

**NAVAL WAR COLLEGE  
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**OMFTS: LINEAGE AND IMPLICATIONS**

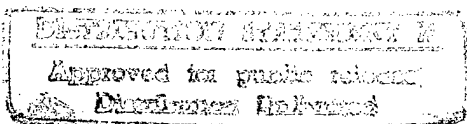
by

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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.



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Abstract of

OMFTS: Lineage and Implications

The modern amphibious doctrine conceived by the Marine Corps in the 1930s is an inspirational example of how difficult strategic and operational problems can yield to innovation. The doctrine was designed to provide a solution to a tactical problem that was an adjunct to a specific naval problem --how to advance the fleet across the Pacific against an array of actual and potential enemy forward bases

Since the advent of nuclear weapons, precision-guided munitions, advanced mines and sensors, and tactical ballistic missiles, the difficulties facing an amphibious fleet have accumulated but have been offset by breakthrough advances in aerospace technology which have had the effect of shifting the focus of amphibious operations to the operational level of war. Technology appears to be giving us the means to strike directly at our opponent's center of gravity, even if it is well inland and out of reach by any traditional measure. This has truly revolutionary implications, and it seems possible that we are already taking the first steps toward learning how to win wars without armies as the main mechanism of victory.

## INTRODUCTION

In its general outlines, the story of how the United States perfected amphibious warfare in the years before World War Two is well known. Persevering against the grim testimony of Gallipoli, two decades of meager budgets, and the often bitter hostility of their Army brethren, the U. S. naval services devised what J. F. C. Fuller termed “the most far-reaching tactical innovation of the war,” a systematic (and seldom defeated) process for establishing a beachhead on a defended shore. In fact, this amphibious doctrine revolutionized modern operational art, and made possible an era of American strategic dominance that continues to this day.

As a stirring tale of innovation and “can do” spirit against long odds, it is a story that is being cited daily in some quarters as the kind of developmental effort some believe the services should be making in the face of “the revolution in military affairs” and decreasing defense budgets.<sup>1</sup> But just how similar are today’s challenges to the situation of six decades ago? Can the amphibious warfare doctrines of the 1930s and 1940s simply be “reinvented” with new technology, updating the same basic conceptual framework that the Navy and Marine Corps worked out so many years ago? The evidence suggests not, and that in fact we may be on the edge of a truly revolutionary new approach to the way we use the power granted by our control of the sea and sky.

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<sup>1</sup> Krepinevich, 29-30.

## AMPHIBIOUS ORIGINS

Since the very first days of the modern steel Navy, there has been an important link between the fleet and forces landed from the sea. The most basic connection lies in the dependence of powered vessels on sources of fuel and the resulting need for forward bases from which fleets might resupply. This, in fact, was the fundamental rationale for the first modern U. S. amphibious operations, the landings in Cuba and the Philippines during the Spanish American War, and the design of the first standing force dedicated to warfare "from the sea", the Marine Corps' Advanced Base Force.

As aerospace technology progressed, however, and air power moved offshore in both the scouting and attacking roles, the establishment, defense and seizure of advanced bases became even more critical to the success of naval campaigns. Without some instrument for both acquiring forward logistic and air bases and denying their use to the enemy, a fleet operating across oceanic distances would progressively lose freedom of action due to a lengthening logistical tether, sacrifice operational and tactical surprise as it was spotted by enemy aircraft and face attrition from repeated air attack as it attempted to close with the main enemy fleet. This was the essence of the operational problem facing the United States in the aftermath of World War One.

By 1919, with the collapse of Imperial Germany, the U. S. Navy had only a generalized mission: to protect American "interests" against threats from abroad -- in the main these "interests" consisted of the security of the Caribbean Basin and the Philippines, and the only possible threat lay with Imperial Japan. Hostilities with Japan was the only wartime role validated by the President, Congress, and the American people, and it kept the strategic and

operational imagination of the Navy tightly confined within a single narrow operational scenario -- War Plan ORANGE.<sup>2</sup>

The Treaty of Versailles had left the Japanese in possession of virtually all of the former Imperial German holdings in the Caroline and Marshall Island groups of the Central Pacific, thus at a stroke placing Japanese bases astride the lines of communication between the U. S. bases at Guam and Subic Bay and Hawaii. In the minds of U. S. naval planners, this not only heightened the danger of an early Japanese seizure of the Philippines in the event of war, but it also robbed the U. S. fleet of the advanced base sites west of Hawaii it would need to sustain any major advance into the western Pacific, where it was presumed the decisive battle with the main Japanese battle fleet (a precursor to recapturing the Philippines) would occur. Thus, as early as January 1920, barely six months after Versailles, the CNO, Admiral Robert Coontz advised the Commandant of the Marine Corps that the current review of the ORANGE plan envisioned "the capture of certain bases in the Carolines and Marshall Islands as the fleet advances."

Up to that time, the establishment of advanced bases had been envisioned as a process of occupation rather than assault, with the Advanced Base Force setting up defenses around an unoccupied site as the Marine Battalion at Guantanamo had done in the Spanish American War. This new excursion in war planning transformed the role of the landing force from one of simply *landing* to one of being a force capable of amphibious *assault* against a defended shore.<sup>3</sup> At the time, this revision of War Plan ORANGE represented a revolutionary departure, for the British experience in the Gallipoli Campaign strongly suggested that

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<sup>2</sup>Vlahos, 7-8.

<sup>3</sup>Moy, 29.

amphibious operations against defended beaches were simply not viable against modern weapons.<sup>4</sup>

The initial landing exercises at Culebra in 1924 that tested this new mission were at best disappointing, and at worst disastrous. Despite some effort to design equipment specifically for ship to shore movement of troops, the equipment, doctrine, training and execution all proved inadequate. Intense developmental efforts continued, however, and by the time of the exercises held in Hawaii the following year, sufficient progress had been made to suggest that the seizure of a defended base by attack from the sea was feasible.<sup>5</sup>

Force commitments in Latin America and a severe shortage of funds prevented further field exercises until well into the 1930s, but by then continued wargaming experience had convinced the leadership of the Navy that an amphibious capability was a fundamental part of a deliberate trans-Pacific campaign. Gradually the idea took hold that the foundation of the expected war with Japan would have to be a phased advance through hard fought amphibious assaults, island by island.<sup>6</sup> Though this would easily qualify in current terms as “operational art” applied to a naval campaign, it did not equate to the modern idea of an integrated “joint” warfighting doctrine. Though the war in the Pacific was increasingly conceived as a war for bases<sup>7</sup>, this did not translate into a common “Joint Service” doctrine on expeditionary campaigning. While the Navy institutionally accepted the need for amphibious operations, it did so only to the extent that it facilitated the war at sea. Thus, while War Plan ORANGE reflected joint Army - Navy planning, and outlined the first situation in which Marines

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<sup>4</sup>Millett, 321.

<sup>5</sup>Moy, 39-41.

<sup>6</sup>Vlahos, 11-13.

<sup>7</sup> Morton, 226.

operating with the Fleet would perform an “enabling” function by their operations (the Army to follow a Marine Corps landing and consolidate securing of Philippines), amphibious warfare doctrine was seen as filling a *naval-tactical* vice a *land-operational* need.<sup>8</sup> “. . . the amphibious warfare mission remained distinctly secondary to the problems of fleet action on the high seas and the defense of fixed naval bases.”<sup>9</sup>

This tactical orientation can perhaps best be illustrated in the content of the “Tentative Landing Manual” which was first published by the Marine Corps Schools in Quantico in 1934, and was later reissued for Navy use as FTP-167 and later used by the Army as FM 31-5.<sup>10</sup> This manual, which has served as the basis for amphibious warfare doctrine up to the present day, codified the accumulated insights and lessons learned of landing operations and exercises since the turn of the century. Addressing amphibious command relations, the concept and technique for controlled ship-shore movement, ship to shore communications, doctrines for air and naval gunfire support, fundamentals of embarkation and combat loading of transports, and fundamentals of shore party organization, it focused on the immediate problems of moving forces from ship to shore rather than the concerted use of land and sea forces at the operational level of war.

The experience of World War Two largely vindicated this doctrine, although the exigencies of fighting the Wehrmacht meant that the Allies’ amphibious efforts in Europe were almost exclusive focused on establishing lodgments preparatory to a *land* campaign vice advanced base seizures as part of a naval campaign. In the Pacific theater, amphibious operations remained largely focused on the establishment of air and naval bases. With the

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<sup>8</sup> Davis, 128-134.

<sup>9</sup> Millett, 342

<sup>10</sup> Heintz, 305.

exception of the Philippines, (which might have been considered the largest advanced base of all), none of the Pacific amphibious operations involved more than a handful of divisions coming ashore, and virtually all of them were aimed at the tactical objective of seizing or denying a forward base. In Europe, the war winning mechanism was the force landed ashore in Italy and France, and although the forces had operational and strategic significance once ashore, the landings themselves were concerned with the tactical challenge of opening a hole in Hitler's "Festung Europa." While the casualty rates for actually getting ashore in the face of the tenacious German and Japanese defenses proved greater than originally envisioned, in general the doctrine worked out before the war proved a success. The only significant adjustments that had to be made as the war progressed occurred in the application of naval gunfire and air support, not in the basic ideas of ship to shore movement or the actions of the landing force on the beach<sup>11</sup>. What emerged as a proven doctrine, however, was at core a *tactical* concept.

### **OPERATIONAL MANEUVER FROM THE SEA**

It is a curious coincidence that the starting point for the elevation of amphibious doctrine to the operational level might well be traced to the same group of remote atolls that sparked the original revolutionary thinking about the development of the amphibious assault. In 1946, as the U. S. undertook a series of atomic bomb tests in the Marshall Islands group, Marine Corps observers quickly realized that the tremendous threat these new weapons posed to concentrated formations of shipping made it imperative that "a complete review and study

of our concept of amphibious operations will have to be made.”<sup>12</sup> CMC responded quickly by convening a special study team headed by the Assistant Commandant, and three months later they confirmed that the threat of atomic weapons required radical changes in the existing amphibious doctrine.<sup>13</sup> In the future, amphibious forces would have operate from widely dispersed shipping standing well offshore. Instead of coming ashore in slow-moving and easily targeted surface craft, the initial assault force would land behind beach defenses by helicopter, closing rapidly with the enemy (and thus preventing nuclear attack) and then opening the beaches for reinforcing waves and heavy equipment. In essence, the problem of vulnerable shipping was to be solved by moving vessels over the horizon and using helicopters to cover the added distance to shore and restore speed to the buildup of combat power on land.

By the early 1960s, concerns that tactical nuclear weapons had nullified amphibious assaults had faded, but were soon replaced with new fears spawned by the proliferation of guided missiles. In 1967, the sinking of the Israeli destroyer “Eilat” by Soviet-built STYX missile made it clear that a serious new threat to amphibious task force shipping was at hand, even in third world scenarios. In the Yom Kippur War six years later, this threat was amplified by the tremendous capabilities shown by mobile Soviet surface-to-air missiles and antitank missiles. Not only ships, but all forms of ship to shore movement-- helicopters, landing craft, and amphibious tractors -- now faced severe threats from guided weapons.

The refinement of these systems from the early 1970s onward, combined with the increasing sophistication and availability of naval mines, has vastly complicated the ship to

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<sup>12</sup> Heinl, 512.

<sup>13</sup> Millett, 453.

<sup>14</sup> Millett, 454.

<sup>15</sup> Clifford, Progress and Purpose, 71-78

shore problem addressed by the Tentative Landing Manual and has conceptually driven the amphibious task force farther out to sea and “over the horizon.” Despite extensive efforts to perfect “silent” landings (e.g., no electronic emissions) and operations under cover of darkness, both of which sought to compensate for the new threats by heightening surprise, by the late 1980s it was clear that the lethal potential of mines and shore-based fires was too great to risk amphibious platforms in any type of lingering off load close to the shore line.

This led to the development of the “over the horizon” concept of operations: instead of standing in within visual range of the shore, the amphibious task force shipping would remain well out to sea, launching high tempo attacks against enemy soft spots from up to 50 miles away vice head-on assaults against prepared defenses. These would consist of vertical envelopment by helicopter and surface landings in undefended areas by air-cushioned land craft (LCACs) carrying tanks and other heavy equipment which would bypass beach defenses and linkup deep inland. In principle, this could allow a regimental sized force to land all of its combat power within 90 minutes.<sup>16</sup>

While this addressed the problem of threats to the process of ship to shore movement, it did not answer a growing problem faced by forces ashore. Concurrently with the development of mines and anti-ship missiles, the proliferation of long-range rocket artillery, cruise missiles, tactical ballistic missiles and weapons of mass destruction brought new threats to the beachhead itself, particularly to the “iron mountains” of supplies that had to be accumulated before the landing force could proceed against major objectives ashore. In their advanced forms, these weapons even threaten conventional ground maneuver.<sup>17</sup> Together with the need to keep shipping dispersed and well out to sea, this challenge to the traditional

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<sup>16</sup> Trainor, 58.

<sup>17</sup> Terrebone, 22.

format of landing operations has generated an intense effort to find new methods to achieve the tactical, operational and strategic benefits of forces landed across the shore without the need for a massive support buildup ashore.

## **AEROSPACE REVOLUTION**

At the same time that a changing threat has vastly extended the ship to shore problem in time and space, revolutionary advances in aerospace-related technology have made many parts of this problem seem far more solvable. Vertical/Short Take off and landing technology not only makes it possible to disperse airpower on a wide range of offshore platforms, thus lessening afloat vulnerability, but it also lessens the pressure to establish air power ashore, permitting a much higher tempo of operations. Tilt-rotor technology has meant that troop lift can now combine the basing flexibility of the helicopter with range and speeds approaching those conventional fixed wing airlifters, thus transforming the reach of heliborne forces launched from ships at sea. Air cushion craft, more airplane than boat, can carry loads that cannot be helilifted, and can move heavy armor over 70% of the world's shoreline at ten times the speed of displacement landing craft.

Perhaps most importantly, the use of space platforms now permits precision navigation which can overcome many of the traditional constraints of weather and low visibility, effectively turning all aviation equipped with GPS into "all-weather" craft. In addition, super high frequency (SHF) and extremely high frequency (EHF) communications using satellite relays are permitting high quality, jamming-resistant communications "over the

horizon," while imagery from satellites is steadily reducing the need for close physical proximity to conduct effective reconnaissance prior to the commencement of operations.

Ultimately, these new technologies are making it possible to exploit the changes forced by emergent threats in ways favorable to the attacker. As defenders gain time and depth in *tactical* terms by driving the amphibious forces further out to sea, they are now faced with a far more challenging problem at the *operational* level of war.

The basic formula relating radius and area,  $A = \pi r^2$ , means that if the reach of a weapon or unit increases by factor of two, the area which can be reached by that unit or weapon increases by a factor of four ( $2^2$ ). But it also means that the area to be searched in finding a weapon or unit that may threaten a particular location increases by a factor of four. Thus, a force equipped with Osprey and LCAC and standing 400 miles out to sea can not only threaten more than a thousand miles of coastline within twenty-four hours,<sup>18</sup> but also increases by a factor of *a thousand*. This leaves the enemy in a position of having to defend against forces which can come over virtually any part of the shoreline, reaching across hundreds of miles within hours, yet which could be anywhere in an area of thousands of square miles. Against a force armed with state of the art electronic warfare systems and a steadily improving ability to engineer stealthy ship and aircraft designs, this is truly a major challenge. Given an opponent which can penetrate suddenly well into a defender's operational depth, any local defensive success on a tactical level can easily be rendered irrelevant to the ultimate outcome of the campaign. Indeed, the incentive for a defender to invest a major effort in *any* positional defense is greatly diminished.

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<sup>18</sup> Darling, 182.

## FROM THE SEA

Accelerating this conceptual “dialectic” have been the massive changes in the strategic orientation of the U. S. Navy. As the Soviet Union crumbled and the once-vaunted Soviet Navy evaporated as a high seas threat, the U. S. Navy has undergone a fundamental shift in focus, from warfighting on the sea to joint operations from the sea into the littoral regions of the world. First announced in the “. . .From the Sea” White Paper of September 1992 and reaffirmed in the “Forward. . .From The Sea” White Paper issued two years later, this shift has meant that *in policy terms* amphibious operations now lie at the conceptual center of the Navy’s contribution to the National Military Strategy, and are no longer a secondary adjunct to the fleet on fleet engagements for which the Navy’s existing weapons and sensors were engineered.

In effect, “From The Sea” signals that the relationship of naval forces to land warfare is changing fundamentally in terms of what we want naval forces to achieve, and (by implication) in terms of what our opponents may wish to prevent naval forces from accomplishing. It is from the midst of this transformation, propelled by the interplay of naval and aerospace technology and a radical shift in the strategic environment, that the concept of Operational Maneuver From the Sea has emerged, not simply as an evolutionary change in response to a tactical challenge, but as a revolutionary departure in what forces from the sea do for the National Military Strategy.

Operational Maneuver From The Sea exploits the scalar change forced by the combination of new technologies to conceive of amphibious operations as functioning on a completely different level of warfare. The heart of the concept is to pit strength against

weakness, using a comprehensive intelligence effort to find lightly defended or undefended areas, avoiding a direct amphibious assault wherever possible in favor of a higher tempo movement ashore aimed directly at an operational level objective. The derivative of this is the concept of "ship to objective maneuver," one continuous maneuver from ship to objective, using the new, faster, longer-range ship to shore means accomplishing ship to shore movement in less time and completely eliminating the need to pause within a beachhead to build up combat power or sustainment before proceeding further inland. In one aspect, OMFTS makes a virtue of the necessity of staying well out to sea, by using the extra sea space both as a hiding area and as a high speed avenue of approach. At the same time, it is also a means of exploiting the technological advances in aerospace, sensors, precision-guidance, and command and control to permit landing forces to achieve operational effects far out of proportion to their size.

## IMPLICATIONS

As a result of this shift, the doctrinal purpose of amphibious warfare, and indeed of expeditionary warfare in general, will almost certainly change. Shaped by the vastly extended reach of forces operating from ships at sea and the application of long-range precision weapons and sensors extending the combat power of naval forces hundreds of miles inland, the rationale of *why* land forces are put ashore will change. No longer just an auxiliary to war at sea or enabling a lodgment in anticipation of a campaign ashore, landing forces will increasingly function as the *landward extension* of naval forces, in effect the extension of naval power ashore. Indeed, in those regions where forces ashore are operating in a situation

analogous to ships at sea (e.g., the flat, wide open spaces of a desert) modern munitions will allow naval forces *by themselves* to achieve results for which landing forces were previously required. When complemented by the presence of forces ashore which can fill in the inevitable gaps in the coverage of offshore and overhead sensors, (such as in urban settings or in hunting down mobile TBM launchers), naval forces become potentially capable of having theater strategic impact *by themselves*. In essence, armies (or Marine forces) go from being what British Admiral Fisher referred to as a “projectile fired by the Navy onto the coastline” to being a “brilliant recoverable munition” or even a “brilliant autonomous sensor” within a *naval* weapon system.

This would be an enormous advantage to a theater CINC, who now has at hand an operational-level tool which can potentially relieve him of both the liability of maintaining large forward stationed forces ashore and the tedious and difficult task of building up and sustaining major ground forces on a foreign shore. This is not to suggest that land forces will completely cease to play a decisive role in the National Military Strategy, but simply that options for taking decisive action will be available much earlier in the progression of a crisis response. In many of the regional conflict scenarios, accomplishing victory will no longer be defined by the mechanics of deploying, concentrating and fighting with a large land force.

This lends an entirely different prospect to the contribution that amphibious capability makes to both regional theater strategy and to the global warfighting machinery. While its traditional value as a forcible entry alternative to the interdiction of ports and airfields will be preserved, that role may well diminish in favor of its utility as an operational instrument which can redefine the timeline of a regional conflict. As naval technologies are perfected and onshore political environments continue to change, the attraction of the naval instrument as a

conflict resolving device will continue to grow, to the point that we may find that naval forces acting at the operational level are the primary “war winning” device within U. S. regional defense strategies for all contingencies below the major contingency level..

As part of this overall trend, the form and “look” of amphibious operations will change, radically. No longer conceived for the tactical purpose of creating lodgments or occupying terrain to deny enemy lodgments, these forces will be optimized for speed, lethality, and extreme operational agility. Forces will come ashore very quickly from great distances, not staying long enough to require major sustainment, but effectively neutralizing enemy capabilities with unprecedented speed and precision. Achieving this will require that they become smaller, leaner, leverage more “high end” information technology down to the small unit and individual level, and in general far more aviation intensive.

A landing force in which the preponderance of combat power is helicopterborne would provide a powerful, highly mobile force which can concentrate and disperse independently of terrain, yet can exploits its tactical advantages in ways similar to mechanized forces (with terrain masking, use of cover and concealment, light and shadow, etc.). In this respect they can truly function like a naval force ashore, a “fleet in being” as well as force capable of high tempo decisive maneuver<sup>20</sup>. Yet “a force whose mobility plummets by three orders of magnitude as it goes from transport aircraft to that of the boot is fundamentally weak.”<sup>21</sup> A helicopter preponderant landing force will have to adopt a very different structure and organizational principle, either becoming a force of “hunting” aircraft which function, in

<sup>20</sup> Simpkin, Deep Battle , 143, and Race To The Swift, Chapter 7 in total.

<sup>21</sup> Simpkin, Race To The Swift.

effect, as flying tanks, or routinely bringing in light armor vehicles (in the case of the Marines, LAV-25s or its follow-on) via external lift, then supporting them exclusively by helicopter<sup>22</sup>.

Notwithstanding the need for mobility and independence from the restrictions of ground movement, there would seem to be a compelling case for including some quantity of infantry in this force. Augmenting the overhead and off-shore sensors and able to engage certain types of targets and forces that indirect fires and helicopters cannot, these infantrymen would round out the capabilities of the landing force, but would not land in easily targeted, sustainment intensive large formations. Instead, they would be "minimum signature," carrying direct fire weapons but relying primarily on the indirect precision fires of the fleet offshore and attack aviation making up the rest of the landing force. Deployed in arrays of teams, perhaps one team per square kilometer or less, they would be able to mass fires on any opposing force, but would present too small and dispersed a target to be easily dealt with by the enemy's artillery. Because their movement would be relatively limited within a certain "array" at any given time, their sustainment needs could be met almost entirely by air. In effect, they would *reverse* the traditional role of infantry: instead being supported by the fire support elements, they would *enhance and extend* the fire support system by functioning as "brilliant" target acquisition sensors. Augmented by the mobility of light armored vehicles delivered by air, they would present a severe challenge to virtually any defending force: a highly lethal force maneuvering *by fire*, capable of inflicting severe losses on any force that concentrates for battle, yet difficult to detect and target. Because of their discrete size and small "footprint"

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<sup>22</sup> Ibid., 48.

<sup>23</sup> This model has been discussed by Simpkin, Hoffman, the Commandant's Warfighting Laboratory, MCCDC, and several others in recent years. Tracing the precise origin of the concept is difficult, but it was first experimented with during the Vietnam War using Marine Reconnaissance elements known as "Stingray" teams. The effort had mixed results prior to 1970, and is now the subject of an active debate throughout the U.S. Marine Corps.

they can function equally well at either end of the spectrum of conflict, either in support of coalition forces or acting alone.<sup>24</sup>

These types of forces are already beginning intensive field evaluation<sup>25</sup>, reflecting technological trends that will revolutionize the traditional functions of land warfare. As they are merged with the expanding capability of naval forces at sea to affect actions on land, through such initiatives as the Naval Surface Fire Support effort, the Arsenal Ship, Cooperative Engagement systems, and the AEGIS Upper and Lower Tier ballistic missile defense systems, they will inaugurate an new and vastly different era in amphibious warfare, and fundamentally altering the face of power projection in national strategy.

## SUMMARY

Modern amphibious doctrine was conceived as an adjunct to a specific naval problem --how to advance the fleet across the Pacific against an array of actual and potential enemy forward bases. It was at core a tactical challenge, and in its original incarnation amphibious doctrine was focused at the tactical level of war. Since the advent of nuclear weapons, precision-guided munitions, advanced mines and sensors, and tactical ballistic missiles, the difficulties facing an amphibious fleet have accumulated to staggering proportions. To a degree these have been offset by breakthrough advances in aerospace technology, so that the "range" race between weapons fired from the shore and ships seeking to avoid them by moving further out to sea is, at least temporarily, favoring the ships. The result thus far has been to shift the focus to the operational level of war, as technology appears to be giving us

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<sup>24</sup> Hoffman, 33

<sup>25</sup> Lasswell, 15.

the means to strike directly at our opponent's center of gravity, even if it is well inland and out of reach by any traditional measure. This has truly revolutionary implications, and might well lead to radically different concepts, both of how armies fight ashore and of what we land forces to achieve. While land forces will always be important elements within a range of national military instruments, it seems possible that we are already taking the first steps toward learning how to win wars without armies as the main mechanism of victory. There is no doubt that much remains to be worked out. While it was hardly the "flop" that signalled the dawn of the modern amphibious era at Culebra in 1924, the Hunter Warrior Exercise of March 1997 was hardly trouble free. Yet just as Culebra began the path that led to Inchon, so might Hunter Warrior be opening the way to equally decisive struggles in the coming century. Operational Maneuver From The Sea may be the legacy of the Tentative Landing Manual, but it is also the first step in a revolution.

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## BIBLIOGRAPHY

### Books

- Alexander, Joseph H. and Bartlett, Merrill, Sea Soldiers in the Cold War, Annapolis, MD: U. S. Naval Institute Press, 1995.
- Bartlett, Merrill (ed.). Assault From The Sea: Essays on the History of Amphibious Warfare. Annapolis, MD: U. S. Naval Institute Press. 1983,
- Binkin, Martin, and Record, Jeffrey, Where Does the Marine Corps Go From Here?, Washington, D. C.: The Brookings Institution, 1976.
- Brodie, Bernard. A Guide to Naval Strategy. Princeton, NJ: Princeton University Press, 1958.
- Clifford, Kenneth J. Amphibious Warfare Development in Britain and America from 1929-1940, Laurens, N. Y.: Edgewood, Inc. 1979.
- \_\_\_\_\_, Progress and Purpose: A Developmental History of the United States Marine Corps 1900-1970, Washington D. C: History and Museums Division, Headquarters United States Marine Corps, 1973.
- Darling, Marshall B., "Amphibious Concepts and Requirements," in George, James L., and Jehn, Christopher, ed., The U. S. Marine Corps: The View from the Late 1980s, Alexandria VA: Center for Naval Analysis, 1988.
- Davis, Vincent, The Admirals Lobby, Chapel Hill, NC: The University of North Carolina Press, 1967.
- Ellis, Earl H., Advanced Base Operations in Micronesia, Washington, D. C.: Headquarters, U. S. Marine Corps, 1921.
- Evans, Michael, Amphibious Operations, London: Brassey's. 1990.
- Fergusson, Bernard, The Watery Maze. London: Collins, 1961.
- Friedman, George and Meredith, The Future of War, New York: Crown Publishers, Inc. 1997.
- Foster, Simon, Hit the Beach: Amphibious Warfare from the Plains of Abraham to San Carlos Water, London: Arms and Armour Press, 1995.
- Gatchel, Theodore., At the Water's Edge, Annapolis, MD: U. S. Naval Institute. 1996.

- George, James L., "Preface," in George, James L., and Jehn, Christopher, ed., The U. S. Marine Corps: The View from the Late 1980s, Alexandria VA, Center for Naval Analysis, 1988.
- Heinl, Jr., Robert D., Soldiers of the Sea: The U. S. Marine Corps 1775-1962, Annapolis, MD, United States Naval Institute, 1962.
- Iseely, Jeter A., and Crowl, Phillip A. The U. S. Marines and Amphibious War. Princeton, NJ: Princeton University Press, 1951.
- Krulak, Victor H., First To Fight: An Inside View of the U. S. Marine Corps, Annapolis, MD: Naval Institute Press, 1984.
- Kugler, Richard L. Toward a Dangerous World: U. S. National Security Strategy for the Coming Turbulence. Santa Monica, CA: RAND, 1995.
- Lorelli, John A., To Foreign Shores: U. S. Amphibious Operations in World War II. Annapolis, MD: U. S. Naval Institute Press. 1995.
- Miller, Edward S., War Plan Orange, Annapolis, MD: Naval Institute Press, 1991.
- Miller, Ellis B., The Marine Corps in Support of The Fleet, Quantico, VA: Marine Corps Schools, 1933.
- Millett, Allan R., Semper Fidelis: The History of the United States Marine Corps, New York: The Free Press, 1991.
- \_\_\_\_\_, Strategy and Command: The First Two Years: History of the United States Army in World War II: The War in the Pacific. (Washington, D. C: Office of the Chief of Military History, Department of the Army. 1962).
- Naval Studies Board, National Research Council, The Navy and Marine Corps in Regional Conflict in the 21st Century, Washington, D. C.: National Academy Press, 1996.
- Phillips, John, "Commentary" in George, James L., and Jehn, Christopher, ed., The U. S. Marine Corps: The View from the Late 1980s, Alexandria VA: Center for Naval Analysis, 1988.
- Shulimson, Jack, The Marine Corps Search For a Mission 1880-1898, Lawrence, KS: University Press of Kansas, 1993
- Simpkin, Richard, The Race To The Swift: Thoughts on Twenty-First Century Warfare, London: Brassey's Defence Publishers, 1985.

- \_\_\_\_\_, Deep Battle: The Brainchild of Marshal Tukhachevskii, London: Brassey's Defence Publishers, 1987.
- Sabrosky, A. N., "The Use of Marine Forces in Third World Interventions," in George, J. L., and Jehn, C. ed. , The U. S. Marine Corps: The View from the Late 1980s, Alexandria, VA: Center for Naval Analyses, 1988.
- Summers, Jr., Harry G., "A Conception of War" in George, J. L., and Jehn, C. ed., The U. S Marine Corps: The View from the Late 1980s, Alexandria, VA: Center for Naval Analyses, 1988.
- U. S. Marine Corps, Operational Manuever From The Sea. Washington, D. C.: Headquarters, U. S. Marine Corps, 1996.
- U. S. Naval War College, "Elements of Operational Warfare," NWC 4096, JMO Department, 1996.

#### Articles

- Anderson, Gary W., "Maneuver From the Sea and Post Industrial Warfare," Marine Corps Gazette, July 1993, 28-30.
- Hattendorf, John B., "The Evolution of the Maritime Strategy: 1977 to 1987," Naval War College Review, June-July 1988, 7-28.
- Hoffman, Jon, "The Future is Now," U. S. Naval Institute Proceedings, November 1995 29-33
- Hunt, Lee M., "In Stride," U. S. Naval Instiute Proceedings, April 1994, pp 59-62.
- Kelly, Paul X., and O'Donnell, Hugh K., "The Amphibious Strategy," U. S. Naval Institute Proceedings, January 1986 Supplement, 20-30.
- LaPlante, J. B. "The Future of Amphibious Warfare Takes Shape." U. S. Naval Institute Proceedings, May 1994, 86-88.
- Lasswell, James A., "Assessing Hunter Warrior," Armed Forces Journal International, May 1997, 14-15.
- Lautenschlager, Karl, "Technology and the Evolution of Naval Warfare," in Steven E. Miller and Stephan Van Evera, ed., Naval Strategy and National Security, Princeton, NJ: Princeton University Press, 1988.

- Morton, Louis, "War Plan ORANGE: The Evolution of a Strategy," World Politics, Vol. IX, No 2, Jan. 1959, 221-250.
- Pierce, T. "Operational Manuever From The Sea." U. S. Naval Institute Proceedings, August 1994, 30-34.
- Pugh, Paul, "Operational Art and Amphibious Warfare", Marine Corps Gazette, July 1991, 81-85.
- Trainor, Bernard, "Amphibious Operations in the Gulf War," Marine Corps Gazette, August 1994, 57-60.
- Vlahos, Michael, "Wargaming, an Enforcer of Strategic Realism: 1919-1942," Naval War College Review, 7-23.
- Walsh, E. J., "Navy and Marines Focus on Achilles' Heel: Shallow Water Mines," Armed Forces Journal International, August 1993, 35-38.
- Watkins, J. D., "The Maritime Strategy," U. S. Naval Institute Proceedings, January 1986 Supplement, 4-18.
- Wilson, J. R., "Finding a Niche: U. S. Unmanned Aerial Vehicles Finally Get Some Respect," Armed Forces Journal International, July 1995 pp 34-39.

### **Research Papers**

- Dugan, Terrence P., "MV-22 and the Operational Level of War," Unpublished Research Paper, U. S. Naval War College, Newport, RI. 1995.
- Galluch, Peter G., "Maneuver Warfare and the U. S. Navy's New Strategic Concept." Master's Thesis approved for unlimited distribution by U. S. Navy Postgraduate School, Monterey, CA, 1996.
- Houck, R. G., "Forcible Entry -- The Purple Lie?!" Unpublished Research Paper, U. S. Naval War College, Newport, RI. 1995.
- Huston, James V. "The Revolution in Military Affairs and Operational Maneuver From The Sea," Unpublished Research Paper, U. S. Naval War College, Newport, RI. 1995.
- Moy, Timothy D. "Hitting Beaches and Bombing the Cities: Doctrine and Technology of Two New Militaries, 1920-1940." Unpublished Dissertation completed at University of California at Berkeley, 1992.

O'Leary, Tom. "The Foundation of the Operational Art in the Naval Service," Unpublished Research Paper, U. S. Naval War College, Newport, RI. 1994.

Robison, Norman J., "Operational Maneuver From The Sea: An Evolving Concept." Unpublished Research Paper, U. S. Naval War College, Newport, RI. 1995.

Terrebonne, Timmy J., "The Impact of Advanced Tactical Ballistic Missiles on Ground Force Operations: A Doctrinal Response," Unpublished Research Paper, School of Advanced Warfighting, Marine Corps Command and Staff College, Quantico, VA, 1991.