with raw talent and sleepless nights.

If an organization is unwilling or is incapable of adapting, it is in no position to learn from its mistakes or to correct them. The non-learning organization falls farther and farther behind the competition until ultimately it becomes irrelevant. This does not have to be the case. Recent technological advances, coupled with changes in business practices reflecting the realities of globalization, are undermining the traditional hierarchical decision making process. Computer aided communications has facilitated the nearly instantaneous communications between thousands of members of an organization, permitting new forms of decision making and new styles of organizational structure to evolve.³⁹

Reflecting on the frustrations of challenging the Army to embrace reorganization, General Gordon R. Sullivan wrote:

The U.S. Army at the end of the Cold War looked frustratingly as it had at the end of World War II. The Army had been built on the same kinds of ideas about structure and decision making that the great industrialists had used to build American industry. The Army was good – very good – at gradual change, but it was poorly prepared to handle the avalanche of change thrust upon it as the Cold War came to a close.⁴⁰

All organizations, even the Army, need to embrace change in order to compete, survive, and win in the future. The first step in embracing change is setting the institutional conditions necessary to overcome the challenge of initiating transformation. Step one is creating an environment that fosters creative problem solving. This implies making structural and managerial changes. One example of a revolutionary change in structure and management style is the adaptation of General McNair's Streamlining and Pooling concept now referred to as the matrix style organizational structure.

CHAPTER FIVE

Matrix Organizational Structure

A matrix organizational structure is ideally suited for organizations that are project-driven. Since projects represent the purpose of the organization, the power and authority used by project managers comes directly from the general manager. Project managers are completely accountable for the project success. The functional departments headed by department heads, on the other hand, have functional responsibility to maintain a technical base of expertise and to ensure that this knowledge is made available to project managers. Fewer layers of management mean the hierarchy itself is flatter – thus the vertical dimension of the corporation is much less important. At the same time the horizontal dimension – the process by which all the divisions communicate and cooperate is the key to getting the benefits of collaboration.⁴¹

The tremendous popularity of the matrix style organization in the last twenty years presents a strong argument for the advantages of a flatter organization. Some of these advantages include the ability to share key people and equipment, maximizing their efficient use while minimizing costs. Key personnel can be assigned to a variety of projects, and upon completion, return to their “home.” Personnel in matrix structures are especially responsive to motivation. Functional department heads find it easy to develop and maintain a strong technical base, and therefore can spend more time on complex problem solving.

The disadvantages of a matrix style structure include the difficulty in creating a unified vision in an organization of specialists. More time and effort are needed initially to define policies and procedures. Functional managers may be biased according to their

own set of priorities, creating tension between management goals and project goals.

Monitoring and control is difficult since each project organization is working independently. People do not feel that they have any control over their own destiny when continuously reporting to multiple managers.⁴²

Management expert Peter Drucker uses the image of a symphony orchestra to describe the leaner and flatter matrix style organization. In Drucker's orchestra, performers with similar specialties form self managed work teams which concentrate on perfecting their unique specialties, while a single conductor coordinates the overall performance. For corporate players to make music together they must achieve a balance between concentrating on their own areas expertise and working together with others.⁴³

The matrix model values process over structure. Relationships, communication and the flexibility to combine resources are more important than the formal reporting relationships represented on an organizational chart. In an environment requiring speed and dexterity, what is important is not how responsibilities are divided but how people can pull together to pursue new opportunities. More responsibilities are delegated to those actually producing value for customers.⁴⁴

Corporate businesses adopted the matrix model in the late 1980s in response to a rapidly changing business climate. Somewhat belatedly, American businesses realized that in order to thrive, they had to become more adaptable. They had to be able to meet widely disparate customer demands and they had to meet those demands rapidly or else risk losing market share to a more nimble competitor. Customer demands could no longer be dominated by the traditional mass-produced, one-size-fits-all approach.

Customer driven organizations effectively substitute the customer's demands for the boss's demands.

Top corporate managers, increasingly frustrated at spending more time and energy on implementing strategies than choosing them, seized upon the matrix style organizational design because of its suitability to modern strategies. An example of a traditionally organized company that successfully made the transition to a matrix style organization is Houston based Shell Oil Company. After years of success based on an authoritative style leadership, Shell saw its fortunes wane during the 1980s as the forces of globalization radically altered the oil business. The "Coach, what do we do now?" attitude prevalent within Shell was proving ruinous as the company missed one opportunity after another. Under the vision of a new CEO, Shell became proficient at rethinking and reorganizing in response to new opportunities, resulting in a prosperous company today.

Shell Oil Case Study

Shell's experience offers important insight into one organization's revolutionary transformation from a traditional to a matrix style structure. Of particular interest to the Army are the lessons Shell Oil learned in overcoming the resistance of a bureaucracy to sustain change - to continually rethink and redesign itself in response to a fast changing environment. The extensive organizational and institutional similarities between Shell Oil before its transformation and today's Army ensure the applicability of the lessons learned to the challenges faced by General Shinseki. Today Shell Oil is a model for organizations striving for greater efficiencies in a rapidly changing global environment.

In the late 1980s, Shell Oil suffered a string of setbacks putting into motion layoffs and numerous other cost cutting measures. Philip Carroll, the new CEO of Shell Oil in early 1993, inherited a demoralized and confused company collectively wishing for a return to earlier boom times. Carroll took the reins with the personal mission of making a significant difference in the company. Carroll saw the opportunity to initiate a massive transformation at Shell – to embark on a comprehensive corporate make over. The cornerstone of Carroll's vision was the adoption of a new matrix style corporate structure modeled on principles of subsidiarity.

During much of Shell Oil's history, the company's fortunes were rigidly controlled by a hierarchical decision making process where senior managers made the decisions and subordinates executed them. This rigid control scored some major success, but in the end, proved a liability. One stunning success was CEO Bookout's 1979 purchase of Baldrige Oil for an unprecedented price of \$3.6 billion. The acquisition shocked the oil industry and it shocked Shell Oil managers. Bookout bet on Shell's then unique steam injection technology and his bet paid off as the technology tripled the predicted oil output. At the opposite end of the decision spectrum, Bookout's successor decided to dump a massive oil platform 150 miles off the Scottish Coast. Fears surrounding the 130 tones of heavy metal waste in the structure led to a crippling European consumer boycott and a 30% drop in Shell's European business. These stunning successes and failures were tolerated as long as Shell continued delivering profits. The oil collapse of 1985 ended profits and gave rise to a shareholder revolt.

Shell Oil entered a period of self-restructuring which soon came under the direction of Carroll. Carroll believed that rigid decision making by senior managers

negated the wealth of knowledge and experience held by managers at the local level – managers interacting daily with customers. He believed that for Shell to succeed in a world of globalization, Shell Oil had to be as nimble and effective as its smaller independent competitors while simultaneously leveraging the knowledge and economies of scale of its core functions. Employees have to learn to share resources and best practices and align around common business principles and behaviors.

Under Carroll, much of the centralized decision making power began to flow to local level offices and branches. Former cost and control centers became semiautonomous businesses. The transformation, while ultimately very successful, was not easy because of resistance on the part of senior managers. These managers felt they were placed in a double bind; accountable for the results of their subordinates yet wary of intervening for fear of conveying a lack of confidence.⁴⁵ By implementing internal boards to quality check local decisions, the fears of senior managers were addressed.

Carroll's adaptation of a matrix style organizational structure, with its implicit reliance on the instincts of local and regional managers, helped Shell Oil experience an unprecedented level of entrepreneurial innovation and a renewed sense of enthusiasm and commitment.⁴⁶ This success is translating into consistent growth in Shell's exploration, production, distribution, and sales business units – at a time when the oil industry as a whole is contracting.

Criteria

The essential lesson to take away from the Shell Oil story is that even the most promising efforts to transform an organization will die of natural causes if a concerted effort is not made to sustain the momentum. Left to its own devices, transformation

efforts will fail because of an organizational bias towards maintaining the status quo.

The greater the past successes of an organization, the greater the reluctance of its members to adapt to new structures and new management styles. The greatest difficulty Carroll faced in implementing a matrix style organizational structure was getting employees and leadership to drop their comfortable (one-size fits all) habits and pick up new ones.

General Shinseki is also confronting the challenge of sustaining change. In a dynamic world, each small scale contingency operation and every threat of hostilities requires the application of tailored assets working towards a unique solution. In the corporate world, as in the Army, the expectation to constantly rethink and redesign is often times viewed as threatening, but more than ever before, these actions are necessary to guarantee future success because time-tested, templated solutions will no suffice.

Responsiveness & Deployability

An advantage enjoyed by a matrix style organization over a similar, traditional style organization is greater responsiveness and greater deployability. Carroll discerned that in an era of globalization, economic organizations would have to grow “increasingly skilled at quickly providing a plethora of retail goods and services that can only be produced and consumed at the local level.”⁴⁷ This ability necessitates rapid responses to changing environmental factors - the ability to quickly move-in, set-up operations, and secure market share in advance of the competition. This situation is analogous to the Army's requirement to respond to widely divergent contingency missions - global challenges requiring regional responses – with one significant difference. The Army must set-up operations in advance not to control market share but to facilitate the

participation of allied nations who lack the capabilities to project themselves into undeveloped theaters.

The Army's lack of responsiveness and slow deployment time-lines in supporting small scale contingency operations is the subject of much political debate. Unfortunately, the Army's responsiveness and deployability shortcomings in disengaging from peace operations and redeploying to a major regional conflict, gets much less coverage. These shortcomings are well documented in a 1995 General Accounting Office (GAO) report which questions the assumption that the current organization of forces can transition from peace keeping to warfighting.⁴⁸ The report cites two primary concerns: the availability of airlift assets; and the belief that committed forces need training, supplies and equipment before redeploying to a major theater war. The GAO report concludes that the Army requires a major organizational transformation before it will be able to meet the deployment demands of simultaneous or nearly simultaneously contingency operations and/or warfighting scenarios.

The deployment of the 1st Armor Division to Bosnia-Herzegovina in support of Operation Joint Endeavor highlights the tension between deploying for warfighting and deploying for peace keeping. The 1st Armor Division's commanding general, Major General Nash, resisted calls for expediency and instead directed the methodical deployment of his entire division - heavy combat forces in the lead. The division commander wanted to present a credible threat to the warring factions by deploying overwhelming combat power.

The 1st Armor Division deployed to Bosnia-Herzegovina with its habitual combat organization of two heavy combat brigades (totaling approximately 4,400 soldiers tanks),

division artillery, and one reinforced engineer brigade (two additional battalions).⁴⁹

Aviation assets included one attack squadron, one lift squadron and an augmentation of CH-47 Chinooks. Recognizing this structure as optimal for combat but lacking in the expertise necessary to address the humanitarian aspects of peace operations, United States Army Europe (USAREUR) planners augmented the 1st Armor Division with an entire corps support package.

A negative consequence of deploying a full-up heavy combat division was that the anticipated quick deployment of U.S. forces into the theater became a slow, deliberate process. The pace of the deployment was further slowed by the necessity to cross the flooded Sava River. The 1st Armor Division commander executed the scheduled Transfer of Authority from United Nations forces on 20 December, assuming responsibility for a Task Force sector in the northeastern portion of Bosnia-Herzegovina. This transfer effectively started the mission clock running, despite the fact that the 1st Armor Division had no forces in country.⁵⁰ The Task Force remained short handed for the first thirty days with the 1st Brigade Combat Team arriving in sector on day twenty-five and the 2nd Brigade Combat Team arriving on day thirty-seven.⁵¹ While achieving the objective of presenting a credible threat - intimidating force was considered necessary to set terms with the Former Warring Factions - critics seized upon the slow pace of the deployment because they believed it signaled timidity and a lack of U.S. resolve.

If resolve is signaled via rapid deployment, then force packaging must be taken into consideration when planning future deployments. Shell Oil's version of force packing is making teams of experts (legal, financial, engineering, consulting, etc.) available as requested to assist front line leaders in seizing opportunities and in correcting

errors. The centralization of these teams allows them to stay abreast of the latest changes and innovations in their fields - providing the maximum possible benefit to field units when their services are requested.

Joint Publications cite modularity - tailored force packages - as a means towards faster and more efficient deployments. Recognizing that the uncertainty in the early stages of Operation Joint Endeavor warranted a warfighting posture, it is still possible that modularity could have allowed the planners to better match functional support capabilities with mission requirements. The deployment of the 1st Armored Division could have been expedited if capabilities absolutely required for the mission were the only ones deployed into the theater. This of course presumes that the situation is stable enough that minimum capabilities can be reasonably determined.

Agility & Versatility

The greatest advantage of Shell Oil's new matrix style structure is its ability to sustain change - to act faster than the competition in implementing new initiatives and in its ability to meet diverse market requirements. By constantly rethinking and reorganizing, Shell can quickly and efficiently reallocate expertise and capital in support of new opportunities. Robert Reich states that in order for the Army to gain and maintain a similar ability, it must transform its traditional organizational structure into a 'high-tech' professional armed force structure.⁵² This new structure must be capable of providing tailored military power for temporary international coalitions and it must better suited for working with outside agencies - governmental and non-governmental.

Trends in the 1990s confirm the need for a higher ratio of combat support and combat service support personnel (with their emphasis on policing, building,

transporting, and facilitating) in contrast to combat arms personnel. The current practice of deploying a division force structure in support of a stability and support operation leaves the commander with a disproportionately high ratio of combat arms personnel whose skills and equipment are sub-optimal for peace keeping. The division commander of the 10th Mountain Division in Haiti during Operation Uphold Democracy viewed this ratio imbalance as a limiting factor on his agility and versatility.

The challenge of selecting the proper mix of military forces for 21st Century contingency operations is captured in the “three block war” scenario touted by the Marine Corps. Humanitarian assistance in the morning; holding two warring factions apart mid-day; and engaging in lethal, high-intensity urban combat that night.⁵³ The dilemma facing General Shinseki is that while a preponderance of support personnel are optimal - even necessary - for peace operations, it is not conducive to combat operations. A matrix style organization, with its inherent ability to add and subtract personnel as required, is a proven technique for coping with this type of dynamic environment.

Sustainability

A major strength of the matrix style organizational structure is the reduced sustainability burden. Shell Oil’s philosophy of allowing field teams to strike-up local partnerships in order to gain access to resources and transportation assets - all the while backing them with teams of experts - allows Shell Oil personnel to focus on their core business. The Army has already adopted this outsourcing practice in Bosnia-Herzegovina by employing the civilian contractor Brown and Root to perform basic quality of life tasks. This decision facilitated the early withdrawal of the Corps Support Group, allowing it to focus its efforts on augmenting the Corps’ warfighting abilities.

The Army's challenge in sustaining units on today's battlefield is complicated by the fact that the modern battlefield is dispersed, non-contiguous, and manned with fast moving / high operational tempo units who generally harbor a mistrust of the logistics system. If this mistrust can be overcome, then smaller force packages (modules versus divisions) can be deployed into theaters. This means less equipment and fewer personnel -reducing fueling, feeding, and repairing requirements.

Sustainment issues go hand-in-hand with deployment issues. In the Kosovo operation, the Army's desire to "get into the fight" was questioned by Army Secretary Caldera after reviewing Army efforts to ensure that Task Force Hawk was properly sustained. To achieve the necessary level of sustainment, the Army brought in 10,300 pieces of equipment on 550 C-17 flights. The cargo included fourteen 70-ton M1A1 Abrams tanks, 42 Bradley Fighting Vehicles, twenty 5-ton Expando Vans, 190 containers of ammunition and enough repair kits for twice the number of Apaches in country. Sustainment efforts also called for thirty-seven Black Hawk and Chinook helicopters. In all, the Army sent 6,200 troops and 26,000 tons of equipment to Tirana, at a cost of \$480 million, to support and protect the Apaches.⁵⁴ Secretary Caldera cites Kosovo as an example where the sustainment mission took precedence over mission accomplishment.

Summary

National security experts, assessing the world security environment at the dawn of the 21st Century, predict the United States will not face a global peer competitor until approximately the year 2015 but that the U.S. will have to contend with a world security environment racked by conflicts internal to nation-states.⁵⁵ Recent history indicates that contingency operations will occur under unique circumstances, the resolution of which

will require a unique set of assets. This uniqueness implies greater interaction with allied forces, international organizations and non-governmental organizations.

Studying Shell Oil's transformation indicates that a matrix style organizational structure may assist the Army in interacting with multiple organizations. By adopting modular support units for example, the Army can better monitor U.S. operation tempo, "fencing" or protecting combat support and service support units from small scale contingency operations as necessary in order to allow them to focus on their warfighting core competencies. Additionally, by focusing on rapidly deployable support modules, the U.S. may drive its European allies to strengthen their deployable fighting strength – modernizing a force, which is currently incapable of power projection.

CHAPTER SIX

Conclusions

The post-Cold War Army faces a perplexing scenario: a mixture of missions ranging from high intensity war fighting to low intensity conflicts and peace keeping operations - global challenges necessitating regional responses. The underlying challenge to this "threat complexity" is the burden of providing instant reaction forces to deal with peace operation challenges and risks that are serious but fall short of major threats to national security while at the same time preserving the capacity to fight a major interstate war.⁵⁶ Efforts to increase peace operation capabilities tend to reduce warfighting readiness while a focus on warfighting readiness tends to constrain peace operation capabilities.

The fact that these increasingly complex tasks must be performed within the context of a shrinking defense budget / force structure and a growing public skepticism towards the military limits the possible solutions. As skepticism grows, there will be further demands for defense sector cost-savings amid a shift of resources to nonmilitary programs. These cost-saving measures will allow the Army to conduct research and development in advanced weapons systems and technologies but will not necessarily permit the Army to produce and deploy those weapons systems. This is significant because the U.S. quest for technological superiority may prove too elusive as competitors match our technology through off-the-shelf purchases.

In 1942, General McNair transformed an excessively heavy, continental U.S. based Army into one light enough for rapid global deployment. In response to the Cold War model of effective deterrence, the Army grew increasingly heavy as it prepared for

ground combat in Europe. In the 21st Century, the meaning of deterrence has changed. As expensive and complex weapons systems are fielded, the Army will continue evolving towards a small, highly trained, long-term and relatively well paid professional force. This smaller force must be better able to deal with a wide range of less serious but more immediate threats while maintaining core warfighting capabilities. The continuing uncertainty over the potential for major interstate war, however, necessitates the development of a force regeneration system that can reconstitute larger, combat forces capable of augmenting the active force in waging major theater wars.

The Army must read the tea leaves early on and address these trends. While the Army may plan for the wars it would like to fight, the Administration – not Army leadership – makes the decision of when and where to commit military force. GM and Shell Oil waited too long to initiate their organizational transformation – paying a hefty price in terms of profitability and disruptions to morale. There is the potential that the Army will wait too long to initiate its transformation because of its eagerness to embrace technology as the silver bullet solution to the question of strategic superiority.

Technology alone will not guarantee victory, especially since the ability of governments, militaries, and corporations to control aspects of commerce and innovation has greatly diminished. If the Army is going to leverage the RMA to maintain its supremacy then it must make substantial changes to its organizational structure because the RMA places greater value on organizational innovation than it does on technological change.⁵⁷ Structural rigidity and organizational complacency will cost the Army in terms of readiness, relevance and soldier lives, dooming the Army to a second place finish.

How can the Army avoid a second place finish? The U.S. Army must address the organizational dimension of change, focusing on three paramount concerns: What is the vision for the future? How to initiate transformation? How to sustain change? Excellent sources of information on these concerns can be found in the Streamlining and Pooling planning considerations developed by General McNair and the examples provided by business case studies addressing organizational transformation. The General Motors case study addresses the need to initiate change and the Shell Oil case study addresses the need to sustain change.

The trends buffeting the Army today indicate the need for an expeditionary style Army capable of responding to global challenges. A change of this magnitude must be guided by a clear vision - General McNair's Streamlining and Pooling concept. In Peter Senge's book *The Dance of Change*, all the interviewed chief executive officers agreed that vision is the paramount concern for organizational transformation. For the military, technological change increases the importance of strategic vision because the existing understanding of combat power calculus is rendered invalid. General Shinseki clearly stated his vision for an expeditionary Army and he has backed it up with quantifiable deployment goals and an aggressive time-line in which to meet those goals.

Meeting General Shinseki's ambitious goals will require significant organizational restructuring. Unfortunately, restructuring produces by-products like discontinuity, disorder, and distraction. Distraction in the organization "diverts people's attention from the critical focus and at the same time leaders may be less available to counter these three dangerous D's."⁵⁸ The three D's also represent opportunity - opportunity to make revolutionary change in terms of organizational restructuring and social innovation. By

making aggressive changes now, the Army can potentially avoid having to make even greater changes in the future – changes that may be in response to a military failure.

In the recent past, evolutionary change could ensure organizational survival while radical change could help gain advantage. In the information age, radical, ground-breaking change is necessary for survival. The three evaluation criteria - responsive/deployable; agile/versatile; and sustainable - are competitive necessities, not competitive advantages. The Army's sister services as well as perspective enemies, to include terrorist and criminal organizations, are embracing these qualities. The Army must do likewise.

In executing his vision for the Army's transformation, General Shinseki now must focus more on the transformation process and less on what the Army will ultimately look like. This will facilitate the institutional Army preparing for operations in 2010 and beyond while the Army in the field meets daily operational requirements. Rosabeth Kanter, an international authority on organizational change, reminds us to avoid the benchmarking trap - "Progress is not determined simply by the destination, it is also measured by the process."⁵⁹ The Army is embarking on a journey with no final destination and no rest stops.

Recommendations

"To try something new you must promise the moon. If you merely produce a few stars, everyone is disappointed."⁶⁰ General Shinseki's opportunity to try something new is the Medium Weight Brigade at Fort Lewis - the Army's "skunk works." This experimental unit, free of operational requirements, will seek to optimize a new operational concept and a new supporting organizational structure. These innovations

can take maximum advantage of emerging technology and enhance U.S. military capabilities while reducing manpower requirements.

In the meantime, the challenge of maintaining a combat oriented force posture and meeting peace keeping requirements can be met by improving the agility and versatility of the existing force. Greater modularity - the Shell Oil example - and increasing the use of capabilities outside the Army - the General Motors example - are two examples of techniques that can improve organizational agility and versatility.

Incorporating modularity (matrix style organizations) in the combat support branches, will eliminate the need for partial unit deployments and reduce the practice of cross leveling - a practice which leaves many stay-at-home units in a less than combat capable posture. Modular units can better operate as independent entities by integrating necessary support elements at the company level. Units reorganized in this manner can provide discrete capabilities without having to deploy as part of a large organization.⁶¹ Only the capabilities absolutely required in a theater need deploy. If the peace operation environment deteriorates, then additional combat modules can quickly deploy.

Relying on non-Army capabilities (network style organizational practice) such as interagency units, host nations and private organizations, will benefit the Army both in warfighting and peace operations by protecting critical combat service support warfighting assets from multiple peace keeping deployments. Private contractors can provide transportation, maintenance and construction capabilities in a timely manner, reducing the number of soldiers required on peace keeping deployments and reducing the wear and tear on essential combat service support equipment.

Relying on external capabilities logically implies an even greater reliance on Reserve and Guard forces, especially those specializing in psychological operations, engineer, transport, logistics, health service units. Frequent deployments of reservists and Guard units will require a tremendous organizational adjustment determining where those forces fit in the "total Army" team. This is especially true of the eight Guard combat divisions, which have steadfastly been excluded from a significant role in the Army's warfighting plans.

A RAND Arroyo study sponsored by the U.S. Army concludes that dedicating combat units exclusively to peace operations should be avoided because of funding and manpower concerns and because an effective peace keeping force is predicated on the credible threat of a combat trained and equipped force.⁶² This argues for keeping combat units - the Army's core competency - organized in a traditional hierarchical manner. These combat units, however, must be restructured in accordance with General McNair's Streamlining and Pooling initiative in order to reduce their size and weight. By standardizing combat units with baseline capabilities (the Medium Weight Brigade), the Army will benefit from increased agility and versatility along the spectrum of operations coupled with reduced deployment and sustainment requirements.

General Shinseki's revolutionary transformation will be for naught if there is not an accompanying comprehensive overhaul of air and naval forces - reviewing their capabilities for projecting army units to outlying areas. The Air Force Chief of Staff General Michael Ryan said that the number of aircraft currently available is "insufficient to deploy the transformed Army envisioned by General Shinseki."⁶³ The transformed force, while lighter, is still bulky - highlighting the fact that the critical constraint is still

the shortage in lift assets. The current pace of fielding one C-17 for every two C-141s retired argues for a much greater role for civilian air as well as the development of multi-hulled ultra fast ships. Perhaps in the 21st Century, there may be room for "out of the box" thinking about means of deployment that can offer the Army the ability to overcome the tyranny of time and space.

The concept of the American Corporation has been evolving for some time. Although most current proposals are presented as replacements for current organizational forms, trends indicate that in the near future, successful organizations will have to learn to operate in multiple modes simultaneously in order to sustain their competitive advantages. Organizations must manage for short-term efficiency by emphasizing stability and control, and for long term innovation by taking risks and learning by doing.⁶⁴ The most efficient organizations will be the ones that are capable of adopting the newest strategic issue early, perfecting it, institutionalizing it and then moving on to the next. The one long-term sustainable advantage will be the ability to reorganize.

Corporate America learned from General Sullivan, now the time has come for the Army to learn from Corporate America. Studying lessons learned benefits the Army by introducing it to the wealth of organizational knowledge held by corporations. This expertise can allow the Army to better meet its day-to-day operations while successfully executing a revolutionary organizational transformation. If the ability to reorganize is the key to future success, then it is critical that the Army models itself as a learning organization - one that can anticipate its competition and adapt as necessary. The world's future stability rests on the belief that the Army will successfully make the transformation to General Shinseki's full spectrum force.

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