

George Galdorisi
Op-Ed Article in *Globalization and Maritime
Power* (Washington, DC: National Defense
University Press) 2002

Chapter 21

Expeditionary and Amphibious Warfare

DISTRIBUTION STATEMENT A
Approved for Public Release
Distribution Unlimited

George V. Galdorisi .

The war the nation fights today is not a war of America's choosing. It is a war that was brought violently and brutally to America's shores by the evil forces of terror. It is a war against America and America's way of life. It is a war against all that America holds dear. It is a war against freedom itself.¹

— *Quadrennial Defense Review Report*, September 30, 2001

A military, naval, littoral war, when wisely prepared and discreetly conducted, is a terrible sort of war. Happy for that people who are sovereigns enough of the sea to put it into execution! For it comes like thunder and lightning to some unprepared part of the world.²

— Thomas More Molyneux, *Conjunct Expeditions*, 1759

In his Foreword to the *Quadrennial Defense Review Report (QDR Report)*, Secretary of Defense Donald Rumsfeld puts an exclamation point on the impact that the terrorist attacks of September 11, 2001, had on the United States. A variety of forces were already causing the United States to place an enhanced emphasis on defeating terrorism and on ensuring the security of America by elevating homeland security as a new mission area. The attacks accelerated those efforts.

Some commentators have suggested that the forces of globalization make America more vulnerable. Others have suggested that these same forces contribute to America's position as the world's sole superpower and provide the wherewithal for the United States to defend itself against a wide range of threats.³ Regardless of the school of thought to which one subscribes, one thing is clear: the U.S. security paradigm has dramatically changed at the dawn of a millennium marked by globalization.

The *QDR Report* and the Secretary of Defense's 2002 *Annual Report to the President and Congress* provide a roadmap to this new security paradigm.

Significantly, these reports do not envision a strategy that causes America to hunker down and devolve into a "Fortress America" solution for dealing with terrorism and homeland security. Rather, it articulates four overarching defense policy goals that keep America engaged in a globalizing world.

These goals—assuring allies and friends; dissuading future military competition; deterring threats and coercion against U.S. interests; and if deterrence fails, decisively defeating any adversary—underscore America's commitment to remain engaged globally, thus continuing to make forward defense an essential part of the homeland security equation.⁴ A substantial part of that forward defense is provided by naval expeditionary forces writ large—and by amphibious warfare forces specifically.

While globalization is a relatively new term, expeditionary and amphibious

20061130050

warfare have existed for several millennia, and this way of war has been part of the U.S. lexicon for well over 2 centuries, dating back as far as 1775.5 (For much of this chapter, amphibious warfare will be subsumed under the term *expeditionary warfare*, which is current Navy and Marine Corps usage.) In light of the profound impact of globalization and the historical importance that naval expeditionary warfare has played in the U.S. security paradigm, it is important to understand the trade space where these two intersect. How do U.S. expeditionary warfare forces impact globalization? Conversely, how does globalization impact the mission of current and future U.S. expeditionary warfare forces?

Understanding this intersection between globalization and expeditionary warfare can help ensure that expeditionary warfare forces fielded by the United States will be as relevant as possible throughout this century. The available evidence strongly suggests that the changes wrought by globalization are profound—and they profoundly affect the ways in which expeditionary warfare forces will be shaped. As nations, and especially the United States, have interests overseas that are critical to national political and economic survival, the ability to react quickly to crises across the globe is more essential now than it ever was before. A robust expeditionary warfare capability is a critical element of the ability to provide this response.

Globalization: Accelerating in the 21st Century

U.S. security goals are framed within the context of dramatic changes to the international security environment. *Globalization*—which is defined as the international interaction of information, financial capital, commerce, technology, and labor at exponentially greater speeds than previously thought possible—is perhaps the seminal factor impacting this environment.⁶ For the Nation to remain strong, its security policy must respond to globalization by shaping the emerging world order in a way that protects vital interests, including the American homeland, as well as those of our allies and friends.⁷ A previous study, *The Global Century: Globalization and National Security*, frames the environment in which naval expeditionary forces will operate and emphasizes the enduring value that these forces have in shaping the global security environment. The broad consensus of many commentators contributing to this study is that the global era calls for a military strategy that combines peacetime regional engagement, crisis management, and maintenance of warfighting capabilities to mitigate and contain likely conflicts and that this overarching strategy argues strongly for a reorientation of military operations toward expeditionary warfare.

The ongoing migration of world population to cities on or near coasts, combined with the growing reach of modern weapons, makes the objective area for decisive military operations more accessible to naval expeditionary forces, which promises to place even greater demands on the use of carrier battlegroups (CVBGs) and amphibious ready groups (ARGs).⁸ Furthermore, the inability of airpower alone to defeat an enemy decisively—as evidenced by recent

operations in Iraq, Kosovo, and Afghanistan—argues strongly that forces such as the Marine air-ground task forces (MAGTFs) embarked in ARGs will be essential to bring future crises to a successful resolution.⁹

Changes wrought by globalization, especially the dramatic expansion of international trade between and among emerging economies, increase the likelihood that America's naval expeditionary forces will operate most frequently in areas of growing strategic instability. These areas include the southern belt of strategic instability that stretches from the Balkans, through the Middle East and the Persian Gulf, across South Asia, and through the Asian Crescent from Southeast Asia northward to Taiwan and Japan.¹⁰ Importantly, these are areas where ARGs and MAGTFs operate most effectively.

Naval expeditionary forces are ideally suited to operate in these forward areas and take on the mission of peacetime environment shaping for the strategic purpose of promoting favorable changes while dampening chaos and preventing damaging trends. This strategic shaping is crucial to bring about stable conditions and constructive changes that likely would not evolve on their own.

The strategy employed by these naval expeditionary forces will not be positional or continental but instead will focus on applying flexible, adaptive, and decisive military power projection at ever-shifting locations. The new strategic landscape suggests that naval expeditionary forces will perform a more critical role than they did in the past, that they will not act alone but in concert with joint and coalition forces to enable these forces to enter the fight and perform their missions, and that they will be used more frequently as the searing forces of globalization create worldwide crises requiring their use.

Thus, while globalization impacts many aspects of the U.S. security paradigm, it impacts naval expeditionary forces in general and amphibious warfare forces in particular perhaps more significantly than other components of America's arsenal. At issue is whether the Department of Defense has the flexibility and agility to respond to the impacts of globalization in a way that enhances the ability of these forces to maximize their contribution to the national defense.

Expeditionary Warfare: Focused on Amphibious Warfare Forces

It is possible to become adrift in a sea of similar definitions: expeditionary warfare, naval expeditionary warfare, amphibious warfare, amphibious operations, and others. These terms often mean different things to different people; therefore, a moment spent on definitional accuracy is a moment well spent.

At one end of the definitional spectrum, *expeditionary warfare* can be understood to mean any combination of joint or coalition forces operating outside of the continental United States to accomplish some military mission. In this context, we include virtually all naval forces, CVBGs, ARGs, independent formations of surface combatants, and strategic submarines, as well as Army and Air Force expeditionary forces and the like. At the other end of the spectrum, the term *amphibious operations* is typically used in the context of assaults against an enemy beachhead in much the same way that these

operations were conducted over a half-century ago during World War II. A more nuanced definition, focused on naval expeditionary warfare and amphibious warfare in the changed security environment of the 21st century, requires that we sharpen our terms and agree upon precisely what these terms mean. For the purpose of this analysis, *naval expeditionary warfare* refers to operations carried out by forward-deployed CVBGs and ARGs, sometimes working independently but more often operating in mutual support. With respect to the ARG, this should be understood to mean a group of three Navy ships designed specifically for amphibious warfare—typically a general purpose amphibious assault ship (LHA)/multipurpose amphibious assault ship (LHD), an amphibious transport dock (LPD), a landing ship dock (LSD), and an embarked Marine expeditionary unit (special operations capable) (MEU[SOC]). This is the smallest unit of a MAGTF. Larger MAGTFs are comprised of at least one ARG/MEU(SOC) and additional assets. Finally, amphibious warfare must be defined in more universal terms than World War II-type assaults on enemy beaches. For the purposes of this analysis, we define *amphibious warfare* as the broad scope of those operations conducted by a MAGTF embarked in one or more ARGs (along with other associated forces comprising the MAGTF). A CVBG or other forces in theater may support these forces, but the ARG/MAGTF team provides the essential elements of the forces for the operation.¹¹

Maintaining expeditionary forces that can conduct amphibious warfare (and prevail over any type of enemy) will be one of the central challenges for U.S. force planners in the years ahead. The U.S. Commission on National Security/21st Century brought this into sharp focus in their report *Roadmap for National Security: Imperative for Change*, which noted that:

Ultimately, the transformation process will blur the distinction between expeditionary and conventional forces, as both types of capabilities will eventually possess the technological superiority, deployability, survivability, and lethality now called for in the expeditionary forces. For the near term, however, those we call expeditionary capabilities require the most emphasis. Consequently, we recommend that the Defense Department devote its highest priority to improving and further developing its expeditionary capabilities.¹²

At the intersection of globalization and amphibious warfare, the issue remains whether the United States ascertains clearly the impact of globalization on amphibious warfare and makes needed changes to amphibious warfare force structure and doctrine to maximize the utility and viability of these forces. To address this issue, we need to examine where expeditionary warfare in general and amphibious warfare in particular have been and where this complex warfighting discipline appears to be going.

A Century of Change

The expeditionary warfare tradition of the U.S. Navy and Marine Corps is as old as the Nation itself. It is a tradition and capability unmatched or even approached by any military force in the world. Expeditionary warfighting is a

mindset derived from a naval character that has allowed the Navy-Marine Corps team to provide the Nation the enduring means to shape and influence global events with military operations mounted from the sea. Modern naval expeditionary warfare had its origins in exercises conducted during the decades preceding World War II, which has led to the development of today's unique operational capabilities, tailored support equipment, and the finely honed skills that continue to ensure success.

During half a century of hot and cold wars since the end of World War II, the Navy and Marine Corps together have maintained a strong maritime forward presence, influencing the perceptions of friends and potential foes simply by being on-scene when events develop. Centered on multimission CVBGs and ARGs, forward-deployed naval forces have been formidable instruments for peacetime engagement and crisis response, as well as conflict deterrence and conflict resolution. Their inherent flexibility has allowed them to operate effectively in a wide range of scenarios and across different levels of conflict—an unparalleled capability.

Sea-based forward presence enables the United States to maintain regional stability in the least intrusive way by avoiding the stationing of ground forces on foreign soil. Experience has shown that many countries prefer the less provocative, low-profile presence of a naval expeditionary force that remains continuously on-scene with a sustainable, combat-credible punch that is both understood and respected. These forces can deploy from the sea and withdraw again very quickly, or they can remain on station—over the horizon and out of sight—monitoring an emerging crisis while preparing to intervene. Their appearance does not necessarily signal a long-term presence, but it still affords sustained reassurance of commitment to friend and foe alike.

Commandant of the Marine Corps, General James Jones, recently underscored this capability in remarks that highlighted the enduring value of forward-deployed naval expeditionary forces:

What we want here is balance, and the balance has to be, for a superpower, to be able to do a little bit of everything very well. It seems to me there's tremendous value in having an expeditionary service that is forward-deployed, that on a moment's notice can bring to bear all of the elements of combined arms to make a point—whether it is to deter, to influence, to shape, or to respond to an actual crisis....The Marine Corps is the only branch of the military that can deploy rapidly around the world from Navy ships, sustain itself for weeks and bring "combined arms"—ground troops, air support and naval firepower—to bear against an adversary.¹³

Expeditionary Warfare Forces: First Responders and Force Enablers

Joint Vision 2020 (the Chairman of the Joint Chiefs of Staff strategic vision) "operationalizes" the way in which the United States intends to employ its military forces to accomplish the missions assigned by the President and Secretary of Defense. This emerging vision of military operations has U.S.

forces maintaining a strong forward-presence posture and fighting in and through the littorals. Naval expeditionary forces are the bedrock of this capability.¹⁴

These forward-deployed naval expeditionary forces provide the first responders when crisis erupts and also become the joint and coalition force enablers if a conflict persists after these forces first respond. The multimission capability of amphibious warfare forces causes these forces—and particularly the MAGTF—to be the expeditionary warfare forces used most frequently in response to a wide spectrum of crises, especially in the last decade of the last century. There are profound reasons for this.

Naval expeditionary forces provide credible combat power forward deployed to achieve regional stability, deter aggression, provide timely crisis response, and defeat an enemy that seeks to pursue actions inimical to our interests. They provide the President and Secretary of Defense with a flexible and effective instrument to promote stability and project power in regions of importance. Combat-credible formations such as the MAGTF contribute substantially to this effort by providing ready, robust, credible, and scalable forward presence to assure access for and enable other joint forces to make their unique contributions.

The ability to reassure friends and allies, deter potential adversaries, and, when necessary, engage in combat at all levels of intensity makes these naval expeditionary forces especially valuable as the indispensable force that enables the United States to put its entire military into play. Rotational CVBGs and ARGs help shape and stabilize the regional security environment by being continuously on-scene with a combat-credible and sustainable presence. Serving as sovereign and maneuverable U.S. bases, unencumbered by any footprint ashore, they are well positioned to project influence and reassure allies and friends.

This combat-credible presence can deter regional foes from initiating a crisis. Presence is provided by rotational and surged CVBGs and ARGs and suggests to a potential adversary that response to aggression will be swift and massive. These forces are task organized, sized, and configured to deter aggression by their presence. Should a regional aggressor not respond to deterrence, these naval expeditionary forces deployed forward to provide deterrence are also the forces most likely to respond rapidly to an emerging crisis.

The deployment patterns of CVBGs and ARGs are carefully constructed by theater combatant commanders to ensure that at least one of these battle formations is within striking distance—or a short steaming distance away—of likely areas of concern. Importantly, in addition to serving as first responders to a crisis, they provide the wherewithal for the application of joint combat power as the crisis continues.

Should a crisis or conflict require U.S. response beyond that provided by on-scene CVBGs and ARGs, a more robust joint or coalition response will be required. The unique contribution of these naval expeditionary forces comes through their value as an enabling force during the transition from crisis to conflict since they are also shaped specifically to be the backbone for the rapid

and scalable application of joint forces.

The ability of naval expeditionary forces to form this backbone for the application of joint combat power by all branches of the U.S. military makes them the indispensable element in the application of joint and coalition combat power. The Marines embarked with the ARG typically provide the initial combat power ashore and assure access for follow-on joint forces as they arrive on-scene. By denying the enemy sanctuary and seizing beachheads, ports, and airfields early on in a conflict, these MAGTFs foreclose enemy options and enable joint forces to focus on delivering combat power deep inland.

Without forward-deployed, combat-credible naval forces on station in littoral areas and without a force such as a MAGTF able to provide boots on the ground immediately, it is difficult to imagine a scenario in which joint forces could be effectively employed. Being there before the start of a crisis or conflict is the cardinal prerequisite for the application of our joint military power, and the recurring cost of our entry—the cost of fighting our way in—is considerably less if the forces that help enable power projection are present beforehand in peacetime.

Thus in crises across the broad spectrum of conflict, it is amphibious warfare forces delivering the capabilities of a MAGTF that are called upon most frequently to deal with events ranging from humanitarian assistance, to peacemaking, to noncombatant evacuation, to peacekeeping, to a wide range of other missions. How do these amphibious warfare forces impact the pace of globalization, and has globalization fundamentally changed the nature of the amphibious warfare mission?

Globalization and Expeditionary Warfare: A Symbiotic Relationship?

The forces impelling globalization suggest the need for a military strategy that combines peacetime regional engagement, crisis management, and maintenance of warfighting capabilities to mitigate and contain likely conflicts. As concerns about the impact of globalization on U.S. security have gained traction during the past decade, U.S. forces have often been called upon to operate in multiple, simultaneous, lesser regional contingencies.¹⁵ The number of contingencies is striking. During the 1990s, the United States engaged in more than 500 lesser regional contingencies.¹⁶ The ability to respond to these contingencies—occurring at the rate of one per week—depends upon the ability of naval expeditionary forces to remain forward deployed, mobile, flexible, and combat-credible.

Expeditionary warfare forces in general and amphibious warfare forces in particular have provided first responders to these crises that occur more frequently. Less well understood is the impact that these forces have on the globalization process. What effect does the ability of the United States to field a robust amphibious warfare capability have on the ongoing process of globalization? Are these forces a facilitating element, or are they merely crisis response forces operating on the margins?

The economy that essentially defines globalization is built on the worldwide transport of goods and services as well as the accelerating connectivity wrought by modern telecommunications and information technology. Although some time-critical material travels by air, the overwhelming bulk of this worldwide transport occurs by sea and is facilitated by international law such as the 1982 United Nations Convention on the Law of the Sea and other accords.¹⁷

However, regional aggressors, international pirates, rogue states, international terrorists, and the like have little respect for international law. Ultimately, it is incumbent on maritime powers such as the United States to guarantee this worldwide transport of goods and services by protecting the ocean commons—both the high seas and the ports of embarkation and debarkation.

In concert with the navies of allied nations, the Navy and Marine Corps are the guarantors of international trade, allowing it to flourish and expand without the fear of long-term disruption. While localized crises such as the Iraq-Iran tanker war during the 1980s can temporarily disrupt international trade, ultimately the maritime powers in general, and the United States in particular, restore order on the global commons with their naval forces. Clearly, without this worldwide naval presence—and the threat of retaliation against those who would disrupt world trade—it is unlikely that globalization as we know it today would be a reality, and thus, the continued expansion of a globalizing economy could well be an uncertain thing.

Increasingly, expeditionary warfare forces are becoming more visible in their role in undergirding the political stability necessary for globalization. Other naval assets—such as CVBGs, submarines, independently operating surface combatants, and long-range tactical aviation—play key roles in enforcing order on the high seas portion of the global commons. But it is the nature of amphibious forces—that is, the ability to project power from the sea onto the land in a measured, tailored fashion—that makes them the most likely asset to be called upon to perform stability operations. Landing marines ashore has an obviously longer-term impact (and more flexible outcome) than aerial bombing or a missile strike. In this sense, amphibious forces are the most visible sign of reassurance for friendly nations and deterrence for potential hostile actors.

Should an aggressor threaten commerce on the global commons—either on the high seas or in the littorals—expeditionary warfare forces are structured to extract swift retribution: from destroying ships, aircraft, ports, or airfields that disrupt or even threaten to disrupt global commerce, to protecting the ports and airfields of friendly nations to ensure the continued free flow of trade, to directly attacking pirates or other rogue entities that seize or otherwise hazard international merchant shipping, to escorting this same shipping during selected portions of their transits.

The ability of expeditionary warfare forces to serve as key guarantors of international commerce from terminus to terminus makes them indispensable assets in facilitating and accelerating globalization. While these forces dramatically impact globalization, so too does globalization impact the rule set for the conduct of amphibious warfare. This suggests that the paradigm for expeditionary warfare may be changing as rapidly as globalization is changing

Changing the Rules of Expeditionary Warfare

The U.S. paradigm for expeditionary warfare may be undergoing fundamental change as Navy and Marine forces dedicated to this mission seek to remain relevant throughout the ensuing decades. This paradigm shift may move us away not only from what we were accustomed to in the post-Cold War world of the last decade or so but also from what we were accustomed to at the turn of the century. This new rule set for expeditionary warfare may change the way that expeditionary warfare forces will be employed across the spectrum of conflict.

While there is no way to predict accurately the precise scope of the increasing demands on the use of expeditionary warfare forces, the available evidence suggests that these forces will be used, at a minimum episodically and at a maximum continuously, as regional and international tensions ebb and flow in response to the searing forces of globalization. While there will be demands for these forces for a host of reasons, they will be most frequently called upon to deter or defeat direct threats to the United States or its allies.

Threats to the United States now come from a widely dispersed group of nations as well as from transnational groups. Given the vast distances involved, it is unlikely America can respond to these threats by surging forces from the continental United States. Naval expeditionary warfare forces, especially amphibious warfare forces, will need to be on-scene simultaneously in multiple theaters and will have to be prepared to take decisive action without immediate reinforcement. This argues for a larger footprint than that to be provided by the 36 amphibious warfare ships currently in the Future Years Defense Plan.¹⁹ Economic macro-trends and demographic shifts unleashed by globalization will likely increase the need for expeditionary warfare forces to protect what globalization has wrought. As more goods move by sea, protection of ships and ports will place increasing demands on amphibious warfare forces, particularly when an armed force on the ground may be required on short notice to protect port facilities. Globalization has accelerated dramatic demographic shifts as populations have moved toward the coastline, drawn by the economic vitality of coastal cities that are the terminus points for the tremendously enhanced worldwide trade. The mega-cities of this century will be clustered along the coast. Thus, the objective area for the overwhelming number of world crises will be within the operational and tactical reach of amphibious warfare forces. Other forces of globalization exacerbate this need for expeditionary warfare forces. As the Cold War camps continue to dissolve, economic independence makes the world community less dependent on superpower (even the lone superpower) protection, and nations become more conscious of their own individual sovereignty, U.S. access to overseas bases continues to decline. This makes the need for amphibious warfare forces that can operate independent of these bases even greater.

The potent combination of modern Navy amphibious assault ships and a

modern and modernizing Marine Corps tactical mobility triad built around the MV-22 Osprey tilt-rotor aircraft, the landing craft air cushion (LCAC) and the advanced amphibious assault vehicle (AAAV) will provide the ARG and MAGTF with a power projection capability—not replicated anywhere else—and with the operational agility, strategic mobility, potent lethality, and embedded sustainment to influence events ashore decisively. This makes these amphibious warfare forces best suited to respond to ongoing crises in the littorals.

Once ashore, MAGTFs are task organized, armed, equipped, and trained to deal with the spectrum of crises unleashed by the forces of globalization. This is articulated perhaps most vividly in the Marine Corps view of future warfighting in urban areas—the so-called three-block war in which the MAGTF will operate in highly populated areas, often conducting humanitarian assistance, peacekeeping, and warfighting simultaneously in a three-block area. An almost hypothetical notion when the Marines first proposed it, this taxonomy has gained traction as the realities of intervention in the littorals have made this the new paradigm for our expeditionary warfare forces.

As noted throughout this volume (particularly in chapter 25), the international trade in increasingly lethal weapons systems is increasing as globalization continues to break down trade barriers. The access to these weapons on the part of potentially hostile nations or groups will continue to shape both the offensive and defensive makeup of expeditionary warfare forces. The ability to cope with a wide array of antiaccess threats ranging from ballistic missiles, to naval mines, to cruise missiles, to adversary aircraft, ships, submarines and craft, to suicide attackers across a wide spectrum will drive the systems, sensors, platforms, and weapons for expeditionary warfare forces being built for the future.

While the exact nature of these threats continues to evolve, some of the capabilities that future expeditionary warfare forces must leverage are becoming evident. A first-order requirement is for these forces to leverage the tremendous American advantage in command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) in order to fight in a network-centric versus a platform-centric manner and thus to maximize the warfighting capabilities of the entire force. Another first-order requirement is to harness similarly the full range and depth of U.S. intelligence capabilities—those traditionally used by expeditionary warfare forces as well as those not as leveraged as frequently.

Changing the rule set to take on the additional missions, as well as to increase the scope of some specialized missions that will likely fall to these forces, could impossibly strain current and future amphibious warfare forces if they also continue to take on the full spectrum of missions that they currently perform. While there is an understandable unwillingness on the part of any military organization to give up missions due to the fear that this may lead to the loss of force structure, this is a case in which—given the broad scope of the missions that the ARG and MAGTF team must be prepared to conduct—decreasing the emphasis on some missions should not cause Navy planners and budgeters

undue concern.

Given the dramatic shifts in the global security paradigm, it is unlikely that naval expeditionary forces will fight a pitched battle with a peer-competitor navy on the high seas. Thus, systems, sensors, platforms, and weapons focused on that mission can probably receive a decreased emphasis. More directly relevant to expeditionary warfare forces, it is increasingly unlikely that the entire expeditionary warfare force will be required to make simultaneously a full-blown amphibious assault against a hostile beach. Clearly, we should not divest ourselves of all our amphibious assault capability built up so carefully over the past decades. However, a portion of those platforms and systems optimized for such assaults might be reconstituted to go around, go over, or otherwise avoid such direct assaults.

Conversely, based on their actions in recent contingencies, as well as an extrapolation of plausible scenarios, expeditionary warfare forces will likely be called upon to intensify their focus on a number of mission areas as they continue to operate in areas of growing strategic instability, especially along the southern belt of Asia.

Missions that put a premium on the inherent mobility and ability of amphibious warfare forces are missions that these forces will likely be called upon to conduct with more regularity. Thus, missions such as in extremis hostage rescue, clandestine operations, noncombatant evacuation, intelligence gathering, tactical recovery of downed aviators, force protection, and other small unit operations are the kinds of missions that amphibious warfare forces will continue to undertake with increasing frequency.

Significantly, all of these missions require small numbers of highly trained, elite marines to be transported quickly to an objective area. There, they must be supported by robust C4ISR systems and be backed up by on-call combat-credible power should adversary forces gain the upper hand. These small units will be required to operate autonomously and covertly or in mutual support of other small units. Upon completion of an operation, these forces must be quickly extracted, and sufficient backup extraction capability must exist in order to ensure that no marines are left behind in hostile territory.

These are the mission areas that can be seen on the horizon based on an informed extrapolation of the changes that globalization has already made to our security paradigm. But what about the changes that cannot be seen yet? Capabilities cannot be built into our amphibious warfare forces based on what is not yet known. However, a process can be put in place that can be responsive to the ongoing changes wrought by globalization.

To hedge against ongoing changes in the security paradigm impelled by globalization, Navy and Marine Corps amphibious warfare forces need to maintain a robust science and technology and research and development base that keeps pace with technologies being developed in response to emerging threats. Given the lengthy Department of Defense procurement process, a responsive capability must include the ability to prototype rapidly systems, sensors, platforms, and weapons and get them into the hands of the warfighters without undue delay.

Ultimately, the ability of amphibious warfare forces to deal with a dramatically changing security paradigm wrought by globalization will be dependent on the men and women of the force, the platforms that they serve on, and the sensors and weapons that they bring to the fight. In light of the crucial role that these forces play in the Nation's defense, a thorough review of these important parts of the equation is imperative.

Keeping Expeditionary Warfare Relevant in a Globalizing Century

Expeditionary warfare forces are crucial contributors to national security today, but they will only remain so in the future if they continuously change to meet emerging threats impelled by a globalizing world. While the precise outlines of these changes are difficult to discern, there are reasonable vectors that can be taken to ensure that expeditionary warfare forces continue to remain relevant throughout this century of dramatic changes. The 10 policy choices or *vectors* presented here (categorized by component or capability) are not final solutions, but rather proposals that should be vetted throughout Navy and Marine Corps leadership to determine if they have the potential to enhance the effectiveness of our expeditionary warfare forces today—and well into the future.

Personnel. The missions that MAGTFs are likely to be involved in over the next several decades will most frequently involve small unit tactics with perhaps a squad or platoon of marines operating in rapid-action, high-stress environments. These operations will likely mirror missions conducted by special operations forces, such as Navy SEALs, Army Rangers, and Air Force Special Forces, much more closely than they mirror the more generalized amphibious assault operations that MAGTFs are currently task-organized and trained to conduct. The Corps will need to determine whether some of the resources spent on maintaining a large force of capable—but generally skilled—marines would be better spent on a smaller force of elite special forces marines and on the equipment that they need to conduct specialized missions.

C⁴ISR. While upgrades to equipment across the board are required for MAGTFs to conduct the special missions that they will need to conduct in a globalizing world, there are some upgrades that are more critical than others. Small Marine Corps units operating independently in hostile territory where they will need to have extensive reach-back and fire support clearly need top-of-the-line integrated and interoperable C⁴ISR capability to have a high probability of achieving success in their missions. This C⁴ISR capability must seamlessly connect Marine units with each other and with Navy support units. Perhaps as importantly, this capability must connect these small units with the broad spectrum of joint force capabilities that may be brought to bear in a crisis—from satellites, to unmanned aerial vehicles, to other autonomous sensing and weapons platforms.

Surface Assault Platforms. In a globalizing security paradigm in which emphasis is placed on small unit tactics delivered rapidly and often covertly by elite marines, the Navy and Marine Corps should reevaluate the emerging

tactical mobility triad (MV-22, LCAC, and AAV) and determine if the tremendous and ongoing investment in surface assault platforms is prudent and affordable. This is not to say that the Marine Corps should divest itself of all surface assault capability; clearly the service must hedge its bets and retain significant capability in this area. However, with the decreasing likelihood of major, opposed amphibious assault on hostile beaches, perhaps a scaled-down platform commitment is worth considering. This change would also impact the makeup of the Navy hulls that transport the MAGTF, especially given the large footprint of craft such as the LCAC and the AAV.

Air Assault Platforms. In an environment in which small MAGTF units must be transported by air quickly and often covertly, the composition of the Marine Corps air combat element (ACE) should be closely scrutinized. The current ACE, built around the venerable CH-46, CH-53-E, AH-1W, and UH-1 helicopters, as well as the AV-8B Harrier, is aging rapidly and is stressed to conduct current missions effectively. The Marine Corps is counting on the MV-22 Osprey to replace its aging CH-46 helicopters and perhaps eventually the CH-53E helicopter. The Osprey is a technologically advanced and highly capable platform, but it has been plagued by technical challenges and its long-term survival is not assured. Initially, the Marine Corps might be well served to develop a Plan-B for another air vehicle to replace its aging ACE transport aircraft should the Osprey not reach fruition. If the Osprey does survive and if the MAGTF moves toward an Osprey-dominant force, the capabilities of the entire ACE must be further evaluated in this context. The Osprey can outfly and outrange ACE components such as the AH-1W Cobra gunship that historically have provided the preponderance of escort support for Marine transport helicopters. If the Osprey is to transport Marines inland on special missions, then a companion support platform must be added to the mix to ensure that these helicopters are properly escorted.

Maritime Prepositioning Ships. The Navy has made a substantial investment in hulls, and the Marine Corps has made an equally large investment in equipment that is prepositioned aboard these ships. Three squadrons of maritime prepositioning ships (MPS) are strategically deployed worldwide close to areas where expeditionary warfare forces are likely to be engaged. The purpose of these ships is both to sustain a MEU(SOC) embarked in an ARG and to provide the equipment and supplies to enable an airlifted MAGTF to be configured for combat operations as an adjunct to amphibious warfare forces already in theater. Among other items, these ships carry an expeditionary airfield, a naval construction battalion, and a fleet hospital. While they deliver a robust capability, the enormous cost to both the Navy and Marine Corps should be reevaluated in light of the new role that expeditionary warfare forces are playing in the 21st century.²⁰ The Marine Corps may no longer need all of the heavy equipment resident in the ships of a maritime prepositioning squadron to be on-call and readily available simultaneously in three theaters of operation. Clearly, given the Title 10 requirement that the Marine Corps have three divisions and three air wings, this is not a decision that the Department of the Navy can make unilaterally. However, the issue should be dealt with

forthrightly, not ignored. Additionally, as emerging technology makes high speed vessels more affordable, the Navy and Marine Corps should examine the viability of transitioning to a fleet of fewer—but faster—MPS in order to reduce both the number of hulls needed as well as the amount of Marine equipment tied up in these ships.

Seabasing and High Speed Vessels. Closely related to the issue of maritime prepositioning ships is the issue of seabasing and the viability of high speed vessels—both as MPS hulls and as high speed lift between and among ships. Seabasing is one of the primary tenets of the Navy Capstone Concept of naval operations. It is a concept that enhances the rapid, sustainable enabling force capabilities provided by forward-deployed expeditionary warfare forces.²¹ Expeditionary warfare forces operating in an objective area for a sustained period require ongoing and substantial resupply. The seabasing concept provides this via sea-based as opposed to land-based sites. Among its primary attributes, seabasing provides the ability to resupply forces rapidly in an objective area while dramatically decreasing the risk to these forces. However, this concept of seabasing is critically dependent on the movement of enormous quantities of material between the sea base (notionally 100–200 miles off an adversary's coast) to the amphibious warfare forces operating in the objective area (notionally 25–50 miles off that same coast). This concept has been evaluated in simulations and in wargames. The Corps has begun experimenting with catamarans to move marines and material between bases in the Western Pacific. However, unless or until the Navy and Marine Corps make a substantial commitment to some form of high speed vessel as an adjunct to complement ARGs and maritime prepositioning squadrons, the concept of seabasing will remain just that—a concept.²²

Unmanned Aerial Vehicles. The Navy and Marine Corps have been at the forefront of unmanned aerial vehicle (UAV) development and have fielded the Pioneer UAV system that has been successfully employed in Operation *Desert Storm*, Kosovo, and numerous contingency operations, including Somalia and counterdrug missions. The capabilities delivered by UAV systems are critical to expeditionary warfare operations in a globalizing world as these operations increasingly depend on extensive intelligence preparation of the battlefield, C4ISR connectivity, battle damage assessment, and other capabilities that are delivered by UAVs in increasingly frequent situations where the risk of conducting such missions with a manned aircraft is deemed too high. The U.S. experience in Afghanistan validated the utility of UAVs and showcased the capabilities of emerging UAV technology. To ensure the continued viability of amphibious warfare forces, the Navy and Marine Corps must acquire this new technology as a matter of priority, since the extant Navy-Marine Corps UAV system, Pioneer, is based on late 1970s technology and has limitations that proscribe its tactical utility.²³ As the Navy and Marine Corps embrace the technology of emerging UAV technology, especially systems such as Global Hawk, the capability built into these systems must enable them to link directly with ARG and MAGTF forces on the ground in order to exploit fully their tactical utility.

Tactical Fixed-Wing Aviation. Prior to the changes wrought by a globalizing world—and when the United States and Soviet Union were still locked in a Cold War paradigm—U.S. war plans envisioned scenarios in which an entire Marine division might be locked in a land battle in sites as remote as Norway. This spawned the need for large expeditionary airfields and for a substantial investment in Marine Corps tactical aviation so that sustained division-level operations could be conducted without the dependence on Navy or Air Force tactical aviation. While the Cold War paradigm has been eliminated, the enormous investment in Marine tactical aviation has been sustained. In light of the increasing downward pressure on Navy and Marine force structure, a thorough analysis of this mission area appears to be in order to determine if these funds might be more effectively used for other expeditionary warfare needs. In light of the integration, interoperability, and transformation of the Armed Forces envisioned in *Joint Vision 2020*, a thorough review of Marine tactical aviation—and the ability to meet these needs with other joint forces—would seem prudent.

Expeditionary/Amphibious Warfare Combatants. The pace of expeditionary warfare wrought by globalization requires that Navy contribution to mission success involve more than the old paradigm of providing amphibious shipping to move a MEU-sized force from point to point. When the Navy shifted its strategic paradigm from the early-1980s maritime strategy to a littoral-focused *Forward...from the Sea* strategy, it placed greater emphasis on modernized amphibious warfare ships and new operating concepts for the amphibious fleet.²⁴ Through the end of the last decade, this change in emphasis was increasingly evident and resulted in the construction and fleet introduction of new classes of amphibious warships such as the LHD multipurpose amphibious assault ship and the LSD-41 and LSD-49 dock landing ships.²⁵ However, as naval budgets have come under increasing pressure, naval shipbuilding programs have been trimmed—often significantly—and absent a substantial infusion of new procurement funds. In fact, by the end of the decade, a navy of less than 300 ships is a reality. This downward pressure has negative impacts on expeditionary warfare, specifically in the delay of the LPD-17 *San Antonio*-class amphibious transport dock, sorely needed to replace the aging LPD-4 *Austin*-class, and the virtual elimination of the DD 21 (DD[X]) program, a ship that was counted upon to provide the Marines with significant fire support.²⁶ As the forces of globalization continue to require interventions in the world's littoral regions, a reevaluation of naval shipbuilding priorities with a view toward providing a more robust littoral warfare capability would seem advisable.

Development of Doctrine, Tactics, Techniques, and Procedures. More so than any two services of any nations, the U.S. Navy and Marine Corps must operate together effectively in order to have any chance of success. The establishment of the Director of Expeditionary Warfare (a Marine Corps major general with a Navy rear admiral as his deputy) within the Navy staff was one important step in coordinating Navy and Marine Corps procurement efforts in support of amphibious warfare. However, it is not clear that the same coordination exists

in the area of development of Navy and Marine Corps doctrine, as well as associated tactics, techniques, and procedures. While some progress is being made in the field in forward-thinking organizations such as the expeditionary warfare training groups in the Atlantic and Pacific fleets, it is important that this coordination be matched in the area of the crucial doctrinal development that undergirds the way in which the Navy and Marine Corps operate together.

Navy doctrine is developed and written by the Navy Warfare Development Command in Newport, Rhode Island, while Marine Corps doctrine is developed and written by the Marine Corps Combat Development Command in Quantico, Virginia. Coordination and cooperation in doctrinal development between these two commands is an area that would benefit from increased focus and emphasis.²⁷ In view of the absolute requirement for Navy and Marine Corps forces to work in close coordination with one another, ongoing efforts must be focused on avoiding a doctrinal divide between the two military services that must operate together most effectively.

These 10 vectors are not all-inclusive but represent primary issues that the Navy and Marine Corps must come to grips with to ensure that amphibious warfare forces are manned and equipped in a manner that guarantees that they remain relevant in the decades to come. Manned and equipped in this manner, these forces will continue to be major contributors to the accelerating pace of globalization.

Coming Full Circle: Expeditionary Warfare and the Pace of Globalization

At the intersection of globalization and expeditionary warfare, the question is not whether these two paradigms intersect—the available evidence strongly suggests that they do. Nor is the issue whether expeditionary warfare impacts globalization and whether globalization impacts expeditionary warfare. Clearly the impact on one upon the other is profound. The real issue is to what extent is the United States willing to invest in expeditionary warfare forces in order to ensure that international trade on the global commons—as well as other trends that undergird globalization—accelerate in ways that ensure the political and economic success of United States, its allies, and its friends.

In a summer 2001 radio interview, Deputy Secretary of Defense Paul Wolfowitz made the point that “The defense of our country isn’t cheap, but it’s proven to be a terrifically valuable investment.”²⁸ The deputy secretary’s comments are especially germane as they apply to amphibious warfare forces. The substantial investment in Navy and Marine Corps personnel, systems, sensors, platforms, and weapons is not cheap, and it must be evaluated against other needed capabilities among all of the military services. However, based on what these forces add to the political and economic security of the Nation, continued investment in naval expeditionary forces is the best way to ensure the Nation’s continued prosperity in a globalizing world.

The core issue then becomes, as defense budgets rise and fall, what portion of those budgets are dedicated to assuring the viability of the Nation’s

expeditionary warfare forces? The answers belie simple statistical comparisons and go straight to the issue of national commitment and national will. The dialogue seems positive—but rhetoric is not reality. Where procurement dollars are spent will ultimately determine whether we have funded expeditionary warfare forces in a way that makes these forces viable assets in a globalizing world. As Presidents react to emerging international crises in this new millennium by asking, “Where are the expeditionary warfare forces?” the answer to this question will become self-evident.

Toward an Essential Expeditionary/Amphibious Warfare Force

*When invading an enemy's country, men should always be confident in spirit, but they should fear, too, and take measures of precaution: and thus they will be at once most valorous in attack and impregnable in defense.*²⁹

—Archidamus of Sparta, Speech to the Lacadaemonian expeditionary forces departing against Athens, 431 BCE

*Amphibious flexibility is the greatest strategic asset that a sea power possesses.*³⁰

—B.H. Liddell Hart

Deterrent or Defense, 1960

These two quotations, proffered almost two and one-half millennia apart, suggest that much has changed—and that much remains the same. While technological advances have changed the face of warfare, what has not changed is that putting forces on the ground is often the only certain way to impose one's will on an adversary. These forces travel most efficiently by sea and operate most effectively in the near shore area where they can strike any littoral area almost without warning.

Expeditionary/amphibious warfare forces—especially the tailored force package comprising the ARG-MAGTF team—were accomplishing the expeditionary mission well before the 21st-century version of this mission emerged. Building on a long tradition of excellence, today's expeditionary warfare forces are engaged worldwide at a rate unprecedented in history. As macro-trends such as globalization make the need for naval expeditionary forces more imperative, the Navy-Marine Corps team is adapting to a changing world by leading military transformation with revolutionary new warfighting concepts, systems, sensors, platforms, and weapons designed to ensure this force's viability well into this century.

George V. Galdorisi serves as senior adviser in the Space and Naval Warfare Systems Center, San Diego, California, where he helps direct center efforts in strategic planning and corporate communications. Prior to joining the center, he completed a 30-year career as a naval aviator, culminating in 14 years of consecutive experience as executive officer, commanding officer, commodore, and chief of staff. He served several

tours in the expeditionary warfare forces, including command of USS Cleveland (LPD-7) and Amphibious Squadron Seven. He is the author of over 100 articles in professional journals, as well as two books on the law of the sea and two novels, The Coronado Conspiracy and For Duty and Honor.

Notes

¹ U.S. Department of Defense, *Quadrennial Defense Review Report* (Washington, DC: Department of Defense, September 30, 2001), iii. Henceforth referred to as *QDR Report*. [BACK]

² This quotation is from Thomas More Molyneux, *Conjunct Expeditions*, 1759, and is reproduced in U.S. Navy, *The Naval Amphibious Warfare Plan* (Washington, DC: Government Printing Office, October 1999), 11. [BACK]

³ There is an extensive body of literature articulating the manifest ways in which globalization benefits the United States. Some of this work asserts that globalization's benefits are uneven and benefit the industrialized nations more than those that are emerging. Other works focus on the antiglobalization movement in general. Nonetheless, the preponderance of the literature comes down squarely on the side of globalization as a force that benefits the United States. See, for example, Joseph S. Nye, Jr., "Globalization's Democratic Deficit," *Foreign Affairs* (July/August 2001), 2-6; John Micklethwait and Adrian Wooldridge, "The Globalization Backlash," *Foreign Policy* (September 2001), 16-27; Mary Kaldor, "Wanted: Global Politics," *The Nation* (November 5, 2001), 15-17; Robert Reich, "A Proper Global Agenda," *The American Prospect* (September 24, 2001), accessed at <www.prospect.org/print/v12/17reich-r.html>; and Kurt Campbell, "Globalization at War," *The Washington Post*, October 22, 2001, A19, for a sampling of recent literature on the subject. [BACK]

⁴ *QDR Report*, 11. [BACK]

⁵ For an excellent Web site offering links to Navy and Marine Corps history, see the Chief of Naval Operations Expeditionary Warfare (N75) Web site at <www.exwar.org>. The Marine Corps history Web site notes that the Continental Congress established the Marine Corps in November 1775 and that the first amphibious raid was conducted at New Providence, Bahamas, on March 3, 1776—four months before the signing of the Declaration of Independence. [BACK]

⁶ Richard L. Kugler and Ellen L. Frost, eds. *The Global Century: Globalization and National Security* (Washington, DC: National Defense University Press, 2001). Many contributors to these two volumes provide several somewhat similar definitions of *globalization*. The definition provided in the Foreword of this publication is perhaps the most useful in this context. Alternative definitions of globalization abound. See also Martin Wolf, "Will the Nation-State Survive Globalization," *Foreign Affairs* (January/February 2001), 178-190. Wolf states, "A 'globalized' economy could be defined as one in which neither distance nor national borders impede economic transactions." Joseph S. Nye, Jr., dean of Harvard University's Kennedy School of Government offers, "Globalization—networks of interdependence at worldwide distances." See Nye, "Globalization's Democratic Deficit." [BACK]

⁷ Craig Elwell, *CRS Report for Congress: Global Markets: Evaluating Some Risks the U.S. May Face* (Washington, DC: Congressional Research Service, February 11, 2001), 1-15. This document discusses some of the ways in which globalization benefits the United States and makes a strong case for U.S. backing of trends supporting globalization. [BACK]

⁸ *Naval Amphibious Warfare Plan*, 13. This document emphasizes the fact that by 2010, the littoral areas of the world will be home to over 70 percent of the world's population and over 80 percent of the world's capitals. Furthermore, these littoral areas represent the centers of economic activity and provide the land-sea-air juncture that enables trade and international

interactions. [\[BACK\]](#)

⁹The definition of a MAGTF can be found in the Marine Corps capstone doctrinal publication *MCDP-1: Warfighting* (Washington, DC: Government Printing Office, 1997). *MCDP-1* defines a MAGTF as "task organizations consisting of ground, aviation, combat service support, and command elements. They have no standard structure, but rather are constituted as appropriate for the specific situation," 55. [\[BACK\]](#)

¹⁰ Stephen J. Flanagan, Ellen L. Frost, and Richard L. Kugler, *Challenges of the Global Century: Report of the Project on Globalization and National Security* (Washington, DC: National Defense University Press, 2001), 16–17. [\[BACK\]](#)

¹¹ As noted in chapter 19 of the current volume, the Office of the Chief of Naval Operations has recently initiated the development of a concept of an expeditionary assault group consisting of Aegis DDGs, SSNs, and combat logistics ships attached to (and trained with) current amphibious ready groups. This proposal is a significant step but can be assessed skeptically. Similar proposals have been studied in the past without resulting in changes to current ARGs. Likewise, it is unclear whether large surface combatants and submarines as currently configured can effectively defend amphibious forces within the littoral combat zone. Current surface capabilities can certainly defend amphibious warships while in deep water; however, significant deep-water threats to amphibious transit are currently few. [\[BACK\]](#)

¹² The three publications of the U.S. Commission on National Security/21st Century (the Hart-Rudman Commission) include *New World Coming: American Security in the 21st Century* (Washington, DC: September 1999); *Seeking a National Strategy: A Concert for Preserving Security and Promoting Freedom* (Washington, DC: April 2000); and *Road Map for National Security: Imperative for Change* (Washington, DC: March 2001). [\[BACK\]](#)

¹³ Vernon Loeb, "For Jones, Marines, Time for a Change," *The Washington Post*, September 4, 2001, 17. [\[BACK\]](#)

¹⁴ *Joint Vision 2020: America's Military—Preparing for Tomorrow* (Washington, DC: Government Printing Office, June 2000). *Joint Vision 2020* is the DOD and joint staff capstone document that operationalizes the strategic direction for the Armed Forces and speaks to the ways in which joint forces will operate together to achieve full-spectrum dominance over an adversary. [\[BACK\]](#)

¹⁵ Barry Blechman, "Alternative Force Sizing Mechanism for the Department of Defense," unpublished briefing for DOD, September 2000. [\[BACK\]](#)

¹⁶ *Global Century*, 24. [\[BACK\]](#)

¹⁷ 1982 *United Nations Convention on the Law of the Sea*, United Nations publication 1261 (1982), reproduced from UN Document/CONF.62/122 of October 7, 1982. [\[BACK\]](#)

¹⁸ According to chapter 13 of the current volume, European navies have come to recognize the increased importance of modern amphibious capabilities. [\[BACK\]](#)

¹⁹ Navy Program Objective Memorandum (POM) submission for fiscal years 2003–2007. The Navy POM and Future Years Defense Plan submissions are reported in multiple sources. For this analysis, the weekly newsletter compilation *Inside the Navy* was used as a primary source. For a concise analysis of the issues surrounding the size of the Navy, particularly the number of Navy ships, see Ronald O'Rourke, *CRS Report to Congress: Navy Ship Procurement Rate and the Planned Size of the Navy: Background and Issues for Congress* (Washington, DC: Congressional Research Service, August 28, 2001), 1–6. Additionally, for a recent analysis of the costs associated with maintaining the kind of forward naval presence practiced by our forward-deployed amphibious warfare forces, see Daniel Gouré, "The Tyranny of Forward Presence," *Naval War College Review* 54, no. 3 (Summer 2001), 11–24. [\[BACK\]](#)

²⁰ *Naval Amphibious Warfare Plan*, 70. The current maritime prepositioned force consists of 13 ships deployed in 3 forward-deployed squadrons. These ships are privately owned and operated by three companies and leased by DOD. The Navy and Marine Corps are seeking funding for 2 additional hulls to bring the total force up to 15 ships. [\[BACK\]](#)

²¹ Navy Warfare Development Command, *Network Centric Operations: A Capstone Concept for Naval Operations in the Information Age*, draft report, 2001. The Capstone Concept envisions a Navy and Marine Corps team conducting network-centric operations in which U.S. and allied forces will derive power from the robust rapid networking of well-informed, geographically dispersed forces. The four principal tenets of network-centric operations include information

and knowledge advantage, assured access, effects-based operations, and forward sea-based forces. These forward sea-based forces rely on seabasing (that is, the rapid resupply of forces from mobile bases at sea) as an alternative to a dependence on land-based resupply sites. Emerging threats, particularly cruise missiles, make these land-based sites especially attractive and vulnerable targets. In the Navy-Marine Corps context, seabasing eliminates the standard practice of moving supplies delivered by maritime prepositioning ships ashore and marrying them to marines flown in to the same site, dramatically decreasing the risk to these forces.

[BACK]

²² A point made with great frequency by Arthur Cebrowski, current director of the Office of Force Transformation. Cebrowski has been the most vocal proponent for the testing of high speed transport craft, such as H.M.A.S. *Jervis Bay*. On such testing, see, for example, William Polson, "Navy goes Down Under, explores future of amphib warfare: Australian catamaran gives possible glimpse of next generation gator," accessed at

<www.c7f.navy.mil/news/200/09/16.html>. [BACK]

²³ *Naval Amphibious Warfare Plan*, 64. The Pioneer UAV is the current naval tactical UAV system. Its missions are reconnaissance, surveillance, target acquisition, and battle damage assessment. The air vehicle has a range of 100 nautical miles, cruise speed of 65 knots, endurance of up to 5 hours, and an operational ceiling of 10,000 feet. [BACK]

²⁴ *Global Century*, 485. [BACK]

²⁵ *Naval Amphibious Warfare Plan*, 49–56. [BACK]

²⁶ Navy Program Objective Memorandum and Future Years Defense Plan submissions and for fiscal years 2003–2007. For this analysis, the weekly newsletter compilation *Inside the Navy* was used as a primary source. The specific citation in this case is from *Inside the Navy*, November 5, 2001. [BACK]

²⁷ One example of the degree of autonomy between Navy Warfare Development Command (NWDC) and Marine Corps Combat Development Command is the lack of coordination and cooperation in the development of the capstone documents for both Services, *MCDP–1 Warfighting* (Marine Corps) and *NDP–1 Naval Warfare* (Navy). The similarities in naming conventions belie completely separate paths to publication. The Marine Corps published *MCDP–1 Warfighting* in 1997 without significant Navy involvement. *Naval Warfare*, first published in 1994, recently went through extensive revision at NWDC but has been delayed indefinitely, largely due to a lack of consensus by the Marine Corps. [BACK]

²⁸ Paul Wolfowitz, radio interview with Luis Torres, KNX News Radio, August 2, 2001. [BACK]

²⁹ *Naval Amphibious Warfare Plan*, 77. [BACK]

³⁰ *Ibid.*, 5. [BACK]