LANDPOWER ESSAY SERIES

No. 98-4 July 1998

# A Century of Power Projection, 1898–1998

by

Dr. Charles R. Shrader

The United States has been a global power since 1898, and the involvement of the United States in world affairs has made it necessary to be able to deploy our military forces rapidly and in sufficient strength to influence the situation at even the most remote points on the globe. Before 1898, the United States Army had little experience in projecting its power outside the boundaries of the United States. Limited expeditions into Canada were mounted during the American Revolution and the War of 1812, and a more complex deployment of forces was made by land and sea to Mexico and to California during the Mexican War of 1846–48. However, the Spanish-American War of 1898 made the rapid projection of military forces outside the United States a permanent part of the capabilities required. The expeditions to Cuba, Puerto Rico and the Philippines in 1898 — and the subsequent sustainment of large U.S. forces abroad — established the parameters of power projection which have defined our military operations for nearly a century.

In the twentieth century, technological developments in strategic mobility, weapons design and information management as well as adaptive changes in military doctrine, strategy and force structure have significantly increased our ability to deploy forces to distant locations rapidly. The deployments of Army forces for the war with Spain in 1898, the Mexican border crisis of 1916, the two World Wars, the Korean War in 1950, the Vietnam War in 1965, the Persian Gulf War in 1990–91, and innumerable smaller expeditions in between, have provided a wealth of experience regarding the projection of our military power abroad. Many of the lessons presented by this experience were well-learned and firmly embedded in Army doctrine; others have had to be relearned in each succeeding

*Landpower Essay Series* is published by AUSA's Institute of Land Warfare. The series is designed to provide an outlet for original essays on topics that will stimulate professional discussion and further public understanding of the landpower aspects of national security. The content represents the personal opinions of the author and not necessarily the position of the Association of the United States Army or its members. Candidate essays of 2,000 words or less may be submitted to: Association of the United States Army, Institute of Land Warfare (Attn: Landpower Essay Series), 2425 Wilson Boulevard, Arlington, Virginia 22201.

crisis. The projection of American military power around the globe remains a central issue after nearly a century. As we face the challenges of the century ahead, it is worthwhile to consider the experience of the last one hundred years, and to ask: How has the environment of power projection changed since the Fifth Army Corps sailed for Cuba in 1898? What has been our experience with power projection since 1898? And what have we learned from our century of experience in power projection? (See figure 1 for a selected list of U.S. Army deployments since 1898.)

Fig. 1. **Selected United States Army Deployments Since 1898**

| Conflict/Operation | Dates | Army Troops Deployed |
|---|---|---|
| **Spanish-American War** (U.S. Fifth Army Corps to Cuba) | June 1898 | 17,000 |
| **Mexican Border** | March 1916–February 1917 | >112,000 |
| **World War I** (Total) | April 1917–November 1918 | 2,000,000 |
| **World War II** (Operation Bobcat) | January–February 1942 | 3,838 |
| **World War II** (Total) | December 1941–September 1945 | 8,000,000 |
| **Korean War** (Task Force Smith) | July 1950 | 540 |
| **Lebanon** (Operation Blue Bat) | July–November 1958 | >8,000 |
| **Dominican Republic** (Operation Power Pack) | April 1965–September 1966 | ca 12,500 |
| **Panama** (Operation Just Cause) | December 1989–January 1990 | 24,000* |
| **Grenada** (Operation Urgent Fury) | October–November 1983 | ca 1,500 |
| **Gulf War** (Operation Desert Shield/Storm) | August 1990–April 1991 | 304,648 |
| **Haiti** (Operation Uphold Democracy) | October 1994–March 1995 | 20,931 |
| **Somalia** (Operation Restore Hope) | December 1992–March 1995 | 2,590 |
| **Rwanda** (Operation Support Hope) | July–October 1994 | ca 3,600 |
| **Bosnia** (Operation Joint Endeavor) | December 1995–December 1996 | ca 23,000 |
| * Includes personnel of other services | | |

## A Century of Change

The changes in the political and military environment which have characterized the past century can be summed up in two words: *increased speed*. Today, political crises arise, become known and must be resolved in ever decreasing periods of time. Left to run on, they present the threat of escalation, unacceptable in an age of weapons of mass destruction. Consequently, political decisionmaking has been greatly accelerated, and any response involving the use of military forces must now be formulated and executed in a matter of hours or days rather than weeks and months. Fortunately, the same technological changes which have forced quick reaction to international crises have also provided the means to respond rapidly. Improvements in transportation technology have provided the means to assemble and move military forces in substantial strength in relatively short periods of time; new weapons technologies have increased our ability to concentrate ever greater military power in ever smaller packages; and advances in communications and in information management technology have improved our ability to plan power projection operations and control their progress. At the same time, the Army has responded to changes in the nature of the threat to U.S. interests and advances in technology by developing new doctrines, strategies and force structures to meet new threats and take maximum advantage of new technology.

## Changes in Technology

**Transport.** One of the most striking changes of the past century has been the improvement in transportation technology which has substantially increased the speed at which men and cargo can be moved from one point on the globe to another. Advances in naval architecture and propulsion systems have significantly increased the speed and carrying capacity of ocean-going vessels, and the spectacular development of the airplane from the slow and flimsy boxkite invented by the Wright brothers to the modern jet transport has totally transformed the parameters of power projection. In 1898, the 1,000-mile voyage of the Fifth Army Corps from Tampa, Florida, to Santiago de Cuba took six days; in 1965, the better part of the 3rd Brigade of the U.S. 82nd Airborne Division was deployed by air from Fort Bragg, North Carolina, to the Dominican Republic in less than twelve hours after the order to launch was given. At the turn of the century, the most advanced cargo vessels could sustain speeds of only 18–20 knots; today naval architects are designing vessels of substantially increased capacity which can sustain speeds four or five times as fast. Transport aircraft have undergone a similar evolution in just the last fifty years. The C–47 Skytrain — better known as the "Gooney Bird" — was the workhorse transport aircraft of World War II. It had a payload of about 6,700 lb., a cruising speed of about 185 miles per hour, and a range of about 1,500 miles. By contrast, the latest military transport, the C–17 Globemaster III, has a payload of about 170,900 lb., a cruising speed of about 500 miles per hour, and an unrefueled range of about 5,200 nautical miles.

Although speed and carrying capacity are at the core of strategic mobility by both sea and air, technological improvements in auxiliary transportation facilities and equipment — such as ports, landing craft, materials-handling equipment, containers and mid-air refueling — have also enhanced our ability to project military power. The state of ports of embarkation and debarkation as well as the availability of rapid land transport to and from the ports can influence substantially the time and effort required to deploy forces. Changes in materials-handling technology — particularly containerization and other advanced packaging methods — have further speeded the process of deploying forces, and the application of new technology to the problems of undeveloped landing sites has produced new, more efficient landing craft, the hovercraft and other aids to the discharge of cargoes and port and beach clearance.

Although advances in transportation technology have significantly increased our ability to deploy military forces rapidly and in strength, less progress has been made in insuring that a sufficient number of vessels and aircraft of suitable type are available when needed. As technological sophistication has increased, so have the costs of construction, operation and maintenance, thereby making it impractical for the U.S. armed forces to maintain a large number of suitable ships and planes on standby for emergencies. At the same time, changes in the international economy and patterns of trade have produced a decline in the United States merchant marine, making the taking up of the necessary number of ships from trade in an emergency even more problematic. A similar dynamic applies to commercial aircraft.

**Weapons.** The past century has witnessed changes in weapons design and materials which have produced a quantum increase in combat power with fewer troops and less equipment. The range and lethality of weapon systems have been significantly increased. At the same time, the size and weight of weapon systems have been reduced, thereby reducing the amount of scarce strategic transportation resources required to deliver equivalent amounts of combat power to battlefields worldwide. On the other hand, as the technological sophistication of U.S. combat units has increased so too has their demand for logistical support. For example, between 1942 and 1944 alone, the standard U.S. airborne division increased in size from 8,500 men and 408 trucks to 12,979 men and 1,000 trucks. The standard

World War II U.S. infantry division had over 2,000 trucks. The mechanization of U.S. military forces has continued unabated, and the increasing amounts of ammunition, fuel and supporting equipment required have offset most of the gains brought by advanced technology. Today, a U.S. infantry division consumes as much as a World War II U.S. field army. In Operation Desert Storm, the daily consumption of a U.S. division was 345,000 gallons of diesel, 50,000 gallons of aviation fuel, 213,000 gallons of water and 208 forty-foot tractor/trailer loads of other supplies. In the 100-hour war, one division consumed 2.4 million gallons of fuel or the equivalent of 475 5,000-gallon tanker loads. Even in noncombat situations, the quantities of supplies required are enormous. For example, the daily resupply requirement for the reinforced division-size Task Force Eagle in Bosnia-Herzegovina in 1995–96 was some 72,000 meals, 141,000 gallons of water, 204,000 gallons of fuel and 133 short tons of other supplies. This daily resupply alone required three truck convoys and four air sorties to move.

**Information Management.** The proliferation of means for the rapid transmission of information developed since the tum of the century has had a significant impact on power projection by enabling the rapid transmission of orders, counterorders, supply requisitions and other data. Innovations such as radio, telephone, facsimile, digital satellite communications and the Internet have served to expedite the deployment and employment of large military forces and to facilitate real-time control over their movement and support. At the same time, electronic data processing systems have made possible the ability to process large quantities of complex data quickly and accurately and thus have facilitated the complex planning and tracking of modern force deployments. Automated systems for the design, scheduling, tracking and management of deploying forces, such as the Joint Operations Planning System and Execution (JOPES) and the concept of time-phased force deployment planning, have made possible feats of planning and execution which were either impossible or tremendously time-consuming in the era of the stubby pencil. The current doctrine of "just-in-time" delivery of logistical support would scarcely be possible without the speedier communications and information management systems now available.

## Changes in Doctrine and Strategy

As both the threats faced by the United States and the available technology have changed over the past century, so too have the warmaking doctrines and the strategies adopted by the Army changed as well, particularly with respect to the employment of U.S. military forces overseas. Since the Fifth Corps sailed from Tampa in 1898, the U.S. Army has engaged in many contingency operations requiring the rapid deployment of forces from the continental United States, but until recently we did not have a real force projection doctrine nor were our military forces really configured to maximize their use in such missions. Only in the last decade has the Army begun to develop a genuine power projection doctrine, a doctrine embedded in the Force XXI and Army After Next concepts.

Until the mid-1970s, the United States relied on what was essentially a mobilization doctrine. That is to say, any threat to U.S. interests requiring the employment of military forces was to be contained by the small Regular forces in being while the nation mobilized its vast resources and positioned them for a massive and decisive engagement of the enemy. Designed originally in the nineteenth century to counter any invasion of the United States, the mobilization model was subsequently applied in the twentieth century to situations requiring the deployment of U.S. forces overseas. This was the basic doctrinal and strategic principle followed in the war with Spain, the two World Wars, the Korean War and the Vietnam war, although the requirement to station forces in Central Europe and the Far East after 1945 led gradually to the emergence of the concept of

"forward-deployed" forces maintained in a high state of matériel and training readiness in the most likely theaters of operation.

In the mid-1970s, changes in the strategic environment and available technology brought about a real shift away from the prevailing mobilization model to a far different principle, that of the "come-as-you-are" war in which the existing forward-deployed forces would absorb the brunt of an enemy's initial onslaught until they could be reinforced by forces in being deployed from the continental United States. The epitome of this strategic doctrine was the annual Reforger exercise in Germany. Underlying this abandonment of the traditional lengthy mobilization process was the idea that any threat to the survival of the United States or the protection of its vital interests would probably be met by an early escalation to nuclear warfare in which case the conflict would be resolved long before the long and complex process of mobilizing, equipping and training a decisive land army could be completed. Directed primarily at the Soviet Union, this forward-deployed strategy itself began to evolve in the late 1980s into the force projection strategy which now prevails. The replacement of the Soviet threat with a multitude of smaller but no less serious threats to U.S. interests around the world as well as increasing demands for lower defense budgets at home demanded a more flexible doctrine in which U.S. forces, based primarily in the United States, would be configured to deploy rapidly and in sufficient combat power to protect U.S. interests wherever they needed to be protected.

The changing international political situation as well as economic considerations have reduced somewhat the reliance on fully armed and trained forward-deployed forces, although they continue to be a key element of current strategy in which U.S. forces are expected to deal simultaneously with two major theater wars. The resulting demand for projectable combat power with increased emphasis on readiness, transportability and focused training of existing forces, as well as on the airlift and sealift necessary to deploy them promptly wherever needed, is embodied in the Army's modernization plan known as Force XXI, which foresees an Army specifically designed for power projection missions in which forces will be deployed directly from either the continental United States or forward locations to the theater of operations.

## Changes in Force Structure

The development of force structure responds to changes in the strategic environment, particularly the existing threats and the available technology, as well as to changes in the political and economic environment. There is inevitably a gap between the appearance of a new threat or a new technology and the development of the doctrine, strategy and force structure needed to counter the threat or absorb the new technology. For the past century, the Army has struggled to ensure that its doctrine and forces were suited to the next war, not the last one. Even so, the focus on the most likely major conflict has meant that the forces available were seldom well-suited — in size, structure, training or transportability — for the many smaller-scale operations which have arisen. Thus, for the most part contingency operations and conflicts short of general war have had to be handled by ad hoc forces selected from the existing number and types of units. Consequently, such forces, although often successful, were seldom configured to maximize their use in rapid-deployment force projection missions. Only in the last quarter of the present century has the Army sought to structure its forces so as to maximize their effectiveness and efficiency in operations short of general war.

Throughout the period in which U.S. military doctrine emphasized the mobilization model, the evolving force structure emphasized the creation of fully-capable, fully-trained forces, often of a "heavy" variety with plentiful armor and artillery support as well as a substantial administrative and

logistical tail. The changes in threat, technology and doctrine already noted have led to an emphasis on lighter but even more powerful forces maintained at a constant high state of training and configured to facilitate rapid deployment by air and sea. Transportability and the enhancement of combat power by improved command and control, more capable weapon systems, and a high degree of flexibility and maneuverability have become the principal objectives of force structuring.

The perceived need for lighter and more flexible forces has produced substantial decreases in the bulk of combat forces with a simultaneous increase in their combat power. The World War I square division of four infantry regiments had some 28,015 men. In 1939, the Army adopted a triangular division of three infantry regiments intended to be smaller and faster but with the same firepower as the old square division. In June 1941, the triangular division was authorized a total of 15,245 men, but by January 1945 the number of men had been reduced to 14,037, with an actual increase in combat power. The Korean War was fought with divisions of the same triangular structure but provided with some 18,855 men. In the mid-1950s, the Army experimented briefly with a pentomic division of five battle groups designed to fight and survive on the nuclear battlefield. Authorized some 12,000 combat and combat support troops in five battle groups, the Pentomic division proved unwieldy given the then current state of communications technology, and it was soon abandoned in favor of the so-called ROAD (Reorganization Objective Army Division) with an authorized strength of 15,891 men. The ROAD division was built around three brigade headquarters to which could be attached varying numbers and types of combat battalions. Designed to maximize the ability of the commander to tailor his forces for specific missions, the ROAD concept was subsequently replicated in later division structures, such as the airmobile division, the high-tech light division, and the current series of divisional organizations.

Until recently, the principal means of achieving greater combat power in smaller packages has been the substitution of technology for manpower. While the effort to reduce the number of combat troops while simultaneously increasing combat power through better weapons, better communications and greater maneuverability has been generally successful, the application of new technology has frequently resulted in increased need for logistical support. Thus, the need for combat service support forces has actually increased, thereby offsetting the gains made in reducing the size of combat forces. Only in the past decade have strong efforts been made to apply new technology to reduce the need for a large administrative and logistical "tail." Improved transportation and information management methods have made this possible, thereby breaking with the trend toward a growing ratio between combat and supporting forces.

Despite stringent efforts to reduce the "footprint" of the combat forces, the growing shortfall in available air and sea lift has required a continued reliance on forward-deployed forces and increased emphasis on prepositioned equipment and supplies as well as the reduction of required supply inventories in theater through the use of "just-in-time" deliveries and other advanced logistical concepts and methods. Based on the precepts of Force XXI and Army Vision 2010, Army planners today envision an Army clearly designed for the power projection mission — an Army which will be more lethal, more versatile, more mobile both strategically and operationally, and less encumbered by a massive administrative and logistical tail.

## A Century of Experience

Since 1898, advances in transportation technology, weapons design and information management systems, as well as new doctrine and force structure, have greatly enhanced our ability to project

United States landpower abroad wherever and whenever required, and world events have ensured the frequent testing of that ability. The demands of two world wars, four limited wars and innumerable punitive expeditions, interventions and noncombat deployments — as well as the demands of routinely supporting large numbers of troops overseas — have generated a wealth of experience in power projection.

The deployment of the Fifth Army Corps to Cuba in the early summer of 1898 was the U.S. Army's first experience with a major overseas deployment since the Mexican War of 1846–48. The assembly of the 25,000-man force in Tampa, Florida, and its subsequent movement to Cuba was fraught with difficulties arising from the lack of adequate transport, poor embarkation and debarkation facilities, and the lack of experience in such complex operations. Obtaining the necessary shipping was a major challenge. At the time, the U.S. Army had no transports of its own, and methods of taking up shipping from trade, worked out in the Civil War, had been long unused. Only with the greatest difficulty did the Quartermaster Department manage to buy or lease the minimum amount of transport necessary and carry out the modifications necessary to convert the vessels acquired to barely adequate troop and cargo transports. Even so, the fleet of thirty-one transports and seven auxiliary vessels was still insufficient to lift the entire Fifth Corps and all of its animals, equipment and supplies. The lack of sufficient shipping meant that some 8,000 men, most of the horses, wagons and ambulances, and critical supplies had to be left behind.

Major problems were also encountered in assembling the men, animals, and matériel at Tampa for the movement to Cuba. By mid-May, the railroad congestion leading to the embarkation area — which was served by only one single-track line and one pier — was massive. Railcars were arriving at the rate of fifty per day, but only two or three could be unloaded. Some one thousand freight cars were backed up to the north for one hundred miles, almost to Columbia, South Carolina. The failure to provide advanced bills of lading for the cars and the lack of any external markings on the cars themselves made it almost impossible to identify and expedite the movement of critical cargo, and an officer and a NCO had to be detailed to open each car and note its contents.

Ordered to sail on 7 June 1898, the Fifth Corps lost control of the embarkation completely, and units such as Theodore Roosevelt's Rough Riders, eager to reach the battlefield, commandeered the available shipping without regard to the loading plans which had been laboriously drawn up. The force of 38 vessels finally departed for the 1,000-mile, 30-hour voyage to Cuba on 14 June, and arrived off Santiago de Cuba on 20 June with a force of some 17,000 officers and men, three hundred civilian teamsters, 89 journalists, fifteen foreign military observers, and 2,295 animals. The subsequent landings at Daiquiri and other points on the Cuban coast provided another scene of chaos due to extremely poor landing facilities, lack of suitable landing craft, and near total ignorance of how to manage such a complex landing operation. Spared the consequences of its inexperience by Spanish inactivity in opposing the landing, Major General William R. Shafter's Fifth Corps eventually managed to establish itself ashore and went on to achieve a relatively quick victory over the Spanish defenders of Santiago de Cuba — a victory which certainly had more to do with Spanish weaknesses than it did with the Army's ability to project its power overseas efficiently and effectively.

As the Fifth Corps struggled to move the short distance from Tampa to Cuba, the Eighth Army Corps assembled in San Francisco and moved across the Pacific Ocean to the Philippine Islands to seize Manila from the Spaniards. In stark contrast to the Tampa embarkation, the assembly and embarkation of the Eighth Corps proceeded smoothly. The first increment of 2,491 officers and men left San Francisco in three ships on 25 May 1898, and arrived off Manila on 30 June after a 7,000-mile voyage. The remainder of the force of over 16,000 men sailed in good order before the end of

July, and on 13 August 1898, Major General Wesley Merritt's Eighth Army Corps handily took Manila thereby achieving its assigned mission.

The forces deployed overseas in 1898 were the product of a hasty and partial mobilization which precluded precise alignment of men and equipment to the mission and the thorough training for that mission. The Fifth and Eighth Corps were "pick-up ball teams" by no means tailored for maximum efficiency and effectiveness in carrying out either the deployment itself or the subsequent combat operations on land. This remained true of small-scale U.S. contingency operations until late in the twentieth century. To undertake various contingency missions, forces were selected from the existing force structure. Such forces were generally not configured for such missions, nor were the men trained for them except perhaps for some last-minute augmentation of their normal training.

The confused movement of Army forces to Cuba in 1898 and the subsequent requirement to support relatively large Army forces overseas prompted the creation of an Army General Staff and many improvements in the means and methods of deploying and sustaining Army forces. An Army Transport Service was established, supporting equipment and facilities were improved, and effective methods were worked out for planning and managing overseas deployments. These new means and methods for power projection were tested several times in minor deployments in Asia and in the Caribbean in the first decades of the twentieth century. A somewhat different challenge was faced between 15 March 1916 and 5 February 1917, as more than 112,000 men, most of them National Guardsmen, were massed on the Mexican border to participate in the Punitive Expedition against Pancho Villa. Although only 10,000 Regulars crossed over into Mexico to pursue the miscreants, the assembly of such a large force in a relatively short time demonstrated that many of the lessons of the Spanish-American War had been learned well and that the fledgling Army General Staff was up to the task of a major mobilization and concentration of forces.

The Army's new-found competence in large-scale mobilization and overseas movement was soon tested by the entry of the United States into World War I in April 1917. Dwarfing anything that had gone before, the deployment of some 500,000 men and massive amounts of equipment to France in the first thirteen months after the United States declared war saw the recurrence of many of the problems first faced at Tampa in 1898. Massive railroad congestion on the East Coast of the United States in the winter of 1917–18 nearly brought the deployment of U.S. forces to a halt, and the serious lack of available shipping for the 3,000-mile voyage to France further slowed the buildup of the American Expeditionary Force (AEF). This delayed the effective entry of American combat forces into the fight against the Central Powers and complicated General John J. Pershing's efforts to keep the American forces from being broken up to provide replacements for the exhausted British and French divisions. Of the first half-million men transported to France, over fifty percent were moved on British ships, and critical shortages in shipping meant that the AEF had to be equipped largely with British and French automatic weapons, artillery and other equipment, some of which was inferior to the standard American types. Congestion in the French ports assigned to the AEF further hampered operations, and the lack of adequate numbers of logistical troops required the breakup of several combat divisions to serve as stevedores and warehousemen, thereby further delaying the entry of much-needed American combat forces into the battle.

Despite the problems and delays, the small but fresh and enthusiastic AEF tipped the balance in favor of the Allies, and the war was won, but it was a near-run thing despite the movement of some two million men and over 7.4 million tons of cargo to France between 17 April 1917 and 30 April 1919. Although the movement of the AEF to France was a magnificent achievement and involved large numbers of troops and mountains of equipment and supplies, it cannot be compared to the

current power projection process in which fully-equipped, fully-trained units are delivered directly to the battlefield by air and sea. For example, the first elements of the U.S. 1st Division — formed in late May 1917 — arrived at St. Nazaire, France, on 26 June 1917, but the division was not ready to be committed to major combat operations until nearly a year later, in late May 1918.

During the 1920s and 1930s, Army leaders absorbed the mobilization and overseas deployment lessons of the First World War, and small Army contingents participated with the other services in a number of minor deployments in the Caribbean and elsewhere. The development of force projection doctrine and methods paralleled technological advances in ship and landing-craft design, aircraft development, weapons design and information management methods, all of which accelerated tremendously in the course of the Second World War from 1941 to 1945. Nevertheless, Operation Bobcat, the first deployment of United States forces to the Pacific after the bombing of Pearl Harbor by the Japanese on 7 December 1941, revealed that many of the old problems remained. The decision to deploy a joint Army-Navy force to construct a naval fueling base on Bora Bora in the South Pacific was made on 8 January 1942, and following the usual problems of securing scarce shipping and converting it to military use, assembling the men and matériel, misidentification of cargo, and lack of adequate loading facilities, the joint task force, including 3,838 Army personnel, sailed from Charleston, South Carolina, on 27 January 1942 and arrived off Bora Bora on 17 February. Once at Bora Bora, the force experienced significant delays in landing due to inadequate stowage plans, lack of adequate materials-handling equipment and lighterage needed to discharge the ships, insufficient logistical support troops, and poor landing facilities. The ships involved — vulnerable to Japanese attack and critically needed for other missions — sat off Bora Bora for fifty-two days. The Bora Bora task force was fortunate in not being attacked during the confused debarkation phase, and the forces assigned to Operation Bobcat eventually went on to complete their mission. In the end, the Bora Bora debacle proved to be something of a blessing in disguise. Out of it came the development of the improved means and systematic methods subsequently used for the successful amphibious campaigns in the Pacific and the Mediterranean, the Normandy invasion, and other massive power projection operations during World War II which saw the rapid, efficient overseas deployment of some 8.3 million military personnel and some 135 million measurement tons of equipment and supplies worldwide.

In general, the Army forces deployed overseas in World War II, unlike their World War I counterparts, were fully equipped and trained for the mission at hand. Often, as in Operation Torch (the invasion of North Africa) in November 1942 and some of the amphibious assaults in the Pacific, forces loaded in the United States were committed into combat directly from the ships which carried them, and the techniques for such force projection operations were highly developed. However, despite the massive output of American industry, the timing of operations in World War II was frequently affected by shortages in shipping and landing craft. Indeed, the demand for shipping had a major impact on Army force structure during the war. Plans for the formation and employment of specialized units, such as the motorized division and the armored corps, had to be abandoned due to their excessive requirements for shipping space. This lesson, and its corollary — the concept of "pooling" of specialized units — stuck in the mind of Army planners and has influenced all subsequent force structuring endeavors.

Precious little time was available to absorb the power projection lessons of World War II before the outbreak of the Korean War in June 1950. Speed was of the essence in the deployment of U.S. forces to Korea during the critical early days of the war as overmatched United States and Republic of Korea forces struggled to retain a foothold on the peninsula. A half-century of power projection experience paid off in the crisis as U.S. forces from Japan, Okinawa and the United States were rushed to the scene. The spearhead of U.S. Army forces deployed to Korea was Task Force Smith,

formed from the 1st Battalion, 21st Regimental Combat Team (RCT), 24th Infantry Division. The first increment of TF Smith, consisting of a provisional battalion headquarters, two rifle companies, one 4.2-inch mortar platoon, one 75mm recoilless rifle platoon, and six bazooka teams, left Japan by air on 1 July 1950 and arrived on the battleline near Taejon, Korea, at 0700 hours on 2 July. The initial increment of 406 men and fifty vehicles was joined the same day by the 134 men and 79 vehicles of Battery A, 52nd Field Artillery, and the remainder of the 21st RCT proceeded by ship on 3 July with logistical support elements following on 8 July.

Although all but annihilated by North Korean forces near Osan on 5 July, TF Smith was just the first of a stream of United States and United Nations forces deployed to resist the Communist aggression in Korea. In the first three months of the Korean War, the U.S. Army transported more than 100,000 men and nearly two million tons of equipment and supplies to Korea. In all, during the three years and one month of the Korean War, United States armed forces moved some 31.5 million measurement tons of cargo to Korea, twice the amount moved to France in World War I. The speed with which some of the forces deployed to Korea was phenomenal given the transportation technology of the day. In one of the fastest deployments of an entire infantry division from home station to battlefront up to that time, the 2nd Infantry Division at Tacoma, Washington, was brought up to strength in men and equipment, movement requirements were calculated, ships were ordered, loading plans were made, and the ten transports and eleven cargo ships were loaded and sailed for Pusan within a few days. On 8 August, just thirty days after being alerted for movement, elements of the 9th Regimental Combat Team entered the fight. By 20 August, the remainder of the division's combat elements had arrived in Pusan, and on 25 August — the 2nd Infantry Division relieved the exhausted 24th Infantry Division on the thinly-held but critical defensive line now known as the Pusan Perimeter.

The deployment of U.S. forces from Europe to Lebanon in the summer of 1958 was representative of the many small-scale power projections of the U.S. Army in the twentieth century. On 14 July 1958, the U.S. government received a request for assistance from Camille Chamoun, the president of Lebanon. The same day, the U.S. Joint Chiefs of Staff alerted U.S. forces in Europe for movement to Lebanon, and on 16 July, 3,000 U.S. Marines landed in Beirut. Army Task Force 201, composed of elements of the 187th Infantry Battle Group, 24th Infantry Division, began arriving in Beirut on 19 July, five days after being alerted. By 25 July, TF 201 had deployed over 3,000 men and 2,500 short tons of cargo in 242 air sorties and another 3,650 men and 45,450 measurement tons of equipment on three transports and thirteen cargo vessels. Eventually, Army cargo moved to Lebanon amounted to some 72,011 measurement tons. As in Cuba in 1898, Bora Bora in 1942 and elsewhere, the movement was hampered by difficulties in obtaining the necessary air and sea transport, inadequate loading and unloading facilities, improperly marked cargo and the lack of accurate manifests, and general confusion in the planning and execution of the movement, but the mission was accomplished.

The deployment of U.S. forces to Vietnam in the 1960s was incremental and resembled the slow, massive buildup of forces characteristic of World War I and World War II more than the small, rapid force projection operations such as Lebanon in 1958 or the Dominican Republic in 1965. In the seventeen months after July 1965, some 385,000 troops moved from the United States to Vietnam. During the same period, over 17 million short tons of dry cargo were delivered by sea and more than 750,000 short tons were delivered by air. The buildup included some $4 billion in construction including seven deep-water ports with 27 berths, 12 runways at eight major air bases and 200 smaller airfields and 200 heliports, 11 million square feet of covered storage, 1.8 million cubic feet of refrigerated storage, and 8,250 hospital beds.

The degree to which strategic mobility had become a critical factor in American power projection by the last decade of the twentieth century was evident in the Gulf War of 1990–91. President George Bush ordered the first deployment of U.S. troops to the Gulf on 7 August 1990. By 1 March 1991, coalition forces in the Gulf region included over 539,000 United States and 270,000 coalition military personnel as well as over 12,400 tracked and 117,000 wheeled vehicles, 1,800 helicopters, and a naval force of over 210 ships, including two battleships and six aircraft carriers with 360 combat aircraft. For the most part, the U.S. forces involved were moved to the Gulf from the United States and Europe in a period of just over 160 days. It took one full year to move 184,000 soldiers to Vietnam; that many moved to Saudi Arabia in just 88 days.

The United States Transportation Command coordinated some 576 ship voyages and 10,002 aircraft sorties to move over a half-million troops and 5.7 million metric tons of equipment and supplies over the long supply lines from the United States, Europe and elsewhere. The first of thirteen Maritime Prepositioning Ships began unloading supplies to support the Marines in Saudi Arabia just nine days after notification, and seventy-nine merchant ships of the Ready Reserve Fleet were activated to augment United States and foreign charters. Over 15,400 air transport missions were flown, ferrying 524,000 tons of cargo and 484,000 passengers. The Civilian Reserve Air Fleet (CRAF) was activated for the first time, and over 100 CRAF planes flew the equivalent of two and one-half Berlin Airlifts in just 16 weeks. In theater, an additional 9,500 air missions moved over 100,000 tons of cargo and 75,000 passengers, and United States transporters drove over 35 million miles. When the war was over, some 1.7 million tons of ammunition, equipment and spare parts were shipped back to the United States or to other locations outside the Persian Gulf.

In the Army's most recent major power projection operation, United States Army Europe (USAREUR), assisted by Army forces worldwide, deployed some 23,000 troops and 212,000 short tons of cargo from Germany to Bosnia-Herzegovina in just 56 days for Operation Joint Endeavor. The movement, which employed 409 trains with 7,340 boxcars, 471 buses, 1,358 aircraft sorties and 1,637 trucks, was not without its problems. As the first major U.S. Army overland movement of combat-ready forces since World War II, Operation Joint Endeavor suffered from the lack of experience in such overland movements, the complications of moving a large military force across multiple international boundaries, and the usual problems of inadequate planning time, too few trained logistical troops, and incomplete force tracking. Nevertheless, the mission was accomplished on time and in relatively good order, and the subsequent redeployment of the force back to Germany in December 1996 was a model of creative planning and careful execution.

## A Century of Lessons Learned and Relearned

Undoubtedly, the most recent major power projection operations of the U.S. Army — to the Gulf in 1990–91 and to Bosnia in 1995–96 — have been extraordinarily successful from both the operational and logistical points of view. Nevertheless, wondrous technology and the dynamic story of these fast-moving and ultimately successful operations have masked the recurrence of a number of very hoary problems, some of them going back nearly a century to the United States' first major overseas deployment to Cuba in the Spanish-American War. Transportation managers faced serious shortages of sea and air transport, and much of what was available was unsuited to the task at hand or required time-consuming repairs and modifications which significantly delayed the deployment. The efficient use of the scarce transport available was further complicated by problems in calling forward units and cargo to the ports of embarkation and confusion regarding the assignment of transports. Deploying units did not know what their transportation requirements were and

consistently sought to take with them considerable amounts of extra matériel. Identification of cargo was just as serious a problem in 1990 as it had been in 1898; containers on the pier in Saudi Arabia in 1990, like the railroad cars outside Tampa in 1898, were inadequately marked as to contents and had to be opened one by one to determine their contents, thus hindering off-loading operations and adding to the delays in port clearance. The conscious decision to defer the deployment of logistical troops in order to increase the flow of combat forces into the theater of operations also created additional backlogs in port clearance and seriously complicated the provision of adequate logistical support at the far end of the line of communication.

Eventual accomplishment of the mission was not compromised by such shortcomings in power projection, which were ultimately overcome in the Gulf and in Bosnia just as they had been overcome in 1898, but it was clear that we had not solved some of the most fundamental problems of overseas deployment. Indeed, the force projection problems encountered by General Norman Schwartzkopf and his staff during the Gulf War of 1990–91 would have been familiar to Major General William Shafter and the staff officers of the Fifth Corps in 1898. While it cannot be denied that we have learned well many of the lessons of the past, we continue to run into exactly the same problems and to make many of the same mistakes. What then are the salient lessons we have learned — or should have learned — from a century of experience in power projection?

### Lessons in Strategic Mobility

- The development of new means of air, sea and ground transport has for the most part involved a close cooperation on the part of industry and the military. New commercial developments have been adapted quickly to military use, and military developments have had a substantial impact on commercial transport means and methods.

- The movement of combat-ready forces to a theater of operations generally involves three segments: from home station to a port of embarkation (POE); transoceanic movement from a POE to a port of debarkation (POD); and onward movement from the POD to the combat zone. A shortfall in any one of the three segments can affect the overall movement, and thus all three must be given equal attention.

- Effective power projection depends in the first instance on the availability of fast, capacious ships and aircraft in sufficient numbers to handle the transoceanic segment of the deployment. However, the costs of building, maintaining and operating state-of-the-art transport normally rise with advances in transportation technology, and the ability to obtain necessary transport of the required types and capacities from commercial sources in times of crisis is contingent on economic and trade factors which cannot be controlled by military authorities.

- The efficacy of ground transport and the condition of supporting facilities and equipment — such as ports, landing craft and materials-handling equipment — can limit the effectiveness of strategic transport by delaying the movement from home station to POE or from POD to the battlefield. Indeed, their impact on our overall ability to project power worldwide rapidly and in sufficient strength is equal to that of the ships and aircraft which carry out the actual movement.

### Lessons in Weapons Technology

- Although modern technology has resulted in more firepower in smaller packages, modern mechanized combat formations still consume enormous amounts of fuel and other supplies.

- The success of weapons designers and manufacturers in reducing the footprint of modern military forces while increasing their combat strength has often been offset by a lack of discipline on the part of planners and unit commanders. Commanders naturally wish to err on the side of safety, and over the past century they have shown a propensity to deploy with as much excess equipment and supplies as possible. This lack of discipline — indeed a lack of faith in Army doctrine and the entire Army logistical system — substantially increases the demand for scarce transportation assets and makes rapid, automated deployment planning all but impossible.

### Lessons in Information Management

- Comprehensive, integrated planning is absolutely essential to effective power projection. Joint planning is now the norm, and increasingly the planning process must incorporate allies and civilian agencies as well. Effective planning must include all participating agencies and must be conducted with minimal secrecy to ensure that all participants are adequately informed and ready to play their part.

- Fortunately, advances in automatic data processing have rendered the complex process of deployment planning much more manageable. Properly designed, automated force planning and transport scheduling programs can provide optimum solutions to complex deployment problems in a relatively short time. But the advantages gained by advanced information management systems continue to be offset when commanders choose to manipulate the deployment planning process by hand in an effort to "fine-tune" the system.

- The most intractable problem in power projection over the past century has been the problem of accurately tracking and correctly identifying in-transit cargo. Endless efforts have gone into finding the "perfect" automatic data processing solution, but thus far such efforts appear to have been in vain.

### Lessons in Doctrine and Strategy

- Existing doctrines and strategies have until now generally focused on what commanders and planners foresee as the principal threat. Thus, they have seldom been entirely satisfactory for dealing with the enormous variety of smaller missions which the Army has been tasked to perform. Consequently, the use of military forces in situations short of general war has usually involved the hasty development of ad hoc means and methods to deal with the situation at hand.

- Given the likelihood of unforeseen missions, doctrine and strategy must be sufficiently flexible to accommodate unexpected requirements.

### Lessons in Force Structuring

- Despite all efforts, until now the Army has been obliged to meet unexpected contingency operations with ad hoc forces drawn from the existing force structure. Often such forces are unsuited and untrained for the mission at hand and must be modified "on the run" to meet the requirements of the particular situation. Thus, the principles of task-organization and flexibility are of the highest importance.

- The trend during the past century has been to reduce the size of combat forces while simultaneously increasing their combat power through greater mobility, advanced weaponry, and improved command and control. However, efforts to reduce the footprint of combat forces have often been stymied by increases in the ammunition, fuel and other supplies required, forcing the Army to rely more heavily on prepositioned stocks of equipment and supplies which may not always be located where they are needed.

## A Frequently Forgotten Lesson

In our preoccupation with advanced technology we have a tendency to forget the most fundamental lesson of military affairs — that man is the measure of all things. Not all of the challenges of power projection are amenable to technological solutions, and despite tremendous advances in transportation, weapons and information management technology, trained manpower remains a critical factor in the power projection equation. The events of the past century have also made it clear that combat power cannot be measured simply in terms of the numbers of weapons and combat troops available. However, the senior leaders of the U.S. Army — focused on keeping the Army "lean and mean" — have often ignored the fact that in a modern high-technology global coalition war large numbers of men are required to accomplish the essential logistical tasks of producing, assembling and transporting the men and matériel of war to where they can be effectively brought to bear on the enemy. The impact of this fact on the force structure of the Army in the twentieth century can be seen readily in figure 2, which portrays the changing proportion of combat to support troops in various conflicts.

Fig. 2. **United States Army "Tooth-to-Tail" Ratio, 1917–91**

| Conflict | % Combat Troops | % Support Troops | Combat-Support Ratio |
|---|---|---|---|
| World War I (1917) | 87 | 13 | .15 |
| World War I (1918) | 54 | 46 | .85 |
| World War II (1942) | 88 | 12 | .14 |
| World War II (1945) | 38 | 62 | 1.80 |
| Korean War (1950) | 67 | 33 | .49 |
| Korean War (1953) | 60 | 40 | .67 |
| Vietnam War (1965) | 75 | 25 | .33 |
| Vietnam War (1971) | 53 | 47 | .89 |
| Gulf War (1990–91) | 44 | 56 | 1.27 |

The point at which the lack of adequate numbers of combat service support personnel has most often been a critical issue is during the debarkation and initial buildup phases of overseas operations. Given a choice, commanders have usually opted to defer the deployment of supporting troops in preference to the early arrival of combat forces, despite a hundred years of experience which demonstrates rather conclusively that the sequencing of units into the theater of operations must include adequate provision for support troops to handle the unloading and forward movement of men, equipment and supplies. The examination of the time-phased force deployment list for any recent contingency operation will attest to the continued focus of commanders and strategic planners on combat forces and the consequent relegation of logistical forces to a low deployment priority.

The negative impact on our ability to project military power around the world occasioned by the failure to provide adequate numbers of logistical personnel when and where needed has been compounded by the decision — otherwise made on good and sufficient grounds — to position the bulk of the U.S. Army's combat service support strength in the reserve components and to rely heavily in time of crisis on civilian contractors to perform essential logistical tasks. In 1990, fully 70 percent of the Army's combat service support forces were in the reserve components, but, given the current rules for their call-up and employment, the expertise and manpower represented by the reserve components may not be available when they are most needed — at the very beginning of a fast-moving strategic deployment operation. Reliance on civilian contractors is also problematic, as Army leaders have frequently learned to their chagrin since 1775. Although a feasible and cost-effective method for supplementing uniformed logistical personnel in most circumstances, the use of civilian contractors remains to be tested under the most challenging conditions, for example, under active chemical and biological warfare conditions or in a conventional conflict in which the opposing forces are nearly symmetrical.

## The Century Ahead

The technological changes which have characterized the past century will undoubtedly accelerate in the century to come. New technology will continue to increase the speed and volume of strategic transport, improve the effectiveness of weaponry in ever smaller packages, and facilitate the management of complex operations through the use of advanced information management systems. Power projection will thus become more rapid and easier to manage. But advancing technology alone cannot solve all of the problems we are likely to face in the twenty-first century. As ever, the key element in the power projection equation will be the human factor. To meet the challenges of power projection in the century ahead, the military forces of the United States will require commanders, planners and operators capable of grasping and controlling the new technology to achieve U.S. objectives worldwide. We have a century of experience to assist in developing that capability if we only choose to study it and adapt it to the new situations which will arise.

# SELECTED BIBLIOGRAPHY


Conrad, Scott W. *Moving the Force: Desert Storm and Beyond.* McNair Paper No. 32. Washington: Institute for National Strategic Studies, National Defense University, December 1994.

Cosmas, Graham A. *An Army for Empire: The United States Army in the Spanish-American War.* Columbia, Mo.: University of Missouri Press, 1971.

Huston, James A. *The Sinews of War: Army Logistics, 1775–1953.* Washington: Office of the Chief of Military History, United States Army, 1966.

Joint Logistics Review Board. *Logistic Support in the Vietnam Era.* 3 volumes and 18 monographs. Washington: Office of the Assistant Secretary of Defense (Installations and Logistics), 1970. Volume I: *A Summary Assessment with Major Findings and Recommendations.*

Kreidberg, Marvin A., and Merton G. Henry. *History of Military Mobilization in the United States Army, 1775–1945.* DA Pam No. 20–212. Washington: Department of the Army, June 1955.

*Logistics in World War II: Final Report of the Army Service Forces — A Report to the Undersecretary of War and the Chief of Staff by the Director of the Service, Supply, and Procurement Division, War Department General Staff.* Facsimile reprint of the 1948 edition. Washington: Center of Military History, United States Army, 1993.

Magruder, Carter B. *Recurring Logistic Problems As I Have Observed Them.* Washington: Center of Military History, United States Army, 1991.

Matthews, James K., and Cora J. Holt. *So Many, So Much, So Far, So Fast: United States Transportation Command and Strategic Deployment for Operation Desert Shield/Desert Storm.* Washington: Joint History Office, Office of the Chairman of the Joint Chiefs of Staff and Research Center, United States Transportation Command, 1995.

Menarchik, Douglas. *Powerlift — Getting to Desert Storm: Strategic Transportation and Strategy in the New World Order.* Westport, Conn.: Praeger, 1993.

Pagonis, William G., and Michael D. Krause. *Operational Logistics and the Gulf War.* The Land Warfare Papers No. 13. Arlington, Va.: The Institute of Land Warfare, Association of the United States Army, October 1992.

Shrader, Charles R. "BOBCAT — Rapid Deployment in 1942," *Military Review*, 69, no. 3 (March 1989), 28–37.

Shrader, Charles R. *United States Army Logistics, 1775–1992: An Anthology.* 3 volumes. Washington: Center of Military History, United States Army, 1997.

Wade, Gary H. *Rapid Deployment Logistics: Lebanon, 1958.* Combat Studies Research Survey No. 3. Fort Leavenworth, Kans.: Combat Studies Institute, United States Army Command and General Staff College, 1984.