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Ship To Objective Maneuver (STOM)
"An Operational Level Perspective"

by

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

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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15. Abstract:

The Marine Corps has charted its course into the 21st Century in terms of developing a Capstone Warfighting philosophy. It is also following up this decision with procurement, doctrinal development, force structure, and training. This paper examines the capabilities and shortfalls inherent in the philosophy across the operational functions of: C2, Intelligence, Fires, Logistics, and Force Protection.

There were 4 main trends identified in the analysis: 1. A requirement for a real-time, integrated information/communication network. 2. Continued U.S. Navy support of programs, platforms, and capabilities in support of STOM. 3. Continued aggressive pursuit of technological advances to enhance capabilities. 4. A renewed emphasis on efforts to defeat the array of area denial weapons.

Now is the time for the Corps to pursue its operational plan into the next century.

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Abstract of

SHIP TO OBJECTIVE MANEUVER
"AN OPERATIONAL LEVEL PERSPECTIVE"

The U.S. Marine Corps has clearly charted its course into the 21st Century in terms of developing a capstone warfighting philosophy. Additionally, it is well on the way to following this decision up with procurement, doctrinal development, force structure, and training plans to support that charted course. As the Corps begins implementation of its future doctrinal concept, an assessment of both the capabilities and limitations inherent in the concept would serve as a navigation aid in addressing those shortfalls.

The five operational functions (Command and Control, Intelligence, Fires, Logistics, and Force Protection) are pervasive at all levels of war and lend themselves to an easily understandable assessment. Therefore, the analysis of STOM operations in this paper utilized the five operational functions as a conceptual measure of effectiveness. Because so many of STOM's capability requirements have not yet been developed or fielded, this assessment focused on common trends. There were four major trends identified in the paper:

- A requirement for an integrated, real-time information/communication network
- The continued cooperation, coordination & concurrence of the U.S. Navy in support of STOM required platforms and weapons systems
- The necessity to monitor and pursue the technological advances needed across the board in the five functional areas
- A renewed emphasis on the Navy/Marine efforts to defeat the growing array of area denial weapons

The time for the Marine Corps to put its conceptual warfighting plan into action is now. A good operational plan requires validation of assumptions, coordination across all levels, and branches and sequels. This maxim also holds true for the Corps as it marches into the new millenium armed with a new warfighting doctrine.

The United States Marine Corps has developed a broad, ambitious operational concept that is intended to be the cornerstone of the warfighting foundation of the Marine Corps from 2010 until well into the 21st century. This concept is called "Operational Maneuver from the Sea" (OMFTS) and it has become the driving tenet for acquisitions, force structure, doctrinal development, and training both in the Fleet Marine Forces and at the Marine Corps Combat Development Command.[i] Further, the Marine Corps has recently incorporated Ship To Objective Maneuver, or (STOM), as its linchpin maneuver concept in the implementation of OMFTS. In essence, STOM is the marriage of the Marine Corps doctrinal philosophy of Maneuver Warfare to its traditional mission of amphibious operations in Naval Warfare.[ii]

Maneuver Warfare emphasizes speed and tempo of operations in order to achieve a positional advantage over the enemy and unhinge his ability to effectively react to the battlefield situation. STOM is designed to capitalize on the next generation of Marine Corps aircraft and amphibious vehicles to eliminate the existing requirement to incrementally build up amphibious forces over a landing beach.

Without question, this is a quantum leap of faith by the Marine Corps in how it will equip, train, and conduct amphibious operations from 2010 into the mid 21st Century.

At a minimum, it will require close coordination and compliance from the U.S. Navy in terms of programmatic support for aircraft, ships, and weapons systems. This will be a tall order in light of the shrinking number of Navy ships and aircraft. Nevertheless, for the purposes of this paper, it is assumed that the required ships, aircraft, and landing craft will be procured.

Additionally, the scope of this paper precludes a detailed discussion of the implications of STOM on operations at the lower end of the conflict spectrum. Although STOM capabilities may enhance humanitarian or peacekeeping operations, those capabilities will not be decisive to the success of those operations. Likewise, STOM combat operations of short duration, at the tactical level, also will not be addressed. Strikes and raids do not involve logistics to the degree necessary to evaluate the STOM concept in light of sustained operations in a campaign or at the operational level of war.

Having addressed those two areas, the balance of this paper will examine the concept of STOM operations through the critical lens of the operational functions: Command and Control, Intelligence, Fires, Logistics, and Force Protection.

The purpose of this analysis will be to identify specific problem areas or conceptual trends that may assist the Marine Corps in its preparation for STOM implementation.

BACKGROUND AND TENETS

Although OMFTS, as an operational concept, has been in the Marine Corps lexicon for the past decade, it has only recently become the foundation for the Corps' future warfighting doctrine. The Marine Corps pursued a dual track of threat based analysis and tilt rotor technology in arriving at its decision to incorporate OMFTS as its future warfighting doctrine.[iii] It required the final budget approval of the MV-22 Osprey and the Advanced Assault Amphibian Vehicle (AAAV) during the last two Congressional budget cycles. The Corps is also banking on the fielding of the new Joint Strike Fighter (JSF), early next century, to replace the aging Harrier AV-8B (VSTOL) Close Air Support attack/fighter. Finally, the last piece in the acquisition requirements category is the Maritime Pre-Positioning Force (Future) - MPF(F), which would begin to come on line in 2010.

The funding of these four major weapons systems are critical to the ability of the Navy-Marine team to conduct and sustain amphibious operations from "over the horizon" (OTH), thereby reducing the vulnerability of the amphibious task force. Additionally, the greater range and speed of the

MV-22, JSF, and AAAV will enable the task force to conduct its operations over a much wider, geographically dispersed area which will complicate the enemy's task of defending potential landing sites.

COMMAND AND CONTROL

Command and Control (C2) is unarguably one of the most important operational functions and its three principal elements are authority, information, and communications.[iv] The impact of STOM on the traditional, authoritative C2 relationships is significant and challenging. Both the Navy and Marine Corps have espoused greater C2 integration for Naval Expeditionary Warfare. This is evident in doctrinal publications and in fleet battle experiments. Since 1994, Carrier Battle Groups and Amphibious Ready Groups have integrated their final deployment readiness evaluations to enhance coordination and command relationships.[v]

The recent OMFTS Working Group final report concluded, "a single Marine Air-Ground Task Force/Naval Force C4I architecture is required."[vi] This simple statement portends a radical change in both the institutional mindset and current doctrine for conducting amphibious operations. The vintage World War II Commander Amphibious Task Force(CATF-USN)/ Commander Landing Force(CLF-USMC) command relationship which had specific and defined responsibilities will no longer

exist. A key component of this command structure was the relinquishment of command from CATF afloat to CLF ashore. The strictly defined line of authority in this command relationship was specifically designed to promote harmonious relations and clearly understood responsibilities between the respective Service commanders. Nevertheless, since STOM mandates sea basing and the operational concept of *command* ashore but *control* afloat, both a new institutional mindset and C4I architecture will be required for the naval expeditionary force.

A second element in the C2 function is the dissemination of information, both up and down the chain of command. Because STOM operations rely on speed and fast paced tempo of operations, timely and accurate information is critical to mission success. The Marine Corps points to two specific measures intended to facilitate information operations. The first measure exists in doctrine as mission-type orders, which are intended to enhance freedom of action for subordinates in decentralized decision-making. The second measure is described as information *reachback*. Essential to this concept of *reachback* is the networking of all source information, both in-theater and CONUS, and its dissemination in a near real time mode to widely disseminated tactical units.[vii]

Mission-type orders have been in place as Marine Corps

doctrine since before Desert Shield/Desert Storm.[viii] The freedom of action inherent in mission orders blends perfectly with the speed, tempo, depth, and force dispersion necessitated by STOM operations. They are also less vulnerable to disruption of information flow than centralized control of execution. There is, however, one major shortcoming in this style of C2. It complicates coordination by widely separated units and it runs a higher risk of the loss of overall control by the operational commander to diffused tactical commanders.

Finally, both the provision of information through reachback and the dissemination of mission-type orders will rely on a robust, redundant communications system. This system will be required to provide communications at both the tactical and operational levels. STOM operations mean that the communications environment will routinely: cover distances in excess of 300 miles, involve air, land and sea forces, and cover varying terrain (from mountain to urban) simultaneously. This capability clearly does not currently exist and will require a concerted effort from both the naval and joint arenas to have this C2 architecture in place by 2010.

INTELLIGENCE

STOM operations are heavily dependent on timely and focused operational level intelligence for mission success,

particularly in the initial landing operations. The operational maneuver mandate of STOM is the landing of our forces against enemy weak points and then exploiting tactical opportunities before the enemy can react.[ix] This intelligence picture can only be obtained through full connectivity with the joint intelligence architecture, supported by theater and national assets. The OMFTS Working Group emphasized a timely and accurate, common operating picture as essentially a prerequisite for success.[x]

A significant intelligence attribute of STOM operations is the ability to support a deception campaign at the operational level. The reach and depth of a STOM force creates, at a minimum, ambiguity in the mind of the enemy commander as to where the force may attack. Since deception at the operational level is easier to conduct than at the strategic level and is far more effective than at the tactical level,[xi] STOM operations enhance the operational commander's options. This operational deception capability can be used either inherent to a STOM operation itself, or as a larger deception by a JTF/theater commander as part of the campaign.

Because STOM envisions defeating an overall superior force through the use of mobility, maneuver, and precision fires, good intelligence will be a critical combat multiplier on both the tactical and operational level. Here again, the

required development and fielding of a network system of information and communications will be the key element for the required common operating picture for commanders at all levels.

FIRES

JV 2010 has made precision engagement of targets a cornerstone of its operational capabilities.[xii] STOM builds on this concept and identifies the requirement for long-range precision and accurate non-precision fires from naval expeditionary forces or components of a joint/combined force. The availability of these external fires to the STOM force provides lethality while maintaining mobility and minimizing logistical requirements. Additionally, one of the bedrock tenets identified by the OMFTS Working Group was that, "The MAGTF must not sacrifice lethality to achieve greater mobility in STOM operations."[xiii]

Though not specifically articulated, the concept calls for the provision of operational level fires to both prepare the tactical battlefield while isolating the operational battlefield from reinforcements. The Marine Corps has recently conducted two warfighting experiments, "Sea Dragon" and "Urban Warrior" which were designed to test the ability of small, lightly armed, mobile units to engage heavier forces using long-range, precision fires. The results of these

experiments are encouraging, but they identified many shortfalls in information processing, target acquisition, Fire Support Coordination, and communications that must be addressed before operational fires in support of STOM can become a viable operational capability.

Ultimately, this advanced expeditionary fire support system must be flexible, lethal, responsive, and accurate in all-weather conditions around the clock. Technological innovation to satisfy these requirements is a key assumption, not only for STOM operations, but for the joint force as well. Conceptually, STOM sustained operations ashore will depend most heavily on aviation and naval surface fire support (NSFS) in the initial phases of the operation. Here, the Marine Corps is relying on the notional DD-21 ship as the platform for its NSFS requirements. A sustained operation/campaign may also require the eventual transition ashore of ground based fires, C2, logistics and aviation systems. These fire support assets must all be able to fully integrate into joint force or coalition systems.[xiv]

LOGISTICS

In a PROCEEDINGS article, some years ago, Marine Commandant Robert Barrow said, "Amateurs talk tactics, professionals talk logistics." In terms of operational sea-

based logistic support for STOM operations, the Marine Corps has developed five fundamental tenets:[xv]

* **Sea Based Primacy** – OTH, reduced or eliminated footprint ashore
* **Reduced Demand** - technological improvements, lighter forces ashore
* **Sustainment in-stride** - networked, automated logistics for maneuver units
* **Adaptive Response** – expanded missions, joint support
* **Force Closure/Reconstitution at Sea** - build & restore combat power

The implications of STOM operations on logistic support could well pose the most difficult problem to solve at the operational level. The old concept in amphibious operations of a lodgment and build-up of forces ashore was primarily logistically driven. The transportation and supply systems mandated this transition period in order to support the logistics requirements of the MAGTF.

Three of the new logistic tenets rely on recurring concepts found in STOM: network-based information, sea basing, and lighter forces ashore. The first involves the assumption of continued technological advancements, while the other two tenets are a function of force structure, procurement, amphibious lift capabilities, and doctrinal development. The Navy/Marine team is clearly relying on these technological advancements and conceptual tenets to fulfill the logistical requirements of the STOM force.

Sea basing of logistical support involves both a new doctrinal concept and an envisioned capability for the 2010 MPF(F) force. Specifically, the Marine Corps sees the

integration of MPF(F) and amphibious task forces as a pillar on which the concept of sea basing must stand. This follow on MPF(F) force must have the ability to execute aviation operations and provide in-stride sustainment of a committed STOM force. Modular and tailored configuration of the holds on MPF(F) ships must allow for the identification, processing, and delivery of specific parts and supplies.[xvi] The description of "just in time" sustainment as envisaged by the operational concept of Focused Logistics in JV 2010 is fully evident as a necessity to the viability of STOM operations.

STOM operations of a sustained nature, however, will place a unique and vexing burden on the force. STOM's reliance on rapid, long-range, widely dispersed, maneuver forces also greatly complicates the logistician's ability to sustain those forces. In a high threat, fast-tempo operation, this problem is exacerbated by the competing requirements for mobility assets between the functions of maneuver and logistics.

An historical lesson that illustrates this dilemma at the operational level is the German General Staff's Schlieffen Plan in World War I. The German operational plan relied on the capabilities of the European railroad system to allow an overwhelming German force to outflank allied forces in France. In practice, however, the logistical requirements of the

flanking German Armies proved too much for the follow-on transportation assets from the railheads. In his book, Supplying War, Van Creveld states that the maneuver forces finally collapsed under the weight of their own logistical requirements.[xvii] Although force size will not be the "Schlieffen Plan" of STOM, its range, depth, and force dispersion attributes will demand balanced consideration in operational level planning.

FORCE PROTECTION

This operational function is, in a sense, a dichotomy for the concept of OMFTS and STOM operations. Reducing the size and footprint of our forces ashore makes them more difficult for the enemy to detect, target, and engage. Also, the OTH posture of the force negates enemy direct fire weapons while enhancing the principle of surprise for the STOM force. Conversely, the sea basing of virtually all of the STOM force assets (including MPF(F)) puts a premium on the Navy's ability to protect the naval force transit into the operational theater. Once in theater, that force protection task broadens to include the avoidance or defeat of an enemy's area denial weapons. Although the CNO recognizes and concurs with this requirement,[xviii] the assets and capabilities necessary for this task will have to compete against other operational requirements.

Force protection from the operational commander's perspective is, first and foremost, the defeat of an enemy's area denial weapons. Currently, the Navy's ability to detect and defeat both submarine and surface ship threats is unrivaled. The track record in Mine Warfare and Mine Counter Measures (MCM), however, is not as good. In a Marine Corps analysis of Desert Shield/Desert Storm, Major General Hanlon, Director of Expeditionary Warfare, concluded that the current deficiency in reconnaissance and neutralization of mines effectively negated the option of an operational level amphibious maneuver in that conflict.[xix]

On a positive note, both the Navy/Marine Corps team and the joint arena have recognized that MCM is a key enabling and supporting component in the JV 2010 goal of "Full Spectrum Dominance."[xx] To that end, the Navy began its Mine Interdiction Warfare (MIW) campaign in FY 96 and has developed the following conceptual plan: [xxi]

NEAR TERM 1996-2002
Enhanced mine survey and surveillance databases
Magic Lantern Deployment Contingency (MLDC)
Remote Minehunting Operational Prototype (RMOP)
MID TERM 2003-2009
Shallow Water Assault Breaching Systems (SABRE)
Distributed Explosive Technology (DET)
FAR TERM 2010+
Advanced Lightweight Influence Sweep System
Airborne Mine Neutralization System
Remote Minehunting System (V)
Rapid Mine Countermeasures System (RAMCIS)

In that FY 96 MIW Campaign Plan, the CNO's challenge to the Navy was to operationally integrate MCM into the Navy force structure such that it becomes a core war-fighting competency.

SUMMARY AND CONCLUSION

The U.S. Marine Corps has duly charted its course into the 21st Century in terms of developing a capstone warfighting philosophy. Additionally, it is well on the way to supporting this decision with procurement, doctrinal development, force structure, and training plans to enable that charted course. The methodology of this paper examined STOM, as the maneuver crux of OMFTS, against the five operational functions: C2, Intelligence, Fires, Logistics, and Force Protection. The intent of this examination of STOM operations was to assess how well STOM is currently positioned to achieve its operational goals while also identifying key shortfalls in future requirements.

An analysis of the evidence presented allows for several general conclusions regarding STOM's capabilities and limitations. First, is the unqualified requirement for development of a rapid, accurate, and integrated information/ communication network of systems to support all of the operational functions. Second, is the cooperation, coordination, and concurrence of the U.S. Navy in terms of programmatic support for major weapons platforms such as

DD-21, MCM(X), LCAC upgrades, JSF, and MPF(F). Without the commensurate Navy support for these programs, OMFTS and STOM will simply not become a capability at the operational level of war. Third, is the large measure of technological advancements necessary in the area of logistic support to STOM operations. Even given the assumption that the required logistical support technology will become a reality, the competing tasks for a limited number of multi-mission aircraft, such as the MV-22, will still constrain STOM operations. Finally, there is the necessity to develop and maintain our capability to defeat the growing number of area denial weapons arrayed against the naval force.

In essence, the Marine Corps has already developed and is currently implementing its plan to equip, train, and fight well into the next century. The mandate for the Corps is not to put that plan on the shelf, but rather to continually revalidate its assumptions, continue coordination across all levels, and identify branches and sequels for the unexpected shortfalls which are bound to arise. The future, at a minimum, portends exciting times for the Marine Corps as it rides the "dragon of change" into the next millenium.

NOTES

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[xv] Ibid., XI-4.

[xvi] Ibid., III-10.

[xvii] Martin Van Creveld, Supplying War (Cambridge: Cambridge University Press 1977), 112.

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