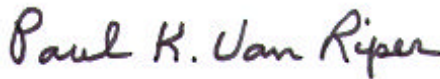


Department of the Navy
Marine Corps Combat Development Command
Quantico, VA 22134

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Ship-To-Objective Maneuver

Publication of the capstone Marine Corps Concept Paper *Operational Maneuver from the Sea* began the process of proposal, debate, and experimentation through which the Marine Corps will address the challenges and opportunities of the future by applying the tenets of maneuver warfare to amphibious operations. *Ship-To-Objective Maneuver* is a part of this process. It is intended to promote discussion and to generate additional ideas for specific requirements. Focusing at the tactical level of war, *Ship-To-Objective Maneuver* describes how we can leverage the advantages of emerging technologies to develop greater capabilities for our amphibious operations, operations characterized by extraordinary mobility and flexibility, that are able to be executed in depth.



PAUL K. VAN RIPER
Lieutenant General, U.S. Marine Corps
Commanding General
Marine Corps Combat Development Command

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A Concept for Ship-To-Objective Maneuver

INTRODUCTION

PURPOSE

The armed forces of the United States require a force projection capability that will secure early and decisive advantages over their enemies. Forcible entry capabilities are a key element of joint doctrine for force projection. Applying the approach to naval warfare outlined in the Department of the Navy White Papers . . . *From the Sea* and *Forward* . . . *From the Sea*, U.S. Naval Forces use command of the seas to gain access and freedom of action in the world's littorals. Taking the operational maneuver space offered by the sea, U.S. forces turn the sea and littorals into vulnerable flanks for potential enemies, assailable at the time and place of the naval commander's choosing. The Marine Corps operational concept for maritime power projection, *Operational Maneuver from the Sea*, establishes clear goals for accomplishment of the objectives of the White Papers. These goals are the foundation for the development of implementing concepts and capabilities. This paper presents one of the key implementing concepts, *Ship-to-Objective Maneuver*, and initiates the Combat Development Process to provide the tools with which the concept will be realized.

BACKGROUND

Marines operate from the assault ships of the U.S. Navy amphibious forces to perform forcible entry missions. Such ships provide the combat systems which facilitate amphibious operations. These combat systems include efficient operating platforms for launch, recovery, and maintenance of landing craft and aircraft; command, control, communications, and intelligence systems; logistical support; unit and staff accommodations; damage control; and offensive and defensive weapons suites. The

ships of the Amphibious Task Force (ATF) can transport, project ashore, support, recover, and redeploy Marine Air-Ground Task Forces (MAGTFs). The critical forward presence role of Navy and Marine forces is most effective when MAGTFs are deployed on board amphibious ships supported by other Navy combatant forces. Such offshore concentrations of force are independent of requirements for bases, ports, airfields, or overflight. They provide the United States with a credible deterrent and immediately available combat power should deterrence fail.

Operational Maneuver from the Sea describes rapid maneuver by landing forces from their ships directly to objectives ashore, uninterrupted by topography or hydrography. Naval forces must dispense with previous amphibious methods in which operational phases, pauses, and reorganizations imposed delays and inefficiencies upon the momentum of the operation.

Technologies available during the early stages of modern amphibious warfare development -- particularly in the areas of mobility, navigation, and command and control -- dictated that the Navy provide both the means of landing force movement and its control. The result was frequently a slow buildup ashore as slow-speed water craft executed an intricate ship-to-shore shuttle from ships operating close to the beach. The landing force was required to secure a lodgment until combat power could be built up sufficiently to allow maneuver to the actual objective. Practical considerations in establishing such a beachhead reduced the littoral area vulnerable to attack.

Emerging technologies represented by the Advanced Amphibious Assault Vehicle (AAAV), MV-22 aircraft, global positioning system (GPS), and developing command and control systems will radically alter the nature of amphibious operations. Landing force units will possess their own mobility systems -- and have the ability to independently navigate across the ocean surface to penetrate the enemy's shoreline at points of their choosing. Freed from the constraints of securing a large beachhead, the commander will be able to focus on the enemy and begin the landing force's maneuver from over the horizon. These new capabilities will enable tactical commanders to make decisions as the situation develops to exploit enemy weaknesses and maintain the momentum of the attack from the ship to the objective. This combination of maneuver warfare

philosophy and emerging technologies will provide the naval force with enhanced combat effectiveness. This paper, *Ship-to-Objective Maneuver*, describes this new tactical concept for conducting amphibious forcible entry.

THE BATTLEFIELD

The requirement for forcible entry from the sea is enduring. Such operations will be accomplished by converting littorals into the enemy's vulnerable flank, obtaining leverage against his operational center of gravity. Regardless of the presence of adjacent land bases, amphibious forces provide the joint force commander a credible and sustainable forcible entry capability.

Hostile combined arms forces supported by integrated air and coastal defense systems remain the greatest threat to landing forces. From mobile or fixed positions, defending forces may attempt to deny landing sites or counter friendly maneuvers ashore. Landing forces may face any combination of obstacles, mines, artillery, missiles, aircraft, submarines, small boats, air defense artillery, and mobile reaction forces. The enemy may attempt to defeat or disrupt the amphibious force by contesting control of the air, surface, or subsurface battlespace. He may attack the naval force at sea, attempt to repel the landing force during the assault phase, counterattack on land to eject the landing force, or any combination of the above. He will employ an array of decoys, deceptive devices and electronic countermeasures to thwart efforts to identify and target his defenses.

The amphibious force and other elements of the naval force will offset these challenges by remaining over the horizon, using the expanded battlespace the sea offers to impede enemy targeting and provide more reaction time to defeat counterstrikes. From this tactically advantageous position, the landing force will be able to maneuver across an unmarked and inherently volatile surface to attack its landward objectives.

CONCEPT

GENERAL

Operational Maneuver from the Sea requires new tactical concepts for amphibious operations. Although the focus is on operational objectives ashore, the sea becomes essential maneuver space for the landing force. Successful execution of operational maneuver from the sea demands that the landing force maintain the momentum gained by maneuver at sea -- through ship-to-objective maneuver. The landing force generates overwhelming tempo and overmatches enemy weaknesses with its power and rapidity of execution. Tactical flexibility, combined with reliable intelligence, will allow it to bypass, render irrelevant, or unhinge and collapse the enemy's defensive measures.



Ship-to-Objective Maneuver employs the concepts of maneuver warfare to project a combined arms force by air and surface means against inland objectives. Ship-to-objective maneuver takes advantage of emerging mobility and command and control systems to maneuver landing forces in their tactical array from the moment they depart the ships, replacing the ponderous ship-to-shore movement of current amphibious warfare with true amphibious maneuver. Historically, reliance on Navy command and control during ship-to-shore movement and the requirement to establish a lodgment ashore worked counter to the principles of maneuver warfare (see figure 1). By executing ship-to-objective maneuver, landing forces will exploit advanced technologies which will

Figure 1. Ship-to-Shore Movement

permit combined arms maneuver from over-the-horizon attack positions through and across the water, air, and land of the littoral battlespace directly to inland objectives (see figure 2).

True ship-to-objective maneuver is not aimed at seizing a beach, but at thrusting combat units ashore in their fighting formations, to a decisive place, and in sufficient strength to ensure mission accomplishment. Landing forces will engage enemy units only as necessary to achieve the freedom of action to accomplish operational objectives.

Ship-to-objective maneuver provides the opportunity to achieve tactical as well as operational surprise, something seldom possible in past amphibious operations. Operations will begin from over the horizon and project power deeper inland than in the past, progressing with speed and flexibility of maneuver that will deny the enemy warning and reaction time. *By requiring the enemy to defend a vast area against our seaborne mobility and deep power projection, naval forces will render*



Figure 2. The Way We Were and the Way We Need To Be.

most of his force irrelevant. If the enemy chooses to withhold a strong mobile reserve, he will be attacked with long-range fires. His thinly spread defenses will allow friendly forces greater freedom of maneuver at sea and ashore. Preassault operations will confuse and deceive the enemy, locate and attack his forces, and further limit his ability to react. Naval forces will take advantage of the night and adverse weather conditions, as well as the ability to control the electromagnetic spectrum. These capabilities will enable exploitation of known enemy vulnerabilities, create opportunities, achieve tactical surprise, and result in mission accomplishment.

PRINCIPLES

The key element of *Ship-to-Objective Maneuver* adapts combined arms penetration and exploitation operations to the environment described in *Operational Maneuver from the Sea*. The result is littoral power projection that exploits significant improvements in tactical mobility to achieve enhanced combat power, and provides theater and joint force commanders a greater range of warfighting options. Ship-to-objective maneuver:

- **Focuses on the operational objective** and provides increased flexibility for landing force commanders to strike enemy critical vulnerabilities. No longer tied to phased operations and the cumbersome development of suitable beachheads, the landing force will concentrate on rendering the enemy ineffective.
- **Treats the sea as maneuver space.** For the force that controls it, the sea is both a protective barrier and highway of unparalleled mobility. Turning the enemy's vulnerable flank, or exploiting gaps in his positions, the landing force thrusts combat units by air and surface deeply into his defensive array. Such maneuvers unhinge the enemy position, making his dispositions increasingly vulnerable and, finally, untenable.
- **Emphasizes intelligence, deception, and flexibility** to drive planning, option selection, and maneuver execution. Naval forces exploit preassault operations to deceive the enemy, determine his dispositions, attack his critical vulnerabilities, and initiate action to gain tactical

advantage. They execute these operations *specifically to find or create exploitable gaps*. The common tactical picture provided to all commanders by advanced command and control systems, combined with the inherent flexibility of ship-to-objective maneuver, will allow the landing force to exploit such gaps.

- **Applies strength against weakness** and projects combat power through gaps *located or created* in the adversary's defenses. These gaps are not necessarily geographical; they may be exploitable weaknesses, such as limited night fighting capability, poor command and control, lack of endurance or low morale. While the landing force will attempt to bypass the enemy's defensive strength, it may be necessary to neutralize or destroy critical positions in the defensive array, including coastal strong points, in order to cause a rapid disintegration of the enemy force.
- **Creates overwhelming tempo and momentum.** Air and surface units maneuver from ships to inland positions faster than the enemy can effectively react. The landing force maintains the initiative and operates at a pace that allows it to dictate the terms of engagement. Operational surprise, through a combination of secrecy, deception, ambiguity, electronic warfare, lethal attack, and tactical successes, delays enemy recognition and disrupts his response. Complementary actions that fix, confuse, or neutralize the enemy support the rapid and uninterrupted thrust of combat power to decisive points ashore. The enemy will continually face dilemmas and a tempo of operations that denies him control of the battle and keeps him off-balance and reactive.
- **Integrates all elements in accomplishing the mission.** Whether operating in a joint or combined environment, the naval forces will employ all available assets in support of ship-to-objective maneuver in order to maximize the effectiveness of the landing force.

OPERATIONS

OVERVIEW

Ship-to-Objective Maneuver applies the principles and tactics of maneuver warfare to the littoral battlespace. Specifically, it will allow for conducting combined arms penetration and exploitation operations from over the horizon directly to objectives ashore without stopping to seize, defend, and build up beachheads or landing zones. Landing forces will conduct ship-to-objective maneuver by executing plans which are detailed, but flexible. A focus on the overall objective will drive planning and the scheme of maneuver ashore, allowing commanders to base decisions (such as the time and place of landing) on enemy gaps, movement of enemy reserves, or other events. Surface and vertical maneuver elements will be employed to accomplish the mission, producing a cumulative effect greater than the sum of the parts. Application of maneuver warfare principles in the execution of ship-to-objective maneuver (see figure 3) will require a number of changes to current doctrine, to include:

- (1) Landing force maneuver will begin upon crossing the line of departure (LOD). The assembly areas will be the ships themselves, and attack positions will be well offshore.
- (2) Assault elements will depart their ships knowing the plan in effect and will proceed from at-sea attack positions to the LOD.
- (3) Movement *parallel* to the shore may occur at any point between leaving the ships and crossing the high-water mark. The shift from amphibious task force control to landing force control will occur at or before the LOD.
- (4) At any point after reaching the attack position, tactical commanders on the scene may choose to vary their attack formations and axes and give other tactical directions based upon the changing situation and commander's intent.
- (5) Tactical commanders plan landing force maneuver options so that they can exploit up-to-date information and cross the beach at the

most advantageous points. They would normally seek gaps in the enemy defenses but sometimes operational considerations may require a deliberate assault against a defended position.

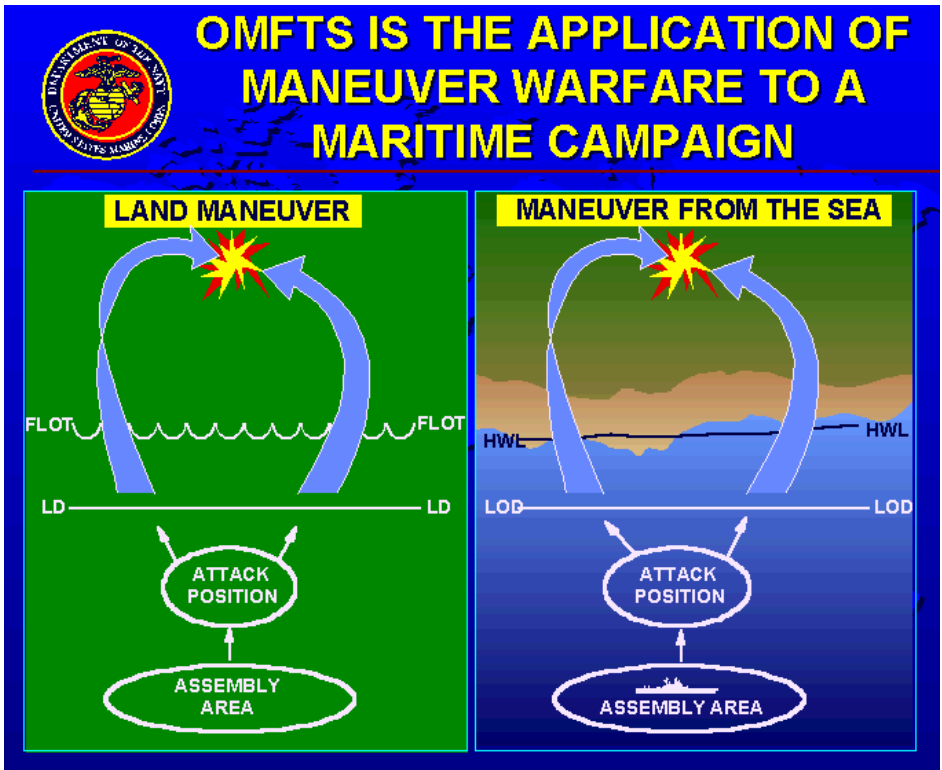
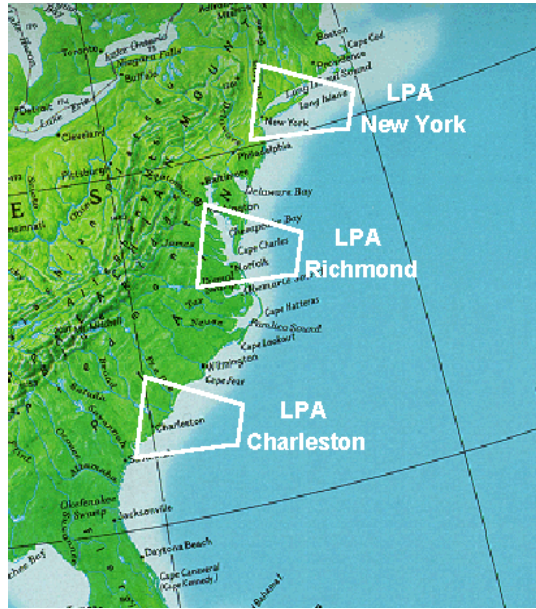


Figure 3.

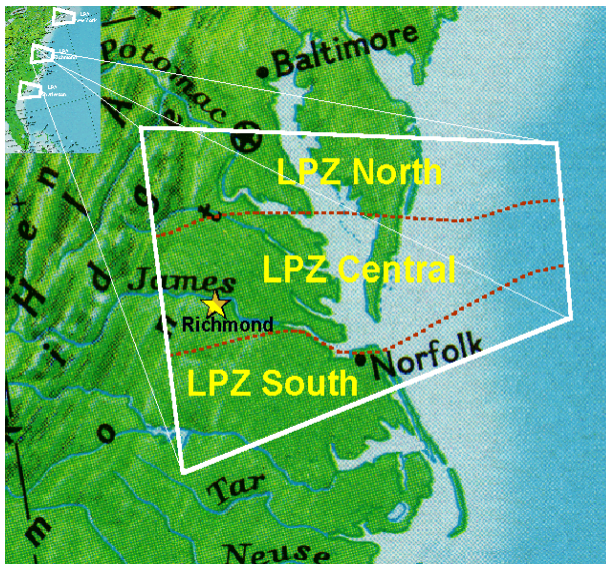
Four new coordination measures will be needed to control maneuver forces in the expanded battlespace of ship-to-objective maneuver: Littoral Penetration Area (LPA), Littoral Penetration Zone (LPZ), Littoral Penetration Site (LPS), and Littoral Penetration Point (LPP). These are defined as follows:

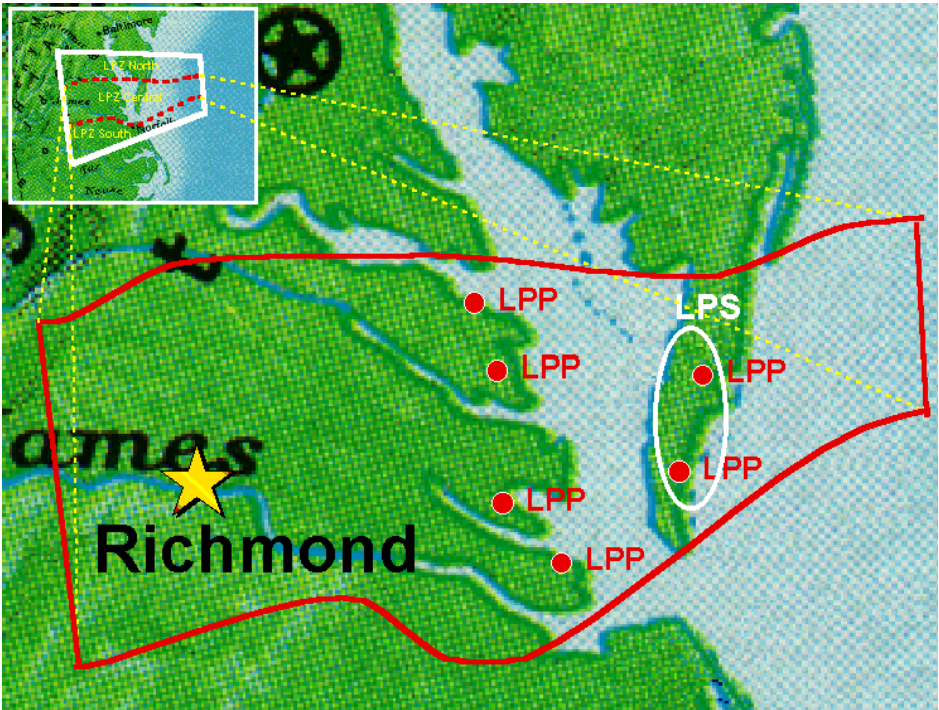
Littoral Penetration Area -

A geographic area designated for purposes of command and control through which naval forces conduct littoral penetration operations. This area must be of sufficient size to permit the unrestricted conduct of sea, air, and land operations. Normally one LPA will be associated with each possible objective area.



Littoral Penetration Zone - LPAs can be subdivided into smaller geographical zones to enhance command and control or to facilitate coordination of maneuver and fires. Each LPZ can contain several alternative axes for use by vertical or surface assault forces.





Littoral Penetration Site - A continuous segment of coastline within an LPZ through which landing forces cross by surface or vertical means.

Littoral Penetration Point - A point in an LPS where the actual transition from waterborne to land borne movement occurs (“feet wet” to “feet dry” for flying elements). Capitalizing on the precision location and navigation capabilities of the landing force, an LPP need only be large enough to support the passage of a single craft, but it may be used by a maneuver element or series of maneuver elements passing in column. When the terrain provides adequate space, the maneuver element may cross the LPP in its tactical formation.

As maneuver elements touch down on the shore, the transition from maneuver on the sea to land maneuver must be seamless, allowing the force to maintain momentum and tempo so as to conduct deep penetrations and reach inland objectives quickly. The landing force will attack enemy critical vulnerabilities, creating and exploiting new opportunities until achieving a decisive advantage. Vertical and surface maneuver forces

bring complementary capabilities to the battle, permitting operations to continue unabated until the forces achieve their objectives. Vertical assault forces may attack key positions within the enemy defenses and continue to maneuver on the ground or repeat their vertical assaults on subsequent objectives. Surface assault units accomplish assigned missions and keep pressure on the enemy, either linking up or maneuvering in tandem with the vertical assault units.

The command and control system will provide the commander with the ability to see and influence the battlefield, while giving subordinate maneuver commanders the freedom to exploit fleeting opportunities. Plans will be based on accurate intelligence, but an understanding of the commander's intent will permit maneuver unit commanders to adapt their actions to the changing situation.

Ship-to-Objective Maneuver calls for rapid projection of combined arms teams ashore, but emphasizes *sea-based* command and control, logistics, and fire support. Improved information connectivity allows the landing force command element to remain at sea, capable of effective command, but better protected from enemy attack. When afloat, the headquarters retains direct influence upon naval support operations, but does not drain scarce landing force combat and logistic resources. The seabasing concept calls for ships of the amphibious task force to serve as floating combat service support platforms to resupply the combat units rapidly and directly, fully exploiting the lift and mobility offered by landing craft, air cushion (LCAC) and vertical take-off and landing (VTOL) aircraft. By seabasing most supporting fires, landing force vulnerability and footprint ashore are significantly reduced, greatly improving freedom of maneuver and enabling the naval force to project ashore combat formations which are leaner, lighter, and more effective.

In *Ship-to-Objective Maneuver*, the distinction between advance force operations and the assault fades. Historically, amphibious operations have relied on successful preassault operations. A dedicated advance force which preceded the main body of the amphibious task force conducted deception operations, mine clearing, fire support, and obstacle reduction in the objective area. While such tasks remain critical to the success of ship-to-objective maneuver, it may no longer be desirable to establish a separate advance force to perform them. Reconciling the

contradictory requirements of preassault operations and surprise requires a change in our concept of advance force operations. The benefits of surprise are so important that, with the exception of deception, those functions which cannot be executed by clandestine means must be performed “in-stride” by assault units. Thus, future operations will emphasize clandestine efforts to determine enemy strengths and weaknesses by locating and identifying mines, obstacles, fire support units, critical command and control nodes, and force dispositions. Breaching, preparatory fires, and obstacle clearing -- traditionally preassault tasks -- will become an integral part of the assault phase.

As the phasing of the assault changes, so does the organization of the landing force. The separation of the landing force into the five traditional movement categories of scheduled waves, on-call waves, prepositioned emergency supplies, remaining landing force supplies, and nonscheduled units disappears in ship-to-objective maneuver. By task organizing landing units into combined arms teams, the requirements for specialized units in on-call waves are reduced.

The amphibious operation does not terminate with the transfer of command ashore, but rather with the accomplishment of the mission. The MAGTF may then either transition to subsequent operations ashore, or reembark on board the ships of the amphibious task force to prepare for further force projection operations. A general unloading of the landing force will not take place.

Surface Maneuver Force

The surface assault force consists of self-contained combined arms teams. After leaving the ship, these teams maneuver in AAVs and LCACs over the sea under the direction of their tactical commanders, much as land forces maneuver across a desert. The rapid movement of this force inland to their objectives reduces landing force vulnerability to enemy beach defenses and creates a tempo of operations that will outpace the enemy’s ability to react. The combined arms teams include supply and maintenance capabilities that will be replenished and augmented as required from the seabase.

The flexibility offered by the combination of AAVs and LCACs will provide multiple penetration options for each maneuver element. Overwhelming combat power will be concentrated from several directions using organic firepower of maneuver units and sea-based fires. High-speed amphibious mobility will enable friendly forces to reinforce success quickly by redirecting their efforts toward gaps found or created in enemy defenses. Given the range and speed of the AAV and LCAC, these forces might penetrate the enemy's coast outside the area they intend to control, and then attack back into the vital area (see figure 2). Subsequent surface elements may not penetrate at the same points as initial elements. As defenses are turned and impediments destroyed, subsequent elements will be able to penetrate at the points most advantageous to their mission, rather than simply follow in trace.

Vertical Maneuver Force

A deep vertical envelopment presents the enemy with a dilemma. If he reacts to the vertical assault force, he risks increasing his vulnerability to other vertical assaults, to the maneuver of the surface assault force, and to supporting fires. If he ignores the vertical assault force, it can cause significant damage and seize objectives facilitating the surface assault, creating other opportunities for exploitation. The MV-22 and CH-53E offer mobility which enables the vertical assault force to attack from over the horizon and strike rapidly at deep objectives, reembark, and strike other objectives before the enemy can react.

As with the surface elements, vertical assault units will operate on multiple axes and not be restricted to the same Littoral Penetration Points previously used. Furthermore, the endurance and speed of the MV-22 permit multiple lifts and extractions of the same unit, providing a flexibility of maneuver seldom before achieved in vertical assault operations. The ability to insert deep and then conduct bounding maneuver will allow the vertical assault force to maintain a rapid tempo, exploiting freedom of maneuver, destroying the enemy's forces through supporting fires, without allowing the vertical assault force to become decisively engaged.

PLANNING

While detailed tactics, techniques, and procedures will evolve, ship-to-objective maneuver planning will follow the basic doctrinal principles established in Joint Publication 3-02, *Joint Doctrine for Amphibious Operations*. Forces will focus planning on mission objectives and the scheme of maneuver ashore, culminating in a landing plan. The major differences between traditional and future amphibious power projection planning are the elimination of the requirement for a force beachhead and the need to plan for several schemes of maneuver, all of which must be supported by a single embarkation plan. Future landing forces will attack through littoral penetration points that best support accomplishment of the operational mission. The best option might not be the shortest route, but the one that best takes advantage of gaps in the enemy defenses. Some situations will require creating a gap by destroying enemy forces.

Several factors will influence planning for ship-to-objective maneuver. First and foremost is the objective. *Operational Maneuver from the Sea* envisions the accomplishment of a significant operational or strategic objective. It is not an assault to seize a beachhead. All decisions will be based upon this overall objective, from landing force missions to the degree of risk acceptable to the force as a whole. The practical implications for the landing force include assembly areas and attack positions that remain miles offshore. While this change complicates pre-H-Hour unit actions and coordination, these challenges can be overcome through exploitation of increased maneuver space, improved command and control, and precision location and navigation systems. Launching the attack from over the horizon will enhance security while expanding the potential for surprise.

The second major factor involves the execution and timing of preassault tasks, such as minefield and obstacle breaching. If such obstacles cannot be avoided, surface assault forces must time their landing to coincide with the successful completion of breaching operations. This requires an in-stride breaching capability.

The third factor which influences planning for ship-to-objective maneuver is task organization and embarkation of the landing force. Since landing forces, especially Marine Expeditionary Units (MEUs), will often deploy

prepared and embarked to accomplish a variety of missions, the doctrinal sequence of planning, embarkation, rehearsal, movement, and assault (PERMA) might often become EMPRA, with embarkation and movement occurring prior to the planning, rehearsal, and assault phases of an amphibious operation.

A fourth and closely related factor deals with distances, cycle times, and lift availability for the landing. For the task-organized assault force, launch and coordinated movement from widely dispersed ships will require the use of precision location and navigation systems to achieve appropriate arrival at the LOD. Tactical commanders of landing force units must coordinate movement of combined arms teams embarked in AAVs and LCACs to maintain unit integrity and combat power. Different launch distances, varying craft and vehicle speeds, and the potential requirement to divert critical lift assets to alternate ships as losses occur will complicate coordination.

Ship-to-objective maneuver requires tactical commanders of individual landing units to control their own unit's movement. This must include the authority to divert through alternate Littoral Penetration Sites or Points, as the situation dictates. Those permissive tactical control measures used in ground operations will be extended seaward and applied to the amphibious assault.

While less precisely defined than the factors listed above, operations conducted with dispersed forces maneuvering over extended distances will impact planning. Concentrating combat power, providing fire support, sustaining the landing force, and conducting mutually supporting attacks will require extensive planning, training, and shared situational awareness.

EXECUTION

Landing force surface maneuver will require careful coordination between elements of combined arms landing teams. These teams, generally embarked in a mix of AAVs and LCACs, will deploy from a number of dispersed amphibious ships (see figure 4). Initially, the amphibious task force commander will vector units to attack positions seaward of their planned Littoral Penetration Sites. As in a combined arms attack ashore,

units will use attack positions to complete final preparations by assuming tactical formations, confirming orders, and accomplishing any “last minute” tasks. Attack positions can also serve as decision points for selecting a course of action from multiple options supporting the scheme of maneuver.

Different missions, movement rates, and survivability factors will determine the sequence and timing of each element through the attack positions. After crossing the LOD, landing elements will begin their run at their Littoral Penetration Points and inland objectives. Amphibious task force and landing force commanders will continue to monitor progress, though the landing unit tactical commanders will now have the authority to maneuver as required, depending upon the tactical situation. Attack helicopters may escort the AAV and LCAC-mounted surface force to provide added capability against hostile watercraft during the long transit to the objective. Careful coordination by individual unit commanders will ensure that units cross Littoral Penetration Points with tactical integrity and cohesion intact, ready to prosecute the scheme of maneuver.



Figure 4.

Resistance at the beach is always possible. The leading elements of the landing force, mounted in AAVs, will provide supporting arms and direct fire to overcome resistance in the vicinity of the LPP. Leading assault elements will maneuver to clear sufficient space, laterally and in depth, to ensure secure offloading of LCACs, while continuing the rapid inland penetration uninterrupted.

In concert with the surface assault, the vertical assault force will maneuver inland, using evasive routes, feints, and alternate approaches to confuse enemy defenses. Commanders will coordinate vertical assault and surface assault times to achieve maximum enemy disruption. Timing of the landings is designed to maintain tempo and overwhelm local defenses. The number of vehicles or aircraft in each element and the time between elements will depend on the mission, enemy situation, and characteristics of the Littoral Penetration Zone. Each landing team may embark on different ships in order to facilitate near simultaneous launching as cohesive units. While such dispersion is not ideal for administrative purposes during the movement phase of an operation, it will speed the landing of cohesive combat units during the assault phase. With all of its nonamphibious vehicles loaded in LCACs, a tactical commander can maneuver his unit so that it will be able to land as a combat team regardless of the number of ships upon which it was embarked.

KEY CAPABILITIES

Successful implementation of the *Ship-to-Objective Maneuver* concept will require improvements in mobility, command and control, intelligence, fires, sea-based logistics, organization, doctrine, training, and education. Specific capabilities that we must achieve through the combat development process are outlined below.

Mobility

The landing force must maneuver from attack positions well offshore through Littoral Penetration Points and rapidly to inland objectives. This requires surface and vertical assault systems with the speed, range, precision location and navigational capabilities, protection, and firepower to launch from over-the-horizon positions, maneuver toward any Littoral Penetration Point, and crack the environmental and defensive shell of the

Littoral Penetration Area while maintaining the momentum of the attack. The technologies required to provide these capabilities are under development, and the combat systems implementing these technologies are the highest acquisition priority in the Marine Corps. These include the Advanced Amphibious Assault Vehicle (AAAV), a highly capable assault support aircraft (MV-22), and surface craft and aircraft to deliver equipment and supplies throughout the littoral region. A force properly equipped with the AAAV, LCAC, MV-22 and CH-53E, and supported by sufficient numbers of amphibious and support ships, will provide the required operational capabilities in the early 21st Century.

The landing force must also locate, identify, and overcome both natural and manmade impediments to mobility. Mines, obstacles, adverse terrain, and built-up areas can all impede the mobility of the landing force. Just as in land maneuver, the surface assault force must be able to penetrate obstacles between the LOD and final objectives either through pre-existing gaps or by breaching. To accomplish these tasks, robust mine reconnaissance and rapid in-stride breaching capabilities are essential.

Command and Control

Command and control provides the mechanism by which a commander recognizes what needs to be done and communicates those actions required to ensure mission accomplishment. Maneuver warfare emphasizes decentralized execution with subordinate commanders exercising the maximum possible latitude in performing assigned missions. Command and control systems must provide landing force commanders at all echelons a common operational picture and the connectivity to monitor execution and to influence events when necessary.

Intelligence

Satisfaction of intelligence requirements is critical. The most immediate intelligence priority for *Ship-to-Objective Maneuver* is locating and identifying enemy forces and impediments to mobility. The landing force will exploit this intelligence throughout the operation using “reconnaissance pull” tactics to take advantage of gaps while avoiding obstacles and strong points. Commanders at all levels require timely access to all-

source intelligence relevant to their immediate needs. They must be able to request and receive specific, real-time, and near- real-time information in a usable format, whether they are embarked, maneuvering toward objectives, or conducting subsequent operations ashore.

Fires

Fire support of ship-to-objective maneuver must provide immediate and responsive high volume suppression and neutralization fires in support of all landing force elements. Unit commanders at all levels will call for and control the fires of organic and supporting arms. Fire support systems must be capable of providing highly accurate and lethal long-range fires to simultaneously satisfy the needs of both the vertical assault and the surface assault. Furthermore, these fires must be available “around the clock” and in all weather conditions. Fire support agencies must respond to calls for fire with sufficient speed and accuracy to support landing force maneuver.

Information Operations

Ship-to-objective maneuver relies on surprise, deception and ambiguity to create exploitable gaps in the enemy’s dispositions and reactions. Friendly forces must not only have the capability to gain knowledge about the enemy, but also the resources to develop and execute convincing deceptions. Having “painted a picture” for the enemy, they must then be able to selectively disrupt and degrade his command and control systems to delay his recognition of the actual situation. The capability to defeat the enemy’s command and control system while protecting its own will give the naval force an important edge.

Sea-based Logistics

Sustaining deeply inserted vertical assault forces and rapidly penetrating surface assault forces from a seabase presents a critical challenge. The absence of dumps ashore, limited resupply delivery means, and rapidly maneuvering combat forces combine to make “logistics push” techniques undesirable and infeasible. Maneuver units will operate under a “logistics pull” concept, drawing support from the floating combat service support

areas. This will require total asset visibility and selective offload capability within the seabase, and systems for delivering tailored logistic packages directly to the using element.

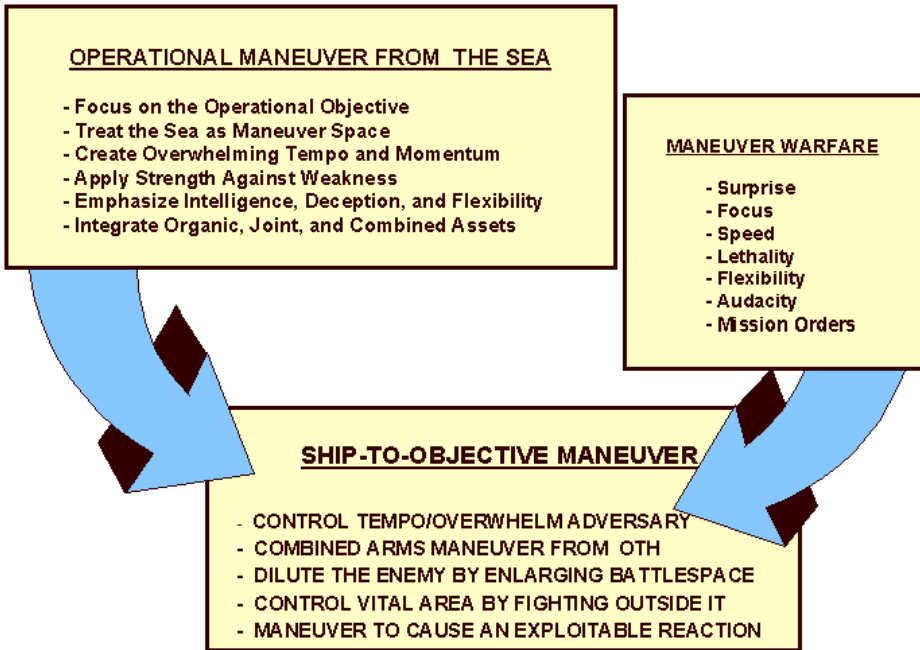
Organization, Doctrine, and Training and Education

The human element is as important to the implementation of *Ship-to-Objective Maneuver* as are materiel improvements. Placing responsibility on the landing force commander for controlling movement from the ship to the objective is a significant departure from current doctrine. The organization and coordination agencies of the naval force must adapt to fully exploit the advantages offered by new technology. Tactical maneuver unit commanders will now direct ship-to-objective maneuver from attack positions located beyond the horizon all the way to objectives located deep inland, coordinating movement with higher and adjacent units, calling for fires, and making rapid decisions to achieve the commander's intent. Preparing future naval leaders to deal with the challenges and opportunities of conducting maneuver warfare in the littoral battlespace will require that:

- Naval service schools impart a common understanding of this emerging doctrine and its underlying philosophy.
- Navy and Marine units develop and refine tactics, techniques, and procedures through unit, staff, and task force exercises.
- Realistic naval power projection simulations stimulate and encourage initiative, imagination, boldness, and rapid decision-making in exercises and in operations.

SUMMARY

Ship-to-Objective Maneuver is a tactical concept for the conduct of amphibious operations in support of *Operational Maneuver from the Sea*. It applies maneuver warfare concepts to the littoral battlespace. By doing so, a landing force will be capable of seamless maneuver from over the horizon directly against objectives deep inland. Through application of the tenets contained in this concept paper, the principles of *Operational Maneuver from the Sea* are integrated with those of maneuver warfare, as described in MCDP-1, *Warfighting*.



Ship-to-Objective Maneuver and *Operational Maneuver from the Sea* mark a major evolution in amphibious warfare. These concepts take advantage of innovations in technology to enhance the capability of naval forces to conduct amphibious operations in the 21st Century. *Ship-to-Objective Maneuver* directly links maneuver at sea to maneuver on land, enabling naval forces to fully apply the principles of maneuver warfare in support of *Operational Maneuver from the Sea*. The improvements in doctrine, organization, training and education, and equipment outlined above will result in unprecedented operational flexibility and a greatly improved capacity to project power ashore.

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