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14. ABSTRACT
According to the 2016 Marine Corps Operating Concept (MOC), the contemporary Marine Air Ground Task Force (MAGTF) is not organized, equipped or trained for modern amphibious warfare. The aim of this paper is to propose a framework that defines the naval character of MAGTF ground operations to provide a departure point for balanced future force development. This paper will analyze the criticisms of contemporary amphibious operations, service doctrine, the future operating environment and the modern history of force development within the U.S. Marine Corps. The framework proposed by this paper has three components. First, the constraints of amphibious shipping and landing craft limits the use of heavy equipment by the MAGTF and privileges the employment of warfighting concepts designed around light and medium ground platforms. Second, naval aviation provides the majority of the tactical mobility

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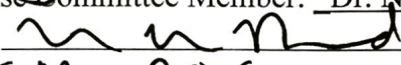
**AUTHOR:
Major John T. Meixner**

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Mentor and Oral Defense Committee Member: Dr. John Gordon

Approved: 
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Oral Defense Committee Member: Dr. Nathan Packard

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Executive Summary

Title: A Framework for Assessing the Naval Character of MAGTF Ground Operations

Author: Major John T. Meixner, United States Marine Corps

Thesis: The central argument of this paper is that the naval character of future MAGTF ground operations needs to be defined by a combined arms formula that limits the use of heavy equipment, maximizes the utility of naval aviation in support of ground maneuver, and centralizes the control of combat support forces.

Discussion:

According to the 2016 Marine Corps Operating Concept (MOC), the contemporary Marine Air Ground Task Force (MAGTF) is not organized, equipped or trained for modern amphibious warfare. In many important respects, the assessment of the MOC is a result of force development that prioritized extending the range at which the MAGTF can project power ashore without a vision of how the naval character of the MAGTF is expressed in its ground operations ashore. The broad aim of this paper is to propose a framework that better defines the required naval character of future MAGTF ground operations to provide a departure point for balanced future force development. This paper will analyze the criticisms of contemporary amphibious operations, current service doctrine, the future operating environment and the modern history of force development within the U.S. Marine Corps. In general, this analysis supports the conclusion that MAGTF ground operations are the most capable means available to naval forces to influence key naval terrain ashore in support of fleet maneuver. As such, the naval character of future MAGTF ground operations needs to be better defined to maximize the ability of the MAGTF to support Fleet maneuver. The framework proposed by this paper has three principal components. First, the constraints of amphibious shipping and landing craft limit the use of heavy equipment by the Ground Combat Element (GCE) and privileges the employment of tactical warfighting concepts designed around the capabilities of light and medium ground platforms. Second, naval aviation needs to provide the majority of the tactical mobility required to meet the range requirements of naval maneuver and the firepower necessary to offset the advantages enjoyed by heavy adversary land forces. Finally, the centralized control of combat support forces within the GCE should be employed to efficiently project balanced landing teams that can rapidly generate combat power ashore, effectively distribute in a fashion that complicates adversary targeting and flexibly redeploy across the Fleet's area of operation without reconstitution.

Conclusion: The U.S Marine Corps needs to integrate this paper's proposed framework for defining the naval character MAGTF ground operations into the service's Fundamentals of Ground Combat, the critical capabilities of the Ground Combat Element (GCE), a new concept of naval aviation support to ground maneuver and an improved concept of providing combat support to distributed landing forces.

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THE OPINIONS AND CONCLUSIONS EXPRESSED HEREIN ARE THOSE OF THE INDIVIDUAL STUDENT AUTHOR AND DO NOT NECESSARILY REPRESENT THE VIEWS OF EITHER THE MARINE CORPS COMMAND AND STAFF COLLEGE OR ANY OTHER GOVERNMENTAL AGENCY. REFERENCES TO THIS STUDY SHOULD INCLUDE THE FOREGOING STATEMENT.

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Preface

During my last assignment as the commanding officer of Recruiting Station Harrisburg, Pa I was often asked by members of the public to explain the ways that the U.S. Marine Corps was part of the Department of the Navy and how the service differed from the U.S. Army. In general, I would attempt to answer this was question by describing how the U.S. Marine Corps was explicitly organized and equipped for amphibious operations. To my surprise, the most challenging aspect of answering this question was relating how Marine ground forces differed from U.S. Army forces without singularly focusing on the fact that the U.S. Marine Corps had Amphibious Assault Vehicles. I was deeply unsatisfied with my inability to provide a simple explanation of how the U.S. Marine Corps has designed its ground forces specifically for amphibious operations.

As an infantry officer, I felt professionally obligated to pursue a fundamental understanding of how Marine ground operations reflect the unique naval character of amphibious operations. My efforts to better understand the unique nature of Marine Air Ground Task Force (MAGTF) ground operations have led me to the conclusion that contemporary U.S. Marine Corps doctrine and warfighting publications are virtually silent on the topic. The goal of this paper is to reinvigorate a discussion within the U.S. Marine Corps about how the naval character of MAGTF ground operations should be defined by the service to inform future force development adequately.

Introduction

According to the 2016 Marine Corps Operating Concept (MOC), the contemporary Marine Air Ground Task Force (MAGTF) is not organized, equipped or trained for modern amphibious warfare.¹ In many important respects, the assessment of the MOC is a result of force development that prioritized extending the range at which the MAGTF can project power ashore without a vision of how the service reflects its naval character in MAGTF ground operations should and the service's warfighting concepts. The broad aim of this paper is to propose a framework that better defines the required naval character of future MAGTF ground operations to provide a departure point for balanced future force development. The central argument is that the naval character of future MAGTF ground operations should be defined by a combined arms formula that limits the use of heavy equipment, maximizes the utility of naval aviation in support of ground maneuver, and centralizes the control of combat support forces.

The methodology of this paper will consist of five processes designed to outline a vision for how the U.S. Marine Corps should approach defining the naval character of MAGTF ground operations in the future operating environment. First, this paper will conduct an overview of the general criticisms of contemporary Marine Corps operating concepts to provide context to the inadequacy of recent force development within the service. Second, the paper will evaluate U.S. Marine Corps doctrine to define how the U.S. Marine Corps conceptualizes the naval character of the MAGTF. Third, the paper will analyze the contemporary operating environment to identify the critical changes in the threat environment since the last time the service made significant changes to the force structure and warfighting concepts of the Ground Combat Element (GCE). Fourth, this paper will analyze two historical cases where the U.S. Marine

Corps made significant changes to its force structure and warfighting concepts in response to changes in the operating environment after the Korean and Vietnam wars. Finally, this paper will propose a three-part definition for the naval character of MAGTF ground operations that can be used to inform future force development within the U.S. Marine Corps.

Criticism of Modern U.S. Marine Corps Amphibious Concepts

Traditionally, there are two broad that criticisms of Marine Corps operating concepts whenever the character of war has experienced significant change. Admiral Horatio Nelson's admonishment characterizes the first criticism of amphibious operations is that "a ship is a fool to fight a fort."² In the opinion of many contemporary defense professionals, the tactical balance in the littorals has shifted in favor of coastal defenses. In their view, amphibious task forces either need to operate at an extended distance that invalidates the U.S. Marine Corps current warfighting concepts or within the range of coastal defenses that are capable of imposing an unacceptable level risk on naval forces.³ The second criticism focusses on whether Marine landing forces, limited by the constraints of amphibious lift and landing craft, can credibly maneuver ashore against adversary land forces that have a higher density of heavy combat support platforms.⁴ Coastal defenses, like any other defense, can be overcome by an attacker willing to mass the necessary naval forces and capabilities. At a fundamental level, the criticisms of amphibious operations are mostly a question of whether the required commitment by the Joint Force to mitigate the extraordinary risks inherent in amphibious operations are sufficiently offset by the MAGTF's ability to hold potential adversaries key sources at risk with decisive maneuver ashore.

Over the last two decades, the focus of the U.S. Marine Corps future concepts and force development have almost exclusively looked at reducing the operational risks associated with the MAGTF's ability to project sea power ashore at a greater distance from hostile shorelines. During this period, how the MAGTF fights ashore has mostly remained unchanged while the risks associated with landing and the capabilities of enemy land forces have radically increased.⁵ This method of unbalanced force development is unsustainable. For amphibious operations to remain credible, the U.S. Marine Corps future operating concepts need to both significantly reduce the risks associated with moving forces ship-to-shore and increase the operational value of MAGTF ground operations ashore. A clear understanding of the naval character of the contemporary MAGTF ground operations is an essential first step in effectively pursuing balanced future force development in the U.S. Marine Corps.

The MOC's assessment that the contemporary MAGTF is not organized, trained or equipped for the future operating environment comes on the heels of nearly two decades of aggressive technology-focused innovation within the Marine Corps. In a break from practices of the past, the Marine Corps' basic formula for change mostly centered on developing and acquiring service specific weapons system platforms that would enable the MAGTF to project power ashore beyond the area of influence of enemy coastal defenses.⁶ The acquisition of the MV-22 Osprey, the CH-53K King Stallion, the F-35B Joint Strike Fighter (JSF) and the unsuccessful attempt to acquire a high-speed amphibious assault vehicle reflect this essential calculus. The Marine Corps replaced every aircraft in the Aviation Combat Element (ACE) with state of the art platforms. The service has also conducted a noteworthy reorganization and modernization of the Logistic Combat Element (LCE) and developed significant enhancements of the command and control capabilities resident within the Command Element (CE). Despite

these notable changes to the MAGTF, the aim of putting a GCE designed for the Cold War ashore at an extended range is not a satisfactory solution to the challenges of the future operating environment.⁷

To a large degree, the key drivers of change in the contemporary operating environment in the littorals have been accurately anticipated and planned for by the U.S. Marine Corps since the end of the Cold War.⁸ However, during this period, the GCE's organization, equipment, and warfighting concepts did not play a central role in the service attempts at innovation. An illustrative example of the inadequacy of the recent changes within the MAGTF is the fact that, amongst the principle combined arms platforms within the GCE, only the M142 High-Mobility Artillery Rocket System (HIMARS) and the M777 howitzer have been fielded by the service since the commercial availability of the internet. At a fundamental level, it should not be surprising that landing a GCE designed to fight in a different era will not provide the sufficient operational value to a joint or naval campaign to balance the risk inherent to amphibious operations. In the same way that the ultimate purpose of a naval strategy resides ashore, the underlying logic of Marine Corps warfighting concepts hinges upon innovations that can imbue land forces with a unique ability to hold at risk enemy sources of power that justifies exposing the fleet to the extraordinary risks associated with maneuvering against enemy coastal defenses.

Designing Marine forces that can meet the anticipated requirements of strategy is a highly complex undertaking. However, in every complex task, it is best to start with the core characteristics of the problem. Supporting this paper's central argument is the premise that the Marine Corps concepts of *Operational Maneuver From the Sea (OMFTS)*⁹, *Ship to Objective Maneuver (STOM)*¹⁰, *Expeditionary Force 21 (EF21)*¹¹ and the *2016 Marine Corps Operating Concept*¹² Describe essentially sound operational ways that amphibious operations can nest with

the naval strategy outlined in *The Cooperative Strategy for 21st Century Seapower*.¹³

Additionally, the recent technological advances and reorganizations within the ACE, LCE and CE have increased the potential for decisive MAGTF tactical operations and are worthy of further development. However, the utility of operational concepts cannot extend beyond the limits of the principle tactical formations that provide the means to achieve the concept's ultimate purpose. In simple terms, the GCE is the only element within the MAGTF that can seize and hold key naval terrain ashore and directly accomplish the ultimate purpose of amphibious support to naval maneuver.¹⁴ For the innovations that are necessary to achieve the Marine Corps operational aspirations to occur, the warfighting concepts that underwrite MAGTF ground operations need to reflect the contemporary character of naval warfare.

Naval Character in U.S. Marine Corps Doctrine

The term "naval character" is often used to describe the unique organization of Marine forces. In general, there are two ways that service doctrine describes the naval character of the U.S. Marine forces. In the broadest sense, the naval character of the Marine Corps defined by the traditions, customs, and professional ethics inherited from generations of service with the U.S. Navy. For this paper, the meaning of the naval character will focus on how Marine Forces reflect the distinct requirements of amphibious operations that support the maneuver of the Fleet.

The second chapter of the Marine Corps Doctrinal Publication (MCDP) 3 *Expeditionary Operations* is the primary source of the service's formal definition for the term "naval character." The definition of the term "naval character" described in the second chapter of MCDP 3 has five essential elements. First, MCDP 3 asserts that amphibious shipping is the only

viable means to rapidly deploy large military forces to distant theaters and to quickly re-deploy them within a theater. The logical implication of this statement is that the MAGTF provides the most significant ground combined arms formation that can be rapidly deployed and employed by the joint force in a crisis. Second, the naval character is expressed by a force that is organized to exploit a sea-base for the support of its sustained operations ashore. Third, the naval character of Marine forces is reflected by their ability to use the capability of naval aviation to place most of the globe's key terrain within the operational reach of the naval force. Fourth, Marine forces are tailored to enable naval forces to project power ashore from anywhere the Fleet sea control has achieved sea control. Finally, MCDP 3 concludes that the most important aspect of the naval character of Marine forces is their ability to conduct forcible entry operations in a contested operational environment.¹⁵

MCDP 3 offers three practical ways that the organization of MAGTFs reflects this definition of naval character. First and foremost, Marine forces are organized and equipped for combat in a way that optimizes the mobility provided by amphibious shipping, landing craft, light armored vehicles, and assault support aircraft.¹⁶ Second, Marine forces are organized in self-contained task forces designed to exploit the sea as maneuver space. Finally, MCDP 3 asserts that the naval character of MAGTFs requires that they exercise a centralized concept of command over the capabilities that facilitate compositing forces forward; diverting amphibious task forces to new objectives, and rapidly completing missions ashore and quickly redeploying to a distant objective without having to reconstitute.¹⁷

Despite not using the term “naval character,” MCDP 1-0 *Marine Corps Operations* describes six enduring Marine Corps principles that reflect the core beliefs of the service. Four of the six principles overlap with the definition of naval character provided in MCDP 3. MCDP 1-0

describes Marines forces as "soldiers of the sea" who are organized, trained, and equipped to conduct naval campaigns both on and from naval platforms. It goes on to describe how MAGTFs organized as combined arms task forces with a single commander of aviation, logistics and ground forces. Marine forces are described as forward, ready and capable of rapidly being employed from the sea in crisis. Finally, MCDP 1-0 describe Marine forces as agile and adaptable as a result of their flexible structure that allows them to operate both at sea and ashore across the range of military operations.¹⁸

Of particular note are the key Marine Corps publications that are noticeably silent on the unique requirements of Marine forces that need to be capable of operating as part of a naval force. MCDP 1 *Warfighting*, the service's foundational publication, does not mention the term naval character. In addition to not specifying the term, MCDP 1 does not make a single reference as to how service's unique warfighting philosophy is an expression of the distinct requirements of naval warfare.

Marine Corps Warfighting Publication (MCWP) 3-10 *MAGTF Ground Operations* is equally silent on the topic of how the requirements of naval warfare inform its warfighting concepts. In its description of GCE operations from the sea, MCWP 3-10 asserts that the GCE plays a key role in projecting sea power ashore in dispersed scalable task forces, who can use the naval force as a sea-base and are capable of conducting a direct assault on operational objectives via Ship to Objective Maneuver (STOM).¹⁹ Nevertheless, this list of capabilities is simply nothing more than a summary of service doctrine without any explanation of the service doctrine is reflected in the fundamentals of MAGTF ground operations or how the critical capabilities of the GCE reflect the naval characteristics of the services doctrine. For a concept of employment to be complete, it needs to reflect both how the specific capabilities of the principal combat

formations within the GCE and the unique tactical ideas that enable MAGTF operation ashore to support the execution of service doctrine. MCWP 3-10 provides no logical connection between the capabilities and tactics of the GCE and the services operational concepts. Further, MCWP 3-10 defines the Key Capabilities of the Ground Combat Element and the Fundamentals of Ground Combat Operations without a single reference to the specific demands of amphibious warfare.²⁰ Tellingly, when MCWP 3-10 describes the capabilities and limitations of each warfighting function within the GCE, the only mention of how naval or amphibious operations modify the warfighting functions of the GCE is a single generic assertion that the maneuver of the GCE is enhanced by integration with naval platforms.

What is clear after a review of the U.S. Marine Corps doctrine and warfighting concepts is that there is a disconnect in the MAGTFs tactical formula for generating combat power ashore and the requirements unique to naval warfare. MCDP 3 does an adequate job of describing the nearly timeless naval characteristics of the ways Marine amphibious forces support naval strategy. However, from the perspective of concept and force development, the ways need to be connected with the available means. MCDP 1-0 and MCWP 3-10 are silent on the naval character of the means of MAGTF operations ashore. The MOC describes itself as a starting for future force and concept development. After a review of the U.S. Marine Corps doctrine and warfighting concepts, it is clear that there is currently existing no doctrinal framework that aligns how the means of the MAGTF ground operations align with the ways that amphibious operations can support the maneuver of the Fleet.

The Future Amphibious Operating Environment

A general overview of the operational problems that face the contemporary naval force will aid in identifying how requirements of future the future operating environment should inform the development of the tactical means available to the MAGTF. The tactics of amphibious operations have always been a result of the constant tactical factor of initiative and response between attackers at sea and defenders ashore. In the contemporary environment, the initiative is with the coastal defenses. Developments in surface-to-air-missiles (SAM) and anti-ship cruise missiles (ASCM) have achieved lethal ranges that require amphibious task forces to operate approximately 200 nm away from hostile shores. This change in the environment has allowed relatively small coastal defense forces to defend extended fronts. At the same time, the capability of adversary naval forces has developed to the point where they will be able to contest sea control in nearly every theater where the use of the sea as maneuver space by amphibious forces has the potential provide a unique and critical contribution to the joint force.²¹

It is likely that U.S. naval forces and joint forces will retain the capability to roll back enemy coastal defenses in nearly every operational context in the future. However, a joint campaign aimed at rolling back coastal defenses will require extraordinary use of resources over an extended period lasting weeks or months. Additionally, MAGTFs are likely to be forward deployed to operational areas that are under the umbrella of enemy anti-access capability at the beginning of a future crisis. If forward deployed MAGTFs are going to provide flexible options to the joint force, they need to be able to project force ashore and operate ashore for sustained periods without requiring extensive joint shaping that may unnecessarily escalate a crisis. While a roll-back campaign will undoubtedly be an essential element of employing the full range of the MAGTFs operational utility, the ability to operate ashore in a manner that favorably changes the operational calculus of a crisis in a contested environment is currently not supported with a

credible tactical concept of MAGTF ground operations ashore. In simple terms, the U.S. Marine Corps' warfighting and tactical publications do not provide a clear explanation of how contemporary GCE exploits the advantages of naval mobility to provide the joint force with the largest combined arms formation that can be rapidly employed by the joint force in a crisis.²²

The contemporary MAGTF has a limited ability to conduct amphibious operations at the stand-off sufficient required to limit the risks to the amphibious task force to an acceptable level. However, the assault support aircraft that have the necessary operational reach are not capable of rapidly building up a combined arms formation ashore that can provide credible counterforce options to the joint force. Essentially, the entirety of the combat support equipment within the GCE is too heavy to be airmobile. Light infantry forces supported by close air support (CAS) could conceivably have utility in isolated circumstances. Unfortunately, the requirements of interdiction, suppression of enemy air defenses (SEAD) and the required stand-off amphibious will result in a significant reduction in the capability of the ACE to provide offensive air support to landing forces. Additionally, it is very likely that the limited ability of light infantry to hold critical sources of adversary power at risk will not justify apportioning Marine tactical aviation to the maneuver of the GCE over the other requirements of the joint force.²³

Adapting to the requirements of the contemporary naval operating environment has four significant implications for the naval character of Marine Corps ground operations. First, the combat support equipment within the GCE needs to significantly reduce the density of its equipment that is not airmobile. Second, once ashore, the GCE needs to be capable of operating in distributed independent tasks forces across extended fronts with reduced offensive air support and naval surface fire support. Third, the GCE needs to be capable of operating within enemy anti-access capabilities at the begin of a crisis and make significant contributions to rolling back

enemy ASCMs and SAMs to shape the environment for the follow-on joint forces that can credibly deter further escalation. Fourth, in any future circumstances terrain ashore will be essential due to its ability to be exploited to provide cross-domain fires and provide support to sea combat. The GCE needs to expand its area of influence so that it can project sea power from shore to sea at ranges that are tactically significant in the context of a naval campaign.²⁴ Finally, the GCE needs to have a concept for ground operations that will enable it to conduct counterforce operations against the mainline forces of the joint force's pacing threat. It is also very likely that in several key regions of the world the U.S. Army will not have sufficient forward deployed land forces capable of providing enough deterrence of the joint forces adversaries. The MAGTF's ability to offer counterforce options to the main forces of the joint force's adversaries will provide significant economy of force options in crucial theaters.

Analysis of Post-World War II U.S. Marine Corps Force Development

Two periods of Marine history provide a unique insight into how the Marine Corps has evolved to similar changes in the operational environment in the past. The post-Korean War period in Marine Corps history led to the development of a Fleet Marine Force (FMF) organization and operational concept that reflected the challenges of the nuclear battlefield and the emergence of great power competition below the threshold of general war. In many key respects, the precision-guided weapons that dominate the current operating environment in the littorals replicate the access challenges posed by tactical nuclear weapons of the post-Korean War era. A review of this period provides insights into how the U.S. Marine Corps has previously adapted a battlefield that requires amphibious forces to balance the requirements

moving ashore from a distributed amphibious task force while retaining the ability to decisively maneuver ashore and provide crisis response options across the range of military operations.²⁵ The post-Vietnam era the U.S. Marine Corps primarily focused on re-orienting the MAGTF to the mid to high-intensity combat in support of the deterrence of great power conflict²⁶ The reforms in the late 1970s and 1980s generated the basic tactical warfighting concepts that provide the foundation for how the contemporary MAGTF is currently organized equipped and trained to conduct major combat operations.

In the aftermath of the Korean War, it was clear that amphibious operations offered the joint force the capability to change the operational calculus of joint campaigns. However, the development of Soviet tactical nuclear weapons required a new operating concept for amphibious forces. The central military problem of the nuclear battlefield was the requirement to distribute large military forces in a fashion that prevented a nuclear-armed adversary from having lucrative targets for tactical nuclear weapons.²⁷ From the perspective of the amphibious task force, the nuclear battlefield prevented amphibious ships from massing near a narrow landing beach. In simple terms, the concept of vertical envelopment with helicopters allowed the FMF to move from ship-to-shore from a distributed amphibious task force and penetrate enemy coastal defenses on an extended front. Once ashore, the FMF needed a new concept that enabled the landing force to retain the ability to mass enough combat power to achieve its objectives against the mainline forces of the Soviet Union and its allies. The concept of tactical hugging provided the principle solution to balancing the dual requirements of distribution and sufficient mass.²⁸

The concept of vertical envelopment envisioned the FMF gaining operational access with a large combined arms force by landing via helicopters at unopposed landing sites to the rear and

on the flanks of enemy coastal defenses while a limited surface assault penetrated enemy coastal defenses at multiple points.²⁹ Once ashore, the landing force would maneuver below the threshold of a suitable nuclear target in two ways. First, the primary units of action within the landing force would be small enough to deny the enemy a suitable target for tactical nuclear weapons. Second, the landing force would only mass once the enemy was engaged in close combat on the flanks or rear of the coastal defense. The linchpin of this new concept was the FMF's use of helicopter mobility and engagement area tactics to create tactical circumstances that negated the advantages of the enemy's heavy mechanized units. If landing forces could "hug" weak points in the enemy defenses and achieve mass through superior mobility the FMF could both mitigate the threat of nuclear weapons and off-set the advantages of heavy mechanized forces.³⁰

In 1957, the Commandant of the Marine Corps convened a special board to evaluate how the organization and composition of the FMF needed to change to adjust to the nuclear battlefield. In the opinion of the board, four key combined arms capabilities within the FMF required to be modified to reflect the naval character of amphibious operations in the nuclear age. The first requirement of lightening the footprint of the FMF was to replace armor protected firepower as the key means providing the landing force with offensive combat power.³¹ Second, the FMF needed to replace the ability of heavy artillery to provide interdiction, counter-battery fire, and suppression of enemy air defense. Third, the FMF needed to organize smaller combined arms teams that were capable of operating below the threshold of a suitable tactical nuclear target while retaining the mobility and hard-hitting combat power necessary to decisively maneuver against enemy mechanized formations in close combat. Finally, the FMF needed to have an increased ability to execute distributed reconnaissance and security operations so that the

FMF could choose the appropriate time and place to engage the enemy in close combat decisively.³²

In the Hogaboom board's opinion, there were no new technological developments that would change the character of ground combat. Missile technology was considered by the board as a possibility in the distant future but, not in the period under consideration by the board. Similarly, the members of the Hogaboom Board did not assess that there were any improvements in automotive or passive armor technology that would enable light tanks and medium artillery to be more efficiently moved from ship to shore or more effectively counter heavy Soviet-style forces. In broad terms, the Hogaboom Board's solutions to the problems of the nuclear battlefield were built around a new architecture for combined arms task forces and an increase in the density of light and medium combat support weapons within the division.³³

The Hogaboom Board envisioned distributed infantry battalion task forces with an increased density of light and medium anti-tank weapons and an improved ability to conduct tactical reconnaissance as the principle maneuver element within this new warfighting concept. These more mobile and capable infantry battalion landing teams would be supported with a novel concept of combat support designed to achieve mass in close combat. Centralized control of heliborne light tracked anti-tank vehicles, light artillery, nuclear rockets, and fixed-wing aviation would provide the primary means of generating the necessary combat support to the landing forces maneuver ashore. In the view of the board, the combined employment of aviation, light artillery, recoilless rifles and light anti-tank rockets in a single close combat engagement area could replicate the effect of mass employment of heavy artillery and armor. Every element of the Marine Division's combat and combat support formations were designed to be carried by helicopters. This core division structure was intended to be augmented by heavy combat support

elements that were centralized by the Hogaboom board within general support element within the FMF called Force Troops. Force Troops included tanks, self-propelled heavy artillery amphibious assault vehicles and combat engineers that would augment the division's combined arms maneuver ashore on a task-organized basis.³⁴

The principle change recommended by the Hogaboom Board to the core structure of the division was the adoption of a rectangular infantry battalion structure with an increased density of light anti-armor infantry support weapons. Instead of three rifle companies and a weapons company, the new infantry battalion would have an additional rifle company and the battalion's Headquarters and Service Company (H&S) would add an anti-armor recoilless rifle platoon, a heavy machine gun, and a medium mortar platoon. Each rifle company would replace their light mortars with recoilless rifles, and every member of the company would be capable of employing light anti-tank rockets. The rifle companies would also receive an increased training focus on close combat reconnaissance.³⁵

The Hoogaboom Board split the artillery within the Marine Division into heliborne artillery and rockets. Close supporting fires would be provided to the distributed infantry battalion landing teams with the M101A1 105-millimeter howitzer. The MGR-3 Little John Rocket would give the division with a limited ability to conduct interdiction, suppression of enemy air defenses and counterbattery fires. Each of these weapons systems would have the same heliborne mobility as the infantry battalion's they were designed to support. Also, the MGR-3 Little John Rocket provided the Marine Division with the ability to deploy tactical nuclear fires that would deny Soviet-style forces the ability to maneuver large mechanized formations.³⁶

Far and away the most radical recommendation of the Hogaboom Board was the recommendation to replace armor within in the Marine Division with the M50 ONTOS light tracked anti-tank vehicle. In the assessment of the Hogaboom Board, the success of the new combined arms concept rested on engagement area tactics that exploited the nuclear sanctuary of close combat. The Hogaboom Board deemed the M50 ONTOS' six 106mm recoilless rifles as the most efficient means of replicating the combat power of a tank in close combat with a vehicle that was capable of moving hip to shore via helicopter. The basic tactical idea was that the M50 ONTOS would enable the landing force to vertically envelop coastal defenses via helicopter and occupy undefended key terrain from which it could employ mass surprised fires against distributed enemy mechanized and armor formations.³⁷

The M50 ONTOS was a product of U.S. Army development and was ultimately rejected the board due to its perceived lack of range and offensive capability. The combat experience of the members of the board in Korea and War II played a significant role in rejecting the U.S. Army's assessment of the M50 ONTOS. In the combat experience of the members of the board, the offensive capability and shock of the tank in many instances were suitably be replaced by the board with close air support from Marine fixed-wing aviation. Additionally, the range limitations of the M50 ONTOS was viewed to be of little practical importance. In the opinion of the members of the Hogaboom board, Marine tank engagements both in the Korean War and in World War II were rarely conducted by Marine units at ranges over 1000 meters. In their assessment, clever use of terrain that suited the employment of light and medium anti-tank weapons could mitigate the advantage in range enjoyed by tanks. Additionally, the range and speed helicopter mobility would allow the Marine Division to achieve a tactical tempo that offset the benefits of cross country mobility offered by mechanization.³⁸

In 1975, Secretary of Defense James R. Schlesinger reported to Congress that amphibious operations were likely to not succeed in the high-threat environment of major combat operations. One year later, the Brookings Institution published a report that reinforced the Secretary of Defense's assessment by describing Marine ground forces as lacking the necessary cross country mobility and firepower to engage in major combat operations ashore against the ground forces of the Soviet Union and its allies. In response to this criticism, the U.S. Marine Corps developed a new approach to how it would fight ashore in major combat operations and established the basic tactical framework for the contemporary GCE.³⁹

A series of force structure reviews in the late 1970s and 1980s responded to the criticism of amphibious operations in two key ways that differed from the Hogaboom board. The force structure planners assumed in the 1970s and 1980s that tactical nuclear weapons were not likely to play a significant role in limiting amphibious operations and major combat operations that they anticipated to be likely during the 1980s and 1990s. As a result of this assumption, the primary limitations imposed by the naval character of amphibious operations was the constrained ability of a shrinking number of amphibious ships to embark heavy combat support equipment and rapidly move it ashore.⁴⁰ The second assumption that differed from the views of the Hogaboom Board was that advances in surface to air missiles (SAMs) and air defense artillery (ADA) would reduce the availability of fixed Marine aviation to support ground maneuver with close air support.⁴¹

With this new set of assumptions, the Marine Corps developed an approach of MAGTF operations built around an extended engagement of enemy formations and the decisive maneuver of a Combined Arms Regiment. The central problem that the reforms of the 1980s attempted to solve was how the MAGTF could off-set the relative advantage in the armored and mechanized

combat power enjoyed by Soviet Style forces. The main thrust of the U.S. Marine Corps' solution to this problem was a combined arms concept that extended the engagement of Soviet-style forces in time and space. Instead of distributed Battalion Landing Teams using the mass surprise employment of medium and light anti-armor weapons, the MAGTF would engage Soviet-style heavy forces at a stand-off with an escalating barrage of anti-armor fires. The U.S. Marine Corps referred to this new concept of engaging Soviet-style forces in major combat operations as "HAW MAW LAW" tactics. The defining characteristic of this tactic was the sequential employment of heavy anti-armor weapons (HAW), medium anti-armor weapons (MAW), and light anti-armor weapons (LAW) at maximum range. This tactic would enable the MAGTF to eliminate the majority of the enemy's armored combat power before the GCE engaging in close combat.⁴²

The primary unit of action for MAGTF operations ashore in high-intensity combat would be a heavy combined arms regiment. The exact organization of this regiment was the central point of debate during this period. Generally, the Combined Arms Regiment was considered to consist of a tank battalion, a motorized reconnaissance battalion, and two to three mechanized infantry battalions. This Combined Arms Regiment would be provided support by two lighter regiments consisting of motorized and heliborne forces. Additionally, each regiment would have a heavy anti-armor missile platoon equipped with the MK153 TOW missile added to their regimental headquarters. In total, approximately a third of the Marine Division would be mechanized, a third would be motorized, and a third would be heliborne.⁴³

The infantry battalions of each of these elements underwent substantial change to reflect the change in tactical approach. In 1983 modified table of organization of the infantry battalion reverted to a triangle formation of three rifle companies and a weapons company. At the core of

this structure, change was the exchange of a rifle company for Weapons Company that increased the infantry battalion's density of medium anti-armor capability. The weapons company consisted of a heavy machine gun platoon, a medium anti-armor platoon and a motorized 81 mm Mortar platoon. The M2 50 caliber machinegun and the MK19 grenade launcher of the heavy machine gun platoon provided a limited capability to defeat enemy mechanized vehicles, and the M47 Dragon missile of the anti-armor platoon added a medium range capability to defeat armor to the infantry battalion. The three infantry companies were reinforced with the M153 SMAW and the AT-4 light anti-armor weapons.

Coupled with this new approach to maneuver, the GCE fielded two new combat support capabilities. The primary anti-armor firepower of the heliborne and motorized elements of the GCE would be built around what was initially described as a mobile protected weapons system (MPWS). Eventually, the LAV-25 Light Armored Vehicle would be selected as the preferred MPWS. This vehicle would provide GCE with the ability to move ship-to-shore with heliborne forces that had sufficient cross country mobility and firepower to maneuver against mainline enemy forces.

In conjunction, with the increase in cross country mobility and heavy anti-armor firepower provided by the MPWS, the GCE would significantly re-organize the artillery within the division. A requirement for a battalion of long-range multiple-launch rockets was designed to give the GCE an increased ability to execute interdiction, SEAD and counter-battery fire. Additionally, the GCE would provide 155mm self-propelled howitzers to the Combined Arms Regiment, and heliborne 155 mm towed howitzers to support the two light regiments of the GCE.

The ACE added three new capabilities designed to support the GCE's original concept for maneuver ashore. The AV-8B vertical and/or short take-off and landing (VSTOL) aircraft was designed to operate close to in trace of the GCE's maneuver ashore and would radically increase the ability of the MAGTF to conduct distributed OAS to interdict second echelon enemy forces. The most significant increase in anti-armor capability would come from the addition of the AH-1 Cobra helicopter armed with the TOW missile. Finally, the CH-53E heavy-lift helicopter was developed to provide heliborne mobility to the M198 155 mm howitzer the MPWs that would support the motorized and heliborne elements of the GCE.⁴⁴

In broad terms, this new concept of operations would consist of three phases. First, Marine fixed-wing aviation would begin the engagement of the enemy formations with the support of long-range rocket fires. The AV-8B's ability to operated forward would significantly increase the rate at which the ACE could provide sorites to this long range interdiction. Second, Marine rotary wing aviation and medium artillery fire would break apart enemy formations with TOW missiles and improved conventional artillery munitions. Finally, the maneuver of regimental combat teams would engage in enemy mechanized formations in close combat with an escalating barrage of tanks, TOW missiles, Dragon missiles, heavy machine guns and ultimately massed light anti-armor weapons.

The basic tactical formula for maneuver ashore designed in the 1980s provides the foundation of MAGTF operations ashore today. The M1A1 Abrams, the LAV-25, the M777 howitzer, M142 HIMARS, the AAV, and organization of the regiments of the division remain either unchanged or only slightly modified since the reforms of the 1980s. Additionally, the GCE tactics for engaging in major combat operations against mechanized enemy formations as

described in Marine Corps Tactical Publication (MCTP) 3-01F *MAGTF Anti-armor Operations* reflects the core elements of HAW MAW LAW tactics developed during this period.⁴⁵

Conclusions

At the most basic level of analysis, the MAGTF's ability to optimize the amount of ground combat power that can be combat loaded and projected ashore from amphibious shipping is the core of the service's naval character. Based on the analysis of this paper a three-part framework outlines the character of such a force. First, the structure and warfighting concepts of the MAGTF need to be designed to limit the necessity of heavy equipment. Second, naval aviation needs to be employed by the MAGTF in novel ways to enable the GCE to achieve superiority in mobility and firepower versus the threats that define the operating environment. Finally, the elements of the MAGTF that provide combat support to the MAGTF's operations ashore need to be centralized to ensure that landing forces can rapidly be massed against critical objectives ashore while retaining the ability to redeploy without reconstitution.

For the U.S. Marine Corps to limit its reliance on heavy ground equipment, it needs to develop combined arms tactics for MAGTF ground operations that exploit the critical changes in the character of war. The development of tactics that utilize the use of unmanned systems, precision munitions, and network communications offers the GCE the most straightforward alternative to reliance on heavy armor and artillery. A revision of MCWP 3-10 needs to be made to articulate how the GCE can utilize unique tactics that exploit the employment of medium and light versions of the combat systems that are likely to define the future operating environment.

Recent developments in naval aviation have improved the ability to project landing forces ashore and provided offensive air in a contested operating environment. The contemporary ACE is uniquely capable of ensuring that the MAGTF is capable of moving across distances that fit the requirements of modern naval maneuver. Since amphibious forces can rapidly respond to a crisis in any part of the world where there is sufficient sea control, the contemporary ACE provides a means of mobility which is mainly free of the limitations of terrain and enables landing forces to maneuver in nearly any environment. Additionally, the emerging capabilities of naval aviation provide the MAGTF an improved ability to surge combat power during the vulnerable period where the GCE has not established artillery ashore. For the service to fully embrace this aspect of naval character is a ground vehicle acquisition strategy that ensures that the majority of the GCE is able to be moved by the assault platforms within the ACE.⁴⁶

Finally, artillery, tanks, reconnaissance, tactical aviation, and mobility need to be centralized with the MAGTF. This centralized method of command has three critical features. First, it enables MAGTF operations ashore to gain a tempo advantage by efficiently massing and redeploying task-organized elements to meet specific threats. Second, this approach allows the MAGTF the ability to minimize the constraints imposed by its limited means to move heavy equipment ashore. Finally, centralization provides the means to transition rapidly between naval objectives without the requirement to reconstitute.

Two force structure reviews of note have occurred since the basic concept for MAGTF operations ashore were outlined in the 1980s. The 1991 Force Structure Review Group and the 2014 Force Structure review group. In both of these force structure reviews, the GCE element either remained the same or made experienced marginal changes. During the 1991 Force

Structure Review, the GCE was the only element of the MAGTF that did not receive the support of outside analytical support to concept development.⁴⁷ In the 2014 Force Structure review the service identified the GCE as the element of the MAGTF were the U.S. Marine Corps could accept risk due to the perceived ability of the GCE to rapidly reconstitute when increase defense resources became available in the future.⁴⁸

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- ² United States. Department of the Navy. *How We Fight : Handbook for the Naval Warfighter*. (Washington, D.C.: Department of the Navy, 2015), 84.
- ³ Bryan Clark and Jesse Sloman, *Advancing Beyond the Beach: Amphibious Operations in an Era of Precision Weapons*, Center for Strategic and Budgetary Assessments 2016. 33.
- ⁴ *Ibid*, 13-14.
- ⁵ *Ibid*, 36-37.
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- ²³ *Ibid*, ES-III.
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- ³² *Ibid*, II-15, III-2, III-3.
- ³³ *Ibid*, 1-4 – 1-6.
- ³⁴ *Ibid*, V-1 – V-2.
- ³⁵ *Ibid*, VII 140 – VII 142
- ³⁶ *Ibid*, VII 107 – VII 109, VII 115.
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